

Do Credit Rating Agencies Value Corporate Social Responsibility?: Role of Societal Trust and Consistent Corporate Policy

Kiyoung Chang^a

Ying Li^b

Hyeongsop Shim^c

September 2017

Abstract

We study how credit rating agencies assess a firm's corporate social responsibilities (CSR) and how their assessment varies with the severity of moral hazard concerns therein through a "trust-building" lens. We hypothesize that credit rating agencies value CSR as a more effective trust-building channel when moral hazard concerns are mitigated either through country-level informal institutions or through firm-level strategic alignment of corporate policies. We provide supporting evidence by showing that CSR helps sustain long-term credit ratings (1) only in countries with high societal trust and (2) in firms with corporate policies consistent with long-term CSR engagement.

Keywords: Corporate social responsibility, Trust, moral hazard, Credit rating, Cost of debt

JEL classification: G24, G32.

^aUniversity of South Florida. E-mail: chang1@sar.usf.edu

^bCorresponding author, University of Washington. E-mail: yli2@uw.edu

^cUlsan National Institute of Science and Technology. E-mail: hshim@unist.ac.kr

Do Credit Rating Agencies Value Corporate Social Responsibility?: Role of Societal Trust and Consistent Corporate Policy

We enable people to reach their full potential in a digital economy. This starts with our commitment to ethical conduct and to the governance structures that ensure we walk the talk, which enable us to earn the trust of our stakeholders.

CISCO 2016 CSR Report

Corporate enterprises with a deliberate, consistent, articulated, resourced, and integrated approach that effectively identifies, selects, and prudently mitigates risks are more likely to build long-term credit strength as compared to enterprises with a casual, opportunistic, or reactive approach.

Standard & Poor's Credit Rating Criteria

1. Introduction

Credit rating agencies play a central role in financial markets (Kisgen and Strahan, 2010) by supplying their assessment of a firm's creditworthiness in the form of a credit rating, which is a key financial measure with a major influence on the cost of debt, including the cost of public and private debt, and usage of credit lines (Faulkender and Petersen, 2006; Kisgen, 2006; Sufi, 2009). Although we know that credit agencies consider a broad set of factors, including financial and non-financial factors, in their creditworthiness assessment of firms worldwide, it remains a mystery how credit rating agencies value certain non-financial factors, for example, corporate social responsibility (CSR).

Firms pour billions of dollars into CSR aiming to advance their relationships with a broad set of stakeholders (Hillman and Keim, 2001).¹ The value of CSR is controversial as most CSR outcomes are neither immediately observable nor directly measurable and may fall victim to selfish personal incentives (Cheng et al., 2013; Krüger, 2015; Masulis and Reza, 2015). In this study, we examine how credit rating agencies assess the value of CSR. As dedicated information gathering agencies, their opinion on the value of CSR as reflected in credit ratings is authoritative and influential, offering a unique perspective with respect to the debate on the CSR value.

We focus on the “trust-building” channel, which is widely quoted as an important mechanism that makes CSR valuable. Trust refers to the “willingness to be vulnerable” (Guiso et al., 2006) and is the most important relationship that CSR aims to advance. Once “earned,” trust can help mitigate uncertainties in stakeholder relationships that arise from incomplete contracts. Indeed, the extant literature suggests that, in the US, earned trust contributes to firm performance during financial crises when public trust is low (Amiraslani et al., 2016; Lins et al., 2017). We suggest that credit rating agencies should value CSR as a trust-building mechanism and their assessment of the value of CSR should vary across countries as CSR’s effectiveness in building trust varies.

Specifically, we hypothesize that credit rating agencies value CSR as a more effective trust-building channel when moral hazard concerns are mitigated. Many CSR outcomes are not directly observable and CSR engagement has often been criticized for self-serving managerial

¹ In 2015, immediately after Netflix announced its one full year paid parental leave policy, Amazon and Microsoft made similar improvements to their policies. In 2012, Dick’s Sporting Goods suspended sales of semiautomatic rifles at its 480 stores in the wake of the Sandy Hook massacre, whereas Wal-Mart removed listings of such rifles from its website. CVS stopped selling cigarettes at all retail locations in 2014.

incentives (Cheng et al., 2013). Moral hazard concerns are critical for credit rating agencies' assessment of CSR value as those agencies are information gatherers whose decisions are greatly influenced by such concerns (Millon and Thakor, 1985). We identify two factors that influence credit rating agencies' assessment of CSR's effectiveness in building trust: (1) country-level societal trust and (2) firm-level corporate policy consistency. First, CSR is more likely to result in "reciprocity" in more trusting countries (Berg et al., 1995), which suggests that CSR outcomes are more likely to bear fruit and be observed in these countries. Therefore, credit rating agencies should value CSR more in countries with higher societal trust. Higher societal trust also serves as an informal institution that protects investors by mitigating moral hazard concerns such as opportunistic managerial behavior and self-dealing (Cline and Williamson, 2016). In reality, credit rating agencies employ a country factor that is gaining importance over time. For example, Standard & Poor's (S&P hereafter), a major credit rating agency, has given the country factor increased weight in its rating decisions because, in their own language, "the key importance of concepts such as ... contract rights and enforceability, corruption..., in the country risk consideration." Further, credit rating agencies value CSR more when firms follow corporate policies that share CSR's claimed goal of trust building, as managers in these firms are more likely to be acting "strategically" instead of using CSR to serve their own interests.² After all, not only is consistency an important determinant for trust (Butler Jr and Cantrell, 1984), but consistent policies provide additional information that credit rating agencies can use to better discern hard-to-observe managerial incentives for CSR engagement.

We estimate the relation between a firm's CSR score and its long-term credit rating from S&P, a major credit rating agency, using a comprehensive sample of 1,446 unique firms with

² Standard and Poor's (S&P) states that "consistency" in corporate strategic plans is considered "positive" for credit rating decisions.

9,933 firm-year observations from 42 countries in six continents over the period 2002–2014. We find a robust positive relation between CSR and long-term credit rating for our full sample, which suggests rating agencies value CSR engagement in general. Further, the positive relation is only salient in countries with above-median societal trust. As societal trust is not directly measurable, we rely on various proxies, including people’s responses to a particular World Value Survey question,³ perceived corruption level, and media freedom for societal trust. We confirm that the positive relation only exists in more trusting countries. Because the US firms constitute a large proportion of our full sample, we then exclude those firms from the overall sample and repeat the estimation. The results continue to hold for the non-US firms, that is, the positive relation between long-term credit rating and CSR only holds in countries with high societal trust. As a matter of fact, firms with the same CSR score in countries with above-median societal trust achieve a 1.66 notch higher average long-term credit rating, which translates into a 50 basis points difference. The difference is even more pronounced for the non-US firms at 2.05 notches, which amounts to a 60 basis points difference.

We also find that the positive relation between CSR and long-term credit rating is more significant in firms with fewer moral hazard concerns, reflected by more persistent CSR engagement and more aligned corporate policies. Consistent corporate policies mitigate outsiders’ concerns of managerial incentives underlying CSR activities and support a stronger positive relation between CSR and long-term credit rating. Overall, our findings not only highlight the importance of country effects in S&P’s assessments of CSR value, but emphasize

³ The question reads: Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people? A response is coded as 1 if a survey participant reports that most people can be trusted and 0 otherwise.

the relevance of moral hazard concerns in credit rating agencies' assessments of CSR engagement.

In addition, we attempt to address the concern that CSR is highly endogenous, which could thus bias our results. First, we examine how the rating agency assesses CSR during crisis periods. Because crises can be considered random shocks to trust, our tests during crisis periods are less likely to be endogeneity-driven, as panic leads to the sudden loss of public trust in capital markets and the financial system. We also use sharper tests that focus on the interaction of CSR and some factors that influence a firm's ability to build trust and the perceived societal trust in a country in which the firm operates. Many of these factors, such as country-level societal trust or media freedom, are exogenous, so that the interaction results are less susceptible to endogeneity biases. Furthermore, following Di Giuli and Kostovetsky (2014), we use a country's political orientation as an instrument for CSR and show that the results continue to hold. Our model specifications control for country-level credit rating, firm fixed effects, industry-fixed effects, country fixed effects, and other relevant factors documented in the literature to mitigate estimation bias caused by uncontrolled or unobserved variables.

This paper contributes to the literature on the debate regarding the value of CSR (Cheng et al., 2013; Ferrell et al., 2016; Masulis and Reza, 2015; Lin et al., 2017) and the important role trust plays in economic activity (Amiraslani et al., 2016; Duarte et al., 2012; Gennaioli et al., 2015; Guiso et al., 2004, 2008, 2009; Gurun et al., 2015; Knack and Keefer, 1997; La Porta et al., 1997; Lins et al., 2017; Putnam et al., 1994; Zak and Knack, 2001). Using a comprehensive international sample, we show that strong CSR performance helps sustain long-term credit rating and that credit rating agencies value CSR's ability in build trust more when moral hazard concerns are mitigated.

This research is related to Amiraslani et al. (2016) and Lins et al. (2017) but with important distinctions. Although those two studies examine the effect of trust on shareholders and creditors and support the value of CSR, we focus on how credit rating agencies evaluate strong CSR performance and how such assessment varies with CSR effectiveness. Even though these other studies also consider variations in “endowed trust” intensity across regions, the differences considered there are all within the US, a country where societal trust provides above-median protection against moral hazard concerns. By investigating countries all over the world, our paper is able to provide a more comprehensive view of how country-level “endowed trust” and firm-level “earned trust” interact and how credit rating agencies base long-term credit rating assessments on country-level informal institutions. Our finding that strong CSR performance only lends support to long-term S&P ratings in more trusting countries also sheds light on why country factors are particularly important in credit rating decisions, as claimed in the S&P Credit Rating Criteria. Credit rating agencies’ differential evaluation of CSR performance in countries with different levels of societal trust may also explain the mixed empirical evidence presented in the extant literature (Attig et al, 2013; Goss and Roberts, 2011; Jiraporn et al., 2014; Menz, 2010; Oikonomou et al., 2014; Stellner et al., 2015).

The remainder of the paper is organized as follows. Section 2 reviews the literature, discusses the background, and develops hypotheses. Section 3 describes the data and the sample. Next, Section 4 presents empirical results before Section 5 reports on endogeneity tests to establish causality. Section 6 conducts additional tests, and Section 7 concludes.

2. Background and Hypotheses

In this section, we first provide the theoretical background on why a firm’s CSR activities could influence its long-term credit rating through building trust with non-financial stakeholders.

We then explain how societal trust and consistent corporate policies matter for credit rating agencies' assessments of firms' CSR performance. We also develop several testable hypotheses along with the literature review.

Uncertainties in the relationship between the firm and its stakeholders are a natural consequence of a firm being a nexus of incomplete contracts and certain stakeholders seeking to make firm-specific investments (Hart, 2001; Titman, 1984). Today with stand-alone companies rising from declining large conglomerates, vertically integrated manufacturers moving toward looser forms of collaboration with their suppliers, and human capital emerging as the most crucial asset (Zingales, 2000), stakeholder relationships are becoming more important and warrant more attention. Corporations try to address stakeholder needs by engaging in CSR activities that they claim to "build trust." For example, firms compete to improve employee welfare, participate in community building, and give up billions of dollars of revenue by distancing themselves from controversial products.⁴

This explains why in determining a firm's creditworthiness, credit rating agencies evaluate a broad set of financial and non-financial factors, including country risk, industry risk, competitive position, cash flows, leverage, diversification, financial policy, management/governance, liquidity, and group or government influence (S&P, 2015, Guide to Credit Rating Essentials). For example, S&P lists environmental and social risk as important risk factors, encourages firms to recognize the complex interdependencies of risks their businesses face, and implements comprehensive policies. Credit rating agencies would value a firm's CSR

⁴ In 2015, immediately after Netflix announced one full year paid parental leave, Amazon and Microsoft made similar improvements to their policies. In 2012, Dick's Sporting Goods suspended sales of semiautomatic rifles at its 480 stores in the wake of the Sandy Hook massacre, whereas Wal-Mart removed the listing of such rifle from its website. CVS stopped selling cigarettes at all retail locations in 2014.

engagement positively because it leads to mitigation of uncertainties in stakeholder relationships so that the firm is, *ceteris paribus*, a more creditworthy borrower. We, therefore, hypothesize the following:

Hypothesis 1: There is a positive relation between CSR performance and long-term credit rating.

The level of societal trust, an important country characteristic, influences economic growth, social efficiency, corporate performance (Knack and Keefer, 1997; La Porta et al., 1997), international trade, investments (Guiso et al., 2009), financial markets, development (Guiso et al., 2004, 2008), investors' perceptions, and utilization of information (Duarte et al., 2012; Pevzner et al., 2015). In countries where people are more trusting, stakeholders assign a higher subjective probability to an action performed by a counterparty as not-harmful or beneficial (Gambetta, 1988) and are more likely to reward CSR activities with reciprocity, which is the idea that *because you are good to me, I will be good to you*. Such reciprocity results in better cooperation between the firm and stakeholders, mitigates uncertainty, and helps maintain a desirable long-term credit rating.

Furthermore, credit rating agencies certify and allow information sharing and are wary of moral hazard problems. The difficult-to-observe nature of outcomes from CSR engagement leads to moral hazard concerns, which influence credit rating agencies' assessment of CSR performance with respect to long-term credit ratings. We expect societal trust, a key element of social capital at the country level, to mitigate moral hazard concerns as social capital is often viewed as a public means of coping with moral hazard and incentive problems (Stiglitz, 2000). Indeed, as part of a country's informal norms, societal trust provides an alternative mechanism for shareholder protection and mitigates self-dealing at the country level (Cline and Williamson, 2016). In summary, in countries with higher levels of societal trust, CSR is more effective in

building trust and more valued by credit rating agencies because it can help mitigate moral hazard problems. We, therefore, hypothesize the following:

Hypothesis 2: The relation between CSR and a firm's long-term credit rating is more salient in countries with higher societal trust.

When a company has consistent and well-aligned overall firm policies, including CSR, employment, and financial & non-financial reporting policies, the company makes a powerful statement to outsiders that CSR engagement is well planned and strategized, and is less likely to be driven by managers' moral hazard problems or opportunistic behavior. Thus, CSR engagement under a broadly consistent policy setting is more effective in building trust. We, therefore, hypothesize the following:

Hypothesis 3: The positive relation between CSR and long-term credit rating is more salient in firms that adopt policies that are consistent with their CSR engagement.

3. Sample, Variables, and Methodology

A. Sample Selection

In addition to the rapidly growing attention given to CSR initiatives, a plethora of information on CSR activities and, in particular, rating and scoring of CSR activities, has been made available through numerous information intermediaries (Ioannou and Serafeim, 2015). Thomson Reuters' ASSET4 is one of the most reputable providers of environmental, social, and governance (ESG) data, with a broad coverage of firms from all over the world. Major investment houses like BlackRock rely on ESG information from ASSET4 as analysis tools (Cheng et al., 2014).

To construct our sample, we start from the universe of ASSET4 firms, which includes 3,798 unique firms from 45 countries, spanning 2002–2014. We then obtain a long-term credit rating from the S&P Capital IQ database for each of these firms, annual financial statement data from Compustat North America and Global Compustat, and monthly stock return data from

Datastream. We require that each country has at least five observations and each firm has non-missing data on financial variables, CSR rating, long-term credit rating from S&P, and monthly stock returns. Applying these criteria, our final sample consists of 1,446 unique firms and 9,933 firm-year observations from 42 countries in all six inhabitable continents.

Panel A of Table 1 presents the distribution of sample firms by country of origin (headquarters). Of the 42 countries, the US dominates in terms of the number of observations (4,888 out of 9,933). Japan, the UK, and Canada each account for more than 500 observations, whereas some countries such as Hungary, Colombia, and Philippines have fewer than 10 observations. Panel B of Table 1 reports the industry distribution of the sample following the 12 industry classification defined in Fama and French (1997). The manufacturing industry has most observations (15.24%, 1,514 out of 9,933), followed by the “other” industries category (15.04%, 1,494 out of 9,933) such as mines, construction, building material, transportation, hotels, business services, and entertainment industries. The consumer durables and healthcare industries are associated with the least number of observations (361 and 561, respectively). Compared to the differences in the number of observations across the 12 industries, variations in the mean long-term credit rating and CSR are much smaller. Following Klock et al. (2005), we convert long-term credit ratings to numbers ranging from 1 (D) to 22 (AAA). The overall inter-industry mean long-term credit rating is around 14 (corresponds to a letter grade of BBB), with the healthcare, utilities, and chemicals industries boasting industry means above 15 (corresponds to a letter grade of BBB+). The chemicals industry exhibits the highest mean CSR (0.76), whereas the wholesale and retail industry has the lowest (0.55). Panel C shows the yearly distribution of the sample over 2002–2014, suggesting an almost monotonically increasing number of unique firms every year, from 436 in 2003 to 859 in 2014.

B. Main Variables

Our main variables of interest are long-term credit ratings, CSR ratings, and trust building related factors that may influence rating agencies' assessment of a borrower's trustworthiness. Below, we describe how each of these variables is measured.

B.1 Long-term Credit Rating

S&P issues various credit ratings, long term and short term, for both (bond) issuers and particular issues (Standard and Poor's, 2015). Our study examines the effect of CSR ratings on corporate credit ratings, which, like sovereign credit ratings, correspond to issuer credit ratings. The long-term credit rating data we use herein are derived from the S&P Capital IQ database, which contains forward looking credit ratings assigned by S&P rating services for issuers. There are at least two advantages to focusing on credit ratings from a single credit rating agency, that is, S&P: (1) S&P is a major global credit rating agency that has appropriate reach for an international study, and (2) rating standards should be consistent within the same credit rating agency.

When we aggregate long-term credit ratings by countries where firms' headquarters are located in Panel A of Table 1, we observe that mean firm credit rating ranges between 10.27 for Indonesia (corresponding to a letter grade of BB) and 19.42 for Singapore (corresponding to a letter grade of AA). The sovereign credit rating also spans a wide range, between 11.38 for Turkey (corresponding to a letter grade of BB) and 22 for several countries including Canada, Denmark, Germany, the Netherlands, Norway, Singapore, Switzerland, and the UK. Almost half of the observations of our sample are from the US and the mean firm-level credit rating and sovereign rating for US firms is 13.9 and of 21.61, respectively.

[Table 1 about here]

Summary statistics in Table 2 show that the mean long-term credit rating for our sample is 14.24, corresponding to a letter rating between BBB and BBB+. The median long-term credit rating is 14, very close to the mean, corresponding to a letter rating of BBB. Although the lowest long-term credit rating is 1, the 25th and 75th percentiles at 13 and 16 suggest that most of the firms in our sample are investment grade. However, we recognize that our sample is subject to selection bias, as ASSET4 covers only the largest firms in the world, and thus our findings should not be generalized to smaller and less well-known firms.

B.2 CSR Ratings

ASSET4 collects objective, relevant, auditable, and systematic ESG information and generates CSR ratings for the universe of firms it covers. The raw ESG information derives from publicly available sources including stock exchange filings, annual financial and sustainability reports, and non-governmental organizations' websites. Specifically, trained analysts then transform the raw information, which is usually qualitative, into consistent, numerical data points to enable quantitative analysis. Every year, more than 900 data points are used as inputs to calculate 250 key performance indicators (KPIs) that are further organized into 18 categories within four pillars: environmental, social, corporate governance, and economic performance. Similar to other studies that have applied ASSET4 data to analyze the relation between CSR and CFP (Cheng et al., 2014; Liang and Renneboog, 2017; Lys et al., 2015), the main CSR score variable (*CSR*) we use herein is the arithmetic mean of the environmental and social pillar scores. We exclude corporate governance and economic pillar scores because both are less connected with building and improving stakeholder relations. In additional tests, we also rely on individual scores within the social and environmental pillars to explore the effect of different CSR

dimensions and to evaluate the economic significance of the CSR effect on long-term credit ratings.

As the four pillar scores and other CSR ratings from ASSET4 range between 0 and 100, which is much larger in magnitude compared to other explanatory variables, we rescale them to a range between 0 and 1. When we aggregate the various CSR ratings over countries, we find a large variation in the mean: from a high of 0.92 in Denmark to a low of 0.33 in the Philippines for the adjusted CSR rating; from a high of 0.94 in Denmark, to a low of 0.34 in China for the social pillar score; and finally from a high of 0.91, again in Denmark, to the lowest value of 0.21 recorded for the Philippines for the environmental pillar score.

B.3 Trust-Related Variables

B.3.1 Country-level Societal Trust

Following the literature (Guiso et al., 2008; La Porta et al., 1997; Pevzner et al., 2015), we take the mean response to a World Values Survey (WVS) question that elicits people's belief on trust as a proxy for societal trust in a particular country.⁵ A higher mean response on variable *Trust* suggests a higher level of societal trust. Out of the 42 countries in our sample, we calculate mean societal trust to be 0.33, with *Trust* ranging between 0.05 for Turkey and 0.65 for Sweden.

Another proxy for societal trust is the perceived corruption level of a country. A higher value on the corruption perception index (CPI) suggests lower perceived corruption and higher trustworthiness. For the 42 countries, the natural logarithm (hereafter log) of CPI (*logCPI*) ranges between 3.20 for the Russian Federation and 4.53 for Denmark, Finland, and New

⁵ The question reads: Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people? A response is coded as 1 if a survey participant reports that most people can be trusted and 0 otherwise.

Zealand. We also define a dummy variable *High CPI* which takes the value 1 if *logCPI* is higher than the median value and 0 otherwise.

Higher public trust is likely to prevail in countries that enjoy media freedom as journalists there are more able to help keep corruption and self-dealing in check for the country (Hanitzsch and Berganza, 2012). We use the *Freedom of the Press* index from Freedom House as another proxy for country-level perceived trustworthiness. The greater the value of the index, the higher the societal trust in the country.

B.3.2 Measurement of Consistent Policy

We adopt four measures for policy consistency, specifically whether the firm (1) has below-median volatility in CSR score over time, (2) adopts a policy to maintain long-term employment growth and stability, and (3) follows the Global Reporting Initiative (GRI), which is a financial reporting mechanism that encourages and facilitates greater transparency of CSR performance reporting. *CSR volatility* is calculated as the coefficient of variation of CSR scores in the most recent 3 years with low *CSR volatility* suggesting a consistent CSR policy over time. We construct a dummy variable *High CSR volatility* that takes the value 1 if the coefficient of variation of the CSR scores is above median and 0 otherwise.

Treating employees well has always been an important component of attaining and maintaining desirable CSR scores as employees are a group of important stakeholders. A high CSR employment score together with a dedicated employment policy that aims to maintain long-term employment growth and stability reflects consistency in how the firm treats its employees. We construct a dummy variable *Empolicy* that takes the value 1 if a firm maintains a long-term employment growth and stability goal and 0 otherwise.

The GRI is widely recognized as the most trustworthy framework for disclosing sustainable information (KPMG, 2011). It captures the extent to which firms consider their impacts on stakeholders in general and enables them to be transparent about the risks and opportunities they face in building relationships with those stakeholders (GRI website). Adopting GRI reporting also is an indication of the firm's commitment to CSR (Fernandez-Feijoo et al., 2014). Enhanced transparency vis-à-vis the disclosure of CSR-related information and expressed commitments to CSR should help CSR build trust effectively.

[Table 2 about here]

4. Empirical Results

A. CSR, Long-term Credit Rating, and Societal Trust

In order to estimate the relation between CSR score and long-term credit rating, we include control variables that are found to be relevant in the prior literature (Almeida et al., 2017; Baghai et al., 2014). In our base model, we include the following to control for firm-specific financial performance: (1) the log of inflation adjusted book total assets in million US dollars (*LogTA*), (2) the leverage ratio calculated by long-term debt divided by total assets (*Leverage*), (3) profitability measured by return on assets (*ROA*), (4) sales growth calculated by annual incremental sales divided by total sales in the previous year (*Sales growth*), (5) R&D measured by R&D expenditure over total assets (*R&D intensity*), (6) the capital expenditure ratio (*CAPEX intensity*), (7) the tangibility ratio (*FA/TA*), (8) the cash ratio (*Cash/TA*), (9) the current ratio measured by current assets over current liabilities (*Current Ratio*), (10) the interest coverage ratio (*EBIT/Int*), (11) long- and short-term debt divided by EBITDA (*Debt/EBITDA*), and (12) *Market beta* and *Idiosyncratic risk* estimated by 24-month stock returns before the fiscal year end. We also include proxies of the economic conditions that influence credit ratings, besides

sovereign credit ratings that have a direct influence on corporate ratings (Almeida et al., 2017). Specifically, we include (1) the yield spread of the 10-year T-bond and 3-month T-bill, which proxies for term risk (*Maturity Spread*), (2) the credit spread between the yield on corporate bonds and the 10-year T-bond, which proxies for credit risk (*Credit Spread*), (3) capital market size (*Mktcap/GDP*), and (4) size of credit market offered by banks (*Private credit/GDP*), (5) inflation rates (*Inflation*), and (6) inflation adjusted GDP per capita (*GDP per cap*). Following Baghai et al. (2014), we set the leverage ratio to zero and include a dummy variable (*Neg Debt/EBITDA*) that equals one if the ratio is negative, to take the discontinuity of the leverage ratio at zero into account. We also winsorize all explanatory variables at the 1st and 99th percentiles to guard against outlier effects.

We report results on the relation between lagged CSR score and long-term credit rating (how lagged *CSR* influences *LT rating*) from the base-case regression models in Columns (1)–(4) of Table 3. In Column (1), we include lagged *CSR* as the only explanatory variable besides year, industry, and country fixed effects. The positive and highly significant coefficient estimate supports Hypothesis 1. We then estimate an ordered logit regression model and an ordinary least squares regression model (OLS) and report the results in Columns (2) – (3), respectively, as both models have their advantages. Ordered logit regression models that treat smaller numbers as lesser ratings possess an advantage as they are consistent with the nature of credit rating numbers, but are not related to the exact magnitude of the rating number (Baghai et al., 2014). OLS models, however, are more appropriate in estimating economic significance. We report results using both methods and control for industry-fixed effects by including the two-digit SIC code; we also control for year fixed effects and country fixed effects while clustering the standard errors at country- and firm- levels for both models following Correa and Lel (2016).

In both columns (2) and (3), we observe that almost all explanatory variables are statistically significant with expected and consistent signs across models. Firms tend to have better long-term credit ratings when they are larger, have a lower leverage ratio, a higher current ratio, a higher interest coverage ratio, higher profitability, a higher R&D ratio, a higher tangibility ratio, lower market beta, and idiosyncratic risk. When the maturity spread is higher, suggesting a booming economy with less overall credit risk, firm credit ratings are also higher. A higher credit spread is associated with lower firm ratings. These findings are broadly consistent with the prior literature.

The coefficient estimates on lagged *CSR* for both model specifications are positive and highly significant, supporting the view that doing good is beneficial to the firm. To mitigate any concern that this positive relation is a function of some unobservable (omitted) risk factor that is correlated with *CSR*, we include firm fixed effects in the estimation and report results in Column (4). The coefficient estimate on lagged *CSR* from the model which controls for firm fixed effects is about half in magnitude, positive, and statistically different from zero at a 95% confidence level.

We next examine the role of societal trust in the relation between *CSR* performance and long-term credit rating. We divide our sample into two subsamples based on country-level societal trust and re-estimate the relation between lagged *CSR* and long-term credit rating. Results in Columns (5) – (6) of Table 3 suggest that the relation is positive and highly significant only in countries with above-median societal trust (*High Trust*). This supports H2 that *CSR* is more likely to result in “reciprocity” benefits without suffering from moral hazard concerns in countries with high societal trust. Indeed, there is no relation between *CSR* performance and long-term credit rating in countries with low societal trust, suggesting that the moral hazard

concerns in these countries may be so severe that S&P, the credit rating agency, does not value strong CSR performance there.

[Table 3 about here]

Trust is not easily measurable (Guiso et al., 2004); we construct a number of other proxies in an attempt to gauge societal trust and re-estimate the relationship between lagged CSR and long-term credit rating. Specifically, we include: the extent to which people tend to trust each other, which is captured by a dummy variable that takes the value 1 if the answer to a particular question from the World Values Survey is above median (*High Trust*); perceived corruption measured by Transparency International's CPI; and media freedom measured by the *Freedom of the Press* index constructed by Freedom House (*Media Freedom*). The results are reported in Table 4. The coefficient estimate for *High Trust*CSR* in Column (1) of Table 4 is positive and highly significant, suggesting a much more salient CSR effect on long-term credit rating in countries where people are more trusting. Because the US firms dominate our sample, we re-estimate the effect of high societal trust using all the non-US firms and find that the coefficient estimate for *High Trust*CSR* remains positive and highly significant. This suggests that our results are not driven by the US firms and that S&P rewards strong CSR in countries with high societal trust. The economic significance is non-trivial as well: the contribution of CSR to long-term credit rating is 1.66 notches higher in a country with above-median societal trust. If one notch amounts to 30 basis points on average in cost of debt, high societal trust is associated with 50 basis points in cost of borrowing for firms with the same CSR score in our full sample. The contribution of CSR to long-term credit rating is even more salient for firms outside of the US: it is 2.05 notches higher in countries with above-median societal trust, amounting to a 60 basis points difference.

The coefficient estimate for *LogCPI*CSR* in Column (3) of Table 4 is positive and highly significant. When we define a dummy variable *High CPI* that takes the value 1 if *CPI* is above the median and 0 otherwise, the coefficient estimate for *High CPI*CSR* in column (4) is also positive and highly significant, both statistically and economically. As a high *CPI* denotes low perceived corruption, high *CPI* also indicates high societal trust. The coefficient on lagged *CSR* is negative and highly significant, suggesting that *CSR* is viewed negatively with respect to a firm's long-term credit rating in countries with high perceived corruption. This means that *CSR* is likely to be viewed as a waste of corporate resources in countries with high perceived corruption (low societal trust). Similarly, the positive and highly significant coefficient estimate for *Media Freedom*CSR* in Column (5) lends further support to H2, as the higher value in Media Freedom suggests higher societal trust. Overall, our results point to stronger *CSR* effects on long-term credit ratings in countries where high societal trust prevails, supporting Hypothesis 2.

[Table 4 about here]

B. Internal Trust Building, *CSR*, and Long-term Credit Rating

Implementing a *CSR* policy and consistently adhering to such a policy despite cash flow volatility is a powerful statement of dedicated *CSR* engagement. Consistent and well-aligned firm policies alleviate moral hazard concerns and help build trust between the firm and its stakeholders. We use the following as a proxy for policy consistency: *CSR* volatility, employment policy, and GRI reporting. We then construct interaction variables of the policy consistency proxy and *CSR*, control for all financial and macroeconomic variables as well as firm and year fixed effects in each of the models, and focus on the coefficients of interaction variables to study the effect of policy consistency.

Results in Column (1) show that CSR volatility in the most recent 3 years remains negatively associated with long-term credit rating even after we control for cash flow volatility in the most recent 3 years. We then define a dummy variable *High CSR volatility* that takes the value 1 if CSR volatility is above median and 0 otherwise. The highly negative and significant coefficient estimate on the interaction term *High CSR volatility*CSR* reported in Column (2) shows that the positive effect of CSR on long-term credit rating is greatly offset by the negative effect of CSR volatility. This suggests that S&P values inconsistent CSR policy less because it is less effective in “earning trust.”

Finally, we examine the influence of consistent employment policy on the relation between CSR and long-term credit rating through the trust-building channel. When the firm adopts a consistent policy with respect to employee treatment, including a dedicated policy that aims to maintain long-term employment growth and stability, CSR is more likely to be valued as a trust-building mechanism and contributes to sustained long-term credit rating. We construct a dummy variable for this purpose: *Empolicy* that takes value 1 if a firm has a specific policy that aims at maintaining long-term employment growth and stability and 0 otherwise. The coefficient estimate on the interaction term *Empolicy*CSR* in Column (3) is positive and highly significant, suggesting that CSR at a firm with a dedicated policy for employees builds stronger trust that sustains that firm’s long-term credit rating. It is worth noting that the coefficient estimates for lagged *CSR* and *Empolicy* are either insignificant or negative, suggesting that consistency of CSR and employment policy, which leads to effective trust-building, is critical in the positive relation between CSR and long-term credit rating. Columns (4) and (5) present results from GRI and non-GRI samples, respectively. *CSR* is significant in the GRI sample, but not in the non-GRI sample, suggesting that when CSR information is more reliable, the credit rating agency gives

more weight to the CSR score. Overall, the results in Table 5 show that corporate policies that are well aligned with CSR engagement help mitigate moral hazard concerns and sustain long-term credit ratings, supporting Hypothesis 3.

[Table 5 about here]

5. Addressing Endogeneity Concerns

We conduct several further tests to alleviate concerns that the positive relation between CSR performance and long-term credit rating is due to either omitted variables or some factors that are correlated with both CSR and long-term credit rating. We estimate the relation between CSR and long-term credit rating (1) when there is an external shock, including the 2007–2009 global financial crisis and sovereign downgrades, (2) using 1-, 2-, and 3-year difference models, and (3) using a firm fixed effects instrumental variable (IV) regression model.

A. External Shocks

Both sovereign downgrades and the great recession during 2007–2009 are events that constitute negative external shocks to public trust so that firms' CSR may be more effective in building trust and helping to sustain long-term credit ratings. We use two dummies as proxies for sovereign downgrades: *Sovereign downgrade* that takes the value 1 when a country is downgraded by S&P in the current year and 0 otherwise and *Sovereign downgrade2* that takes value 1 when the downgrade occurs either in the current or the previous year and 0 otherwise. We estimate two specifications using these two measures and report results in Columns (1) – (2) of Panel A of Table 6. The positive relation between lagged *CSR* and long-term credit rating remains for both specifications and the interaction terms using both measures are positive and highly significant in statistical terms in overall terms and economically significant for the

Western European subsample. Whereas sovereign downgrades do not necessarily hurt a firm's long-term credit rating, the effect of CSR is more salient after those downgrades.

We also estimate two specifications of the interaction effect between crisis period and CSR. The first specification includes an interaction term of (time varying) lagged *CSR* with *FinCrisis*, which is a dummy that takes the value 1 if the year is 2007, 2008, or 2009, otherwise 0. After we control for firm fixed effects, year fixed effects, sovereign credit rating, and all financial and macroeconomic variables, the coefficient estimate on *FinCrisis*CSR* is highly significant with a magnitude of 0.245 and the coefficient estimate on *FinCrisis* is also highly significant with a magnitude of -0.474 . The coefficient estimate on *CSR* is positive yet not significant ($t = 1.616$). This suggests that while average credit ratings decreased during the financial crisis, CSR nevertheless helps sustain a firm's long-term credit rating. Furthermore, the CSR effect on long-term credit rating is only significant during the financial crisis as its trust-building function is more valued when public trust is low (Lins et al., 2017).

The second specification uses a difference-in-differences (DID) model with continuous treatment including a constant pre-crisis CSR level (*CSR2006*), financial crisis (*FinCrisis*), and the interaction of these two variables (*CSR2006*FinCrisis*) for firm and year fixed effect models. By using a fixed level of CSR, we can focus on CSR's varying "earned trust" effect in and out of crisis, following Lins et al. (2017). Furthermore, we construct another dummy variable, *PostCrisis*, which takes the value 1 if $t =$ a post crisis year (i.e., 2013–2014),⁶ and estimate the coefficient on *CSR2006*PostCrisis*. We control for year and firm fixed effects in both specifications and report results in Columns (3) – (4) of Table 6. Whereas the crisis variable is consistently negatively associated with long-term credit rating, the interaction term,

⁶ We invoke 2013 and 2014 as post crisis years to exclude effects from the European sovereign crisis in 2010–12.

*CSR2006*FinCrisis*, is positive and highly significant. The shock analysis alleviates the endogeneity concern and suggests that CSR, rather than unknown omitted variables, helps sustain a firm's long-term credit rating.

Finally, we re-estimate DID models for firms in countries with above- and below-median societal trust. We again find that the positive and significant relation between CSR and long-term credit rating only exists for the subsample of firms in *high trust* countries. In summary, our results using external shock analysis support Hypotheses 1 and 2. The consistent results from these tests provide further evidence that S&P values CSR performance as a trust-building mechanism, especially when it is less concerned about moral hazard problems in that country.

[Panel A of Table 6 about here]

B. Difference Models

To further mitigate endogeneity concerns, we next investigate the effect of a change in *CSR* and other explanatory variables on the change in long-term credit rating using difference models over a number of longer time periods. Through differencing, we can largely remove the effect of certain constant firm characteristics that are hard to capture, such as management quality and corporate culture, which could bias our results. CSR effects also tend to be strategic and long term (Porter and Kramer, 2002). By examining several longer time periods, we are more likely to observe the effects of changes in *CSR* on long-term credit ratings. Panel B of Table 6 reports the results from difference models over 1-, 2-, and 3-year windows. We control for country, industry, and year fixed effects in each of these models.

The results in Column (1) show that the change in long-term credit rating from year t to $t+1$ is not significantly associated with the change in *CSR* from year $t-2$ to t . The relation between the change in long-term credit rating from year t to $t+2$ and the change in *CSR* from year

$t-2$ to t , however, is positive and significant (Column 2). There is an even more significant relation between the change in long-term credit rating from year t to $t+3$ and the change in *CSR* from year $t-2$ to t (Column 3). These results provide further support for Hypothesis 1 and suggest that it takes a long time for the *CSR* effect to be reflected in the long-term credit rating. The statistically insignificant relation between the change in *CSR* from year t to $t+2$ and the change in long-term credit rating from year $t-2$ to t (Column 4) shows that improvement in the long-term credit rating is not associated with a better *CSR* score in the future, alleviating the reverse causality concern.

[Panel B of Table 6 about here]

C. Firm Fixed Effects Instrumental Variable Regressions

In Panel C, we conduct instrumental variable (IV) regressions to complement our analysis. By using an IV that correlates with *CSR* rating (satisfying the relevance condition) but does not lead to changes in long-term credit rating (satisfying the exclusion condition), we can arrive at a consistent estimate for both the direction and magnitude of the relation between *CSR* rating and long-term credit rating even though the estimate may be less efficient (Wooldridge, 2002).

We construct two instruments similar to those used in Di Giuli and Kostovetsky (2014) and Cheng et al. (2014) for the *CSR* rating. The first and principal instrument, governmental political orientation score for the most recent 3 years, derives from the Database of Political Institutions. Politics and ideology influence the rationale for firms to engage in *CSR* activities (Di Giuli and Kostovetsky, 2014). For example, more democratic-leaning (left-leaning ideology) firms are more likely to be pro-*CSR* than more republican-leaning (right-leaning ideology) firms. Following this argument, we calculate the last 3 year average country-level political ideology

score and use it as our main instrument. This satisfies the relevance condition as countries that have more left-leaning ideologies invest more resources in CSR activities and it also satisfies the exclusion condition as political ideology of the country is unlikely to drive a firm's long-term credit rating.

We also generate the second instrument, country-year mean of CSR, which is the annual mean of CSR rating of *other* firms that are headquartered in the same country. We calculate the average of overall, social dimension, and environmental dimension CSR ratings, and use them in the IV regressions, respectively. This IV satisfies the relevance condition because of the deep roots of CSR activities in country-level institutional factors, for example, disclosure rules, stakeholder orientation, employment protection regulation, and legal origins (Dhaliwal et al., 2012; Edmans et al., 2014; Ioannou and Serafeim, 2012; Liang and Renneboog, 2017). This IV also satisfies the exclusion condition, as a firm's long-term credit rating should not be driven by other firms' social performance and we do not find a systematic correlation between country-level credit rating and CSR rating.

With the help of these two instruments, we re-estimate the CSR effect on long-term credit rating and are able to perform a number of tests to assess their validity. In the first stage model of Panel C, we find a positive and highly significant relation between *CSR* and the two instruments in the results from the first stage of the IV regression estimation, confirming that the IVs meet the relevance condition. In columns (1)–(5), we report results from the second stage of the IV regression. The coefficient estimate for the instrumented *CSR* is positive and significant in columns (1), (2), and (4). The instrumented *CSR*, however, is only significant in countries with above-median societal trust and below-median CPI. This again supports Hypothesis 1 and Hypothesis 2 that the CSR effect is positive for long-term credit rating and the positive effect is

stronger in countries with less moral hazard concerns. The p -value for the Kleibergen-Paap rk LM statistic, which is essentially an underidentification test in the presence of heteroscedasticity, is 0.00, suggesting that the model has been identified (Kleibergen and Paap, 2006). The p -value for a weak identification test in the presence of heteroscedasticity (Kleibergen-Paap Walk rk test) is also 0.00, again suggesting that our instruments are not weak. The p -value for Hansen's J -test is 0.75, insignificant at the conventional level, suggesting at least one of our instruments is valid.

[Panel C of Table 6 about here]

6. Additional Tests

A. Do Leverage, Financial Constraints or Corporate Governance Drive Our Findings?

Bae et al. (2011) and Simintzi et al. (2015) show that firms with high employee-friendly ratings use less leverage. Because leverage is in general negatively associated with credit rating, our findings may be due to a mechanical relation between high CSR scores and strong credit ratings in firms with low leverage. Similarly, since firms with strong CSR scores are less financially constrained (Cheng et al., 2014), it is possible that our results are driven by firms which have access to financing and can maintain a solid credit rating.

To examine the alternative stories, we conduct a subsample analysis for firms with low (below median) and high (above median) leverage levels and financial constraints. The leverage ratio is measured by the long-term debt/assets ratio, and financial constraints are measured by the KZ and WW index. If leverage usage or financial constraints can explain our findings, we expect the CSR effect on long-term credit rating to be pronounced only for firms with low leverage or fewer financial constraints. The results in Table 7 do not support this conjecture, as the coefficient estimates on CSR rating for both highly levered and more financially constrained

firms remain positive and highly significant. In addition, Column (4) shows that the CSR effect is not simply driven by firms with good corporate governance.

[Table 7 about here]

B. Value Implications

Our findings suggest that trust plays an important role in the CSR effects, consistent with the argument in Lins et al. (2017) that social capital contributes to firm valuation, as trust is a major component of social capital. We also expect that CSR effects should go beyond long-term credit rating and be reflected in other measures of firm valuation, especially in countries with high societal trust, as trust helps mitigate moral hazard problems that diminish the firm value. We examine the relation between *CSR*, *ROA*, and *Tobin's Q* using firm fixed effects models that also control for country-year interaction fixed effects and find this is indeed the case: the relation between CSR score, ROA, and Tobin's Q is positive and highly significant, especially in years with low public trust (over the period 2007–2013) and in countries with high societal trust. From the results reported in Table 8, we confirm that CSR is also associated with higher firm value, when and where “earned trust” is better rewarded.

[Table 8 about here]

C. Additional Robustness Checks

Firms that are located in the US and Japan are disproportionately represented in our sample (4,888 and 897 out of 9,933, respectively) and may bias our conclusions. To alleviate such concern, in Table 9, we report results from a subsample of firms that are non-U.S. and non-Japan and still find the positive and significant CSR effects on long-term credit rating continue to hold. When we use separate CSR dimensions of *Social* and *Env* in the regressions in Columns (3) and (4), both *Social* and *Env* dimensions still show significantly positive effects on long-term

credit rating. We also conduct further robustness checks using regressions that control for firm fixed effects, country-year, and industry-year interaction fixed effects with country and year or firm, and year double clustering. Whereas the former controls for time-invariant firm fixed effects that we fail to include in the regression but influences long-term credit rating, the latter two control for time-varying country- and industry-fixed effects that are not in the regression. As observed in Columns (5)–(8) of Table 9, the positive and significant CSR effect on long-term credit rating remains. Although our main CSR rating measure does not include the G (corporate governance) dimension following the literature (Liang and Renneboog, 2017), when we use an alternative CSR score measure that includes the G dimension, our results continue to hold.⁷

[Table 9 about here]

7. Conclusions

Our paper examines how credit rating agencies assess a firm’s CSR performance through a trust-building lens. Our hypothesis is that credit rating agencies value CSR as an effective trust-building mechanism when moral hazard concerns are less severe. Using a comprehensive international sample over the period 2002–2014, we find a positive relation between CSR and long-term credit rating, which varies with the severity of moral hazard concerns. We show that CSR helps sustain long-term credit rating only in countries with high societal trust and in firms with corporate policies consistent with long-term CSR engagement.

Utilizing the findings for the US firms in Lins et al. (2017) suggesting that the value of CSR emanates from a firm’s “earned trust” through CSR, we investigate whether an important economic agent, a credit rating agency, values CSR and how such assessment through long-term credit rating varies with the severity of moral hazard concerns. Our paper extends the literature

⁷ Results available from the authors upon request.

through its global setting that emphasizes the country factor and showing that S&P varies its assessment of CSR with perceived moral hazard concerns. The extant literature suggests that superior corporate social performance leads to better access to financing through improved stakeholder relationships (Cheng et al., 2014). Our paper suggests that strong long-term credit rating helped by CSR is a possible and plausible channel that provides the firm with better access to finance. The literature also shows that CSR information is a useful input for the analyst forecasting process and that it has gained attention over time (Dhaliwal et al., 2012; Ioannou and Serafeim, 2015). Our paper confirms the usefulness of non-financial information for rating agencies.

Because our findings are based on a sample of large and reputable firms that belong to the universe captured by ASSET4, the usual caveats apply in terms of guarding against generalizing our findings to all firms. Furthermore, firms with credit ratings tend to use more leverage (Faulkender and Petersen, 2006), so the economic significance of the CSR effect on credit ratings that we document in this study may be smaller for firms that are not rated. As additional data become available, it will be interesting to investigate whether our results are more generally applicable.

References

- Almeida, H, Cunha, I, Ferreira, MA, Restrepo, F. The real effects of credit ratings: The sovereign ceiling channel. *Journal of Finance* 2017;72;249-290.
- Amiraslani, H, Lins, KV, Servaes, H, Tamayo, A. A Matter of Trust? Corporate Social Capital and the Pricing of Public Debt during the Financial Crisis. 2016.
- Attig, N., El Ghouli, S., Guedhami, O. and Suh, J., Corporate social responsibility and credit ratings. *Journal of Business Ethics* 2013;117(4); 679-694.
- Bae, K-H, Kang, J-K, Wang, J. Employee treatment and firm leverage: A test of the stakeholder theory of capital structure. *Journal of Financial Economics* 2011;100;130-153.
- Baghai, RP, Servaes, H, Tamayo, A. Have rating agencies become more conservative? Implications for capital structure and debt pricing. *Journal of Finance* 2014;69;1961-2005.
- Baker, M, Stein, JC, Wurgler, J. When does the market matter? Stock prices and the investment of equity-dependent firms. *Quarterly Journal of Economics* 2003;118;969-1005.
- Berg, J, Dickhaut, J, McCabe, K. Trust, reciprocity, and social history. *Games and economic behavior* 1995;10;122-142.
- Butler Jr, JK, Cantrell, RS. A behavioral decision theory approach to modeling dyadic trust in superiors and subordinates. *Psychological reports* 1984;55;19-28.
- Cheng, B, Ioannou, I, Serafeim, G. Corporate social responsibility and access to finance. *Strategic management journal* 2014;35;1-23.
- Cheng, I-H, Hong, H, Shue, K. Do managers do good with other people's money? *National Bureau of Economic Research*; 2013.
- Cline, BN, Williamson, CR. Trust and the regulation of corporate self-dealing. *Journal of Corporate Finance* 2016;41;572-590.
- Correa, R, Lel, Ugur. Say on pay laws, executive compensation, pay slice, and firm valuation around the world. *Journal of Financial Economics* 2016;122;500-520
- Dhaliwal, DS, Radhakrishnan, S, Tsang, A, Yang, YG. Nonfinancial disclosure and analyst forecast accuracy: International evidence on corporate social responsibility disclosure. *The Accounting Review* 2012;87;723-759.
- Di Giuli, A, Kostovetsky, L. Are red or blue companies more likely to go green? Politics and corporate social responsibility. *Journal of financial economics* 2014;111;158-180.
- Duarte, J, Siegel, S, Young, L. Trust and credit: the role of appearance in peer-to-peer lending. *Review of Financial Studies* 2012;25;2455-2484.
- Edmans, A, Li, L, Zhang, C 2014. Employee satisfaction, labor market flexibility, and stock returns around the world. *National Bureau of Economic Research*; 2014.
- Fama, EF, French, KR. Industry costs of equity. *Journal of financial economics* 1997;43;153-193.
- Faulkender, M, Petersen, MA. Does the Source of Capital Affect Capital Structure? *Review of Financial Studies* 2006;19.
- Fernandez-Feijoo, B, Romero, S, Ruiz, S. Commitment to corporate social responsibility measured through global reporting initiative reporting: Factors affecting the behavior of companies. *Journal of Cleaner Production* 2014;81;244-254.
- Ferrell, A, Liang, H, Renneboog, L. Socially responsible firms. *Journal of financial economics* 2016;122;585-606.
- Gambetta, D. *Trust: Making and breaking cooperative relations*. 1988.
- Gennaioli, N, Shleifer, A, Vishny, R. Money doctors. *Journal of Finance* 2015;70;91-114.
- Goss, A, Roberts, GS. The impact of corporate social responsibility on the cost of bank loans. *Journal of Banking & Finance* 2011;35;1794-1810.
- Graham, JR, Harvey, CR. The theory and practice of corporate finance: evidence from the field. *Journal of financial economics* 2001;60;187-243.

Guiso, L, Sapienza, P, Zingales, L. The role of social capital in financial development. *American Economic Review* 2004;94;526-556.

Guiso, L, Sapienza, P, Zingales, L 2006. The cost of banking regulation. *National Bureau of Economic Research*; 2006.

Guiso, L, Sapienza, P, Zingales, L. Trusting the stock market. *Journal of Finance* 2008;63;2557-2600.

Guiso, L, Sapienza, P, Zingales, L. Cultural biases in economic exchange? *Quarterly Journal of Economics* 2009;124;1095-1131.

Gurun, UG, Stoffman, N, Yonker, SE. Trust busting: The effect of fraud on investor behavior. 2015.

Hanitzsch, T, Berganza, R. Explaining journalists' trust in public institutions across 20 countries: Media freedom, corruption, and ownership matter most. *Journal of Communication* 2012;62;794-814.

Hart, O. Financial Contracting. *Journal of Economic Literature* 2001;39;1079-1100.

Hillman, AJ, Keim, GD. Shareholder value, stakeholder management, and social issues: what's the bottom line? *Strategic management journal* 2001;125-139.

Ioannou, I, Serafeim, G. What drives corporate social performance? The role of nation-level institutions. *Journal of International Business Studies* 2012;43;834-864.

Ioannou, I, Serafeim, G. The impact of corporate social responsibility on investment recommendations: Analysts' perceptions and shifting institutional logics. *Strategic management journal* 2015;36;1053-1081.

Jiraporn, P, Jiraporn, N, Boeprasert, A, Chang, K. Does corporate social responsibility (CSR) improve credit ratings? Evidence from geographic identification. *Financial Management* 2014;43;505-531.

Kaplan, SN, Zingales, L. Do investment-cash flow sensitivities provide useful measures of financing constraints? *Quarterly Journal of Economics* 1997;112;169-215.

Kisgen, DJ. Credit ratings and capital structure. *Journal of Finance* 2006;61;1035-1072.

Kisgen, DJ, Strahan, PE. Do regulations based on credit ratings affect a firm's cost of capital? *Review of Financial Studies* 2010;23;4324-4347.

Kleibergen, F, Paap, R. Generalized reduced rank tests using the singular value decomposition. *Journal of econometrics* 2006;133;97-126.

Klock, MS, Mansi, SA, Maxwell, WF. Does corporate governance matter to bondholders? *Journal of Financial and Quantitative Analysis* 2005;40;693-719.

Knack, S, Keefer, P. Does social capital have an economic payoff? A cross-country investigation. *Quarterly Journal of Economics* 1997;112;1251-1288.

KPMG, T 2011. KPMG International survey of corporate responsibility reporting 2011. KPMG; 2011.

Krüger, P. Corporate goodness and shareholder wealth. *Journal of financial economics* 2015;115;304-329.

La Porta, R, Lopez-De-Silanes, F, Shleifer, A, Vishny, RW. Legal Determinants of External Finance. *Journal of Finance* 1997;52;1131-1150.

Liang, H, Renneboog, L. On the foundations of corporate social responsibility. *Journal of Finance* 2017;72;853-910.

Lins, KV, Servaes, H, Tamayo, ANE. Social Capital, Trust, and Firm Performance: The Value of Corporate Social Responsibility during the Financial Crisis. *Journal of Finance* 2017;72;1785-1824.

Lys, T, Naughton, JP, Wang, C. Signaling through corporate accountability reporting. *Journal of Accounting and Economics* 2015;60;56-72.

Masulis, RW, Reza, SW. Agency Problems of Corporate Philanthropy. *Review of Financial Studies* 2015;28;592-636.

Menz, K-M. Corporate social responsibility: Is it rewarded by the corporate bond market? A critical note. *Journal of Business Ethics* 2010;96;117-134.

Millon, MH, Thakor, AV. Moral hazard and information sharing: A model of financial information gathering agencies. *Journal of Finance* 1985;40;1403-1422.

Oikonomou, I, Brooks, C, Pavelin, S. The effects of corporate social performance on the cost of corporate debt and credit ratings. *Financial Review* 2014;49;49-75.

Pevzner, M, Xie, F, Xin, X. When firms talk, do investors listen? The role of trust in stock market reactions to corporate earnings announcements. *Journal of financial economics* 2015;117;190-223.

Porter, ME, Kramer, MR. The competitive advantage of corporate philanthropy. *Harvard business review* 2002;80;56-68.

Putnam, RD, Leonardi, R, Nanetti, RY, Making democracy work: Civic traditions in modern Italy. Princeton university press; 1994.

Simintzi, E, Vig, V, Volpin, P. Labor Protection and Leverage. *Review of Financial Studies* 2015;28;561-591.

Stellner, C, Klein, C, Zwergel, B. Corporate social responsibility and Eurozone corporate bonds: The moderating role of country sustainability. *Journal of Banking & Finance* 2015;59;538-549.

Stiglitz, JE 2000. Formal and informal institutions, Social capital: A multifaceted perspective. WorldBank; 2000.

Sufi, A. Bank Lines of Credit in Corporate Finance: An Empirical Analysis. *Review of Financial Studies* 2009;22;1057-1088.

Titman, S. The effect of capital structure on a firm's liquidation decision. *Journal of financial economics* 1984;13;137-151.

Whited, TM, Wu, G. Financial Constraints Risk. *Review of Financial Studies* 2006;19;531-559.

Wooldridge, JM, *Econometric Analysis of Cross Section and Panel Data*. MIT Press; 2002.

Zak, PJ, Knack, S. Trust and growth. *The economic journal* 2001;111;295-321.

Zingales, L. In search of new foundations. *Journal of Finance* 2000;55;1623-1653.

Appendix. Definitions of Variables

Variable Name	Definition	Source
Related to Credit rating related:		
<i>Lt rating</i>	Issuer long-term credit rating; Company credit rating; Following Klock et al. (2005), we convert long-term credit rating to numbers from 1(D) to 22(AAA).	Capital IQ
<i>Sovereign cr rating</i>	Sovereign credit rating	Capital IQ
Related to CSR and Corporate Governance:		
<i>CSR</i>	Firm corporate social responsibility rating; (social + env)/2	ASSET4, calculated
<i>High CSR</i>	Takes 1 if CSR score is above 0.50, else 0	ASSET4, calculated
<i>Social</i>	Firm CSR rating related to social issues	ASSET4
<i>Env</i>	Firm CSR rating related to environmental issues	ASSET4
<i>CGOV</i>	Firm corporate governance rating	ASSET4
External shock related		
<i>Fin crisis</i>	Takes 1 if the year is in the US financial crisis period (2007–2009), else 0	
<i>Fin crisis2</i>	Takes 1 if the year is in the US financial crisis period (2007–2009), else 0	
<i>Crisis</i>	Takes 1 if the year is in the US financial crisis period (2007 to 2009) or the European sovereign debt crisis period (2010 to 2012), else 0	
<i>Crisis2</i>	Takes 1 if the year is in the US financial crisis period (2007–2009) or the European sovereign debt crisis period (2010–2012), else 0	
<i>Sovereign downgrade</i>	Takes 1 if the country’s sovereign credit rating is downgraded in the current year by S&P, else 0	Capital IQ
<i>Sovereign downgrade2</i>	Takes 1 if the country’s sovereign credit rating is downgraded in the current or the previous year by S&P, else 0	Capital IQ
Related to External trust building		
<i>Trust</i>	Fraction of people who answer “Most people can be trusted”; Country trust index is constructed from the most recent wave survey	World Value Survey (WVS); from 4 th to 6 th wave
<i>High Trust</i>	Takes 1 if a country trust index is higher than the overall median country trust index	World Value Survey (WVS); from 4 th to 6 th wave
<i>CPI</i>	Corruption perception index; the higher the index, the less corrupt is the country; calculated as the original CPI divided by 100 so that the highest CPI has a score of 1	Transparency International
<i>High CPI</i>	Takes 1 if a country CPI index is higher than the overall median country CPI index	Transparency International
<i>Media Freedom</i>	Takes 1 if a country has full media freedom, else 0.	Freedom House
Related to Internal trust building:		
<i>Invgrade</i>	Takes 1 if a company’s long-term credit rating is “BBB” and above, else 0.	Capital IQ, calculated

<i>CSR volatility</i>	The last three years (including this year) CSR coefficient of variation (CV)	Asset4, calculated
<i>High CSR volatility</i>	Takes 1 if CSR volatility is higher than median, else 0	Asset4, calculated
<i>Empolicy</i>	Takes 1 if a firm has a policy that aims at maintaining long-term employment growth and stability, else 0	Asset4, calculated
<i>GRI</i>	Takes 1 if a company report Global Reporting Initiative (GRI), else 0. Among the missing firms, GRI takes 0 if CSR is not audited and a firm does not have a sustainability committee.	Asset4, calculated
Company's financial variables:		
<i>LogTA</i>	Log (total assets) in US\$ and inflation adjusted using 2010 as the base year	Compustat
<i>Leverage</i>	Long-term debt over total assets	Compustat
<i>ROA</i>	Ib/TA(total assets)	Compustat
<i>Sale growth</i>	Sales' growth rate; $[\text{sale}(t)/\text{sale}(t - 1)] - 1$	Compustat
<i>R&D intensity</i>	R&D expenditure/total assets, treat missing R&D as 0	Compustat
<i>Missing R&D</i>	Takes 1 if R&D is missing, else 0	
<i>CAPX intensity</i>	Capital expenditure/total assets	Compustat
<i>FA/TA</i>	Net fixed assets/total assets	Compustat
<i>Cash/TA</i>	Cash and equivalents/total assets	Compustat
<i>CF/TA</i>	Cash flow / total assets; Cash flow is calculated as (oibdp + dp)	Compustat
<i>Current ratio</i>	Current assets/current liabilities	Compustat
<i>EBIT/Int</i>	[Earnings before interest and tax (EBIT)/interest expenses]/100; interest coverage ratio	Compustat
<i>Debt/EBITDA</i>	Debt / Earnings before interest, tax, depreciation, and amortization (EBITDA)	Compustat
<i>Neg Debt/EBITDA</i>	Takes 1 if Debt/EBITDA < 0, else 0	Compustat
<i>Market beta</i>	Market beta is calculated using the past 24 month returns and Fama & French market factor	Datastream
<i>Idiosyncratic risk</i>	Firms' specific idiosyncratic risk	Datastream
<i>Tobin's Q</i>	(Total assets – book value of common equity + market value of common equity)/total assets	Compustat
<i>KZ index</i>	Kaplan and Zingales's (1997) KZ index is calculated following Baker et al. (2003); Higher <i>KZ index</i> implies that the firm is more financially constrained.	Baker et al. (2003)
<i>Low KZ</i>	Takes 1 if KZ index is lower than the annual median, else 0	
<i>WW index</i>	WW index is based on Whited and Wu (2006); Higher <i>WW index</i> implies that the firm is more financially constrained	Whited and Wu (2006)
<i>Low WW</i>	Takes 1 if WW index is lower than the annual median, else 0	
<i>Low leverage</i>	Takes 1 if leverage is lower than the annual median, else 0	
Macroeconomic variables:		
<i>Maturity spread</i>	10 year U.S. T-Bond Yield–3 month U.S. Treasury bill yield	Federal Reserve H.15 Report
<i>Credit spread</i>	10 year U.S. T-Bond Yield–AAA corporate bond yield	Federal Reserve H.15 Report

<i>Mktcap/GDP</i>	Annual market capitalization/GDP	World Bank
<i>Private credit/GDP</i>	Annual domestic private credit provided by banks/GDP	World Bank
<i>Inflation</i>	Annual inflation rate, measured by GDP deflator	World Bank
<i>GDP per capita</i>	Annual GDP per capita in 1,000 US\$, inflation adjusted using 2010 as the base year	World Bank

Table 1. Sample distribution

Table 1 describes country, industry, and year distribution of our sample. The sample comprises domestic and global Compustat non-financial firms with Asset4 CSR scores and S&P Capital IQ company and country credit ratings during the 2002–2014 period. Panel A shows the number of firm-year observations, average sovereign credit rating, firm credit rating, CSR scores, logarithm of country corruption perception index, country trust index, country media freedom, government ideology (right:0, left:1, center:0.5) in the sample by country. Panel B presents the number of firm-year observations, mean firm credit rating and CSR scores in the sample by 12 Fama and French industry. Panel C reports the number of firms each year between 2002 and 2014. We relinquish observations for year 2002 due to lagging.

Panel A. Country distribution

Country	No. of firm-year obs	Sovereign credit rating	Company credit rating	CSR	Social	Env	LogCPI	Trust	Media freedom	Gov ideology
Australia	290	22.00	14.14	0.67	0.66	0.67	4.45	0.46	1	0.58
Austria	32	21.75	14.25	0.81	0.80	0.82	4.35		1	0.61
Belgium	43	20.49	15.23	0.81	0.81	0.81	4.30		1	0.12
Brazil	83	13.60	13.08	0.73	0.78	0.67	3.67	0.09	0	1.00
Canada	590	22.00	13.44	0.56	0.56	0.56	4.44	0.42	1	0.30
Chile	37	18.57	13.95	0.56	0.55	0.57	4.27	0.12	0.27	0.81
China	34	19.00	14.15	0.38	0.34	0.42	3.63	0.49	0	1.00
Colombia	5	12.80	12.80	0.87	0.93	0.81	3.57		0	
Czech Republic	11	18.09	15.45	0.59	0.71	0.46	3.86		1	1.00
Denmark	13	22.00	16.92	0.92	0.94	0.91	4.53		1	0.18
Finland	66	21.91	13.85	0.84	0.82	0.86	4.53	0.58	1	0.52
France	432	21.53	14.50	0.85	0.87	0.84	4.26	0.19	1	0.14
Germany	305	22.00	14.39	0.80	0.80	0.81	4.37	0.34	1	0.37
Greece	30	12.03	11.67	0.77	0.82	0.72	3.70		0.70	0.45
Hong Kong, China	142	21.24	16.10	0.54	0.55	0.53	4.38	0.40	0.23	
Hungary	6	11.83	11.67	0.92	0.92	0.91	3.93	0.29	0.33	0.67
India	55	13.00	12.76	0.83	0.85	0.81	3.54	0.38	0	1.00
Indonesia	22	11.86	10.27	0.65	0.76	0.55	3.45	0.21	0	

Ireland	71	18.35	13.61	0.68	0.70	0.66	4.32	1	0.45
Israel	11	16.91	14.91	0.37	0.36	0.39	4.12	0.82	0.00
Italy	131	16.78	14.82	0.77	0.79	0.75	3.79	0.15	0.21
Japan	897	19.36	15.92	0.72	0.65	0.78	4.32	1	0.00
Korea, Rep.	91	17.38	14.89	0.83	0.80	0.85	3.99	0.26	0.14
Luxembourg	26	22.00	12.15	0.55	0.53	0.57	4.43	1	0.50
Malaysia	30	16.00	15.00	0.55	0.59	0.52	3.85	0	
Mexico	49	14.33	13.76	0.63	0.66	0.61	3.50	0	0.02
Netherlands	129	21.81	15.44	0.83	0.86	0.79	4.46	1	0.23
New Zealand	44	20.55	15.09	0.57	0.55	0.60	4.53	1	0.55
Norway	64	22.00	13.78	0.83	0.83	0.82	4.46	1	0.66
Philippines	6	12.83	11.67	0.33	0.46	0.21	3.54	0	0.50
Poland	14	16.00	13.71	0.60	0.68	0.53	4.01	1	0.13
Portugal	30	16.70	14.30	0.81	0.88	0.75	4.13	1	0.68
Russian Federation	100	13.93	11.91	0.52	0.57	0.47	3.20	0	0.50
Singapore	36	22.00	19.42	0.55	0.57	0.52	4.50	0	
South Africa	21	14.14	12.38	0.81	0.87	0.75	3.77	0	1.00
Spain	99	18.75	15.25	0.89	0.91	0.87	4.16	1	0.67
Sweden	175	21.94	14.77	0.80	0.80	0.80	4.51	1	0.44
Switzerland	162	22.00	16.17	0.87	0.87	0.86	4.48	1	
Thailand	24	15.00	14.88	0.76	0.80	0.72	3.57	0	
Turkey	16	11.38	11.38	0.60	0.67	0.53	3.83	0	
United Kingdom	623	22.00	14.17	0.76	0.78	0.75	4.38	1	0.81
United States	4,888	21.61	13.90	0.54	0.55	0.53	4.29	1	0.41
Overall	9,933	18.08	14.09	0.70	0.72	0.67	4.08	0.59	0.49

Panel B. Sample distribution by industry

Fama & French 12 Industries	Obs.	Percent	Mean Company Credit Rating	Mean CSR Scores
Consumer Non-Durables	800	8.05%	14.49	0.65
Consumer Durables	361	3.63%	14.65	0.74
Manufacturing	1514	15.24%	14.02	0.70
Oil, Gas, and Coal Extraction	830	8.36%	13.75	0.56
Chemicals and Allied Products	648	6.52%	15.04	0.76
Business Equipment (Computers, Software)	945	9.51%	13.80	0.62
Telephone and Telephone Transmission	731	7.36%	13.96	0.59
Utilities	1018	10.25%	15.22	0.66
Wholesale, Retail, and Allied Services	1031	10.38%	13.83	0.55
Healthcare, Medical Equipment, and Pharmaceuticals	561	5.65%	15.39	0.60
Other	1494	15.04%	13.72	0.58

Panel C. Sample distribution by year

Year	Obs	Percent
2003	436	4.39%
2004	450	4.53%
2005	720	7.25%
2006	864	8.70%
2007	758	7.63%
2008	814	8.19%
2009	923	9.29%
2010	1000	10.07%
2011	1029	10.36%
2012	1042	10.49%
2013	1038	10.45%
2014	859	8.65%

Table 2. Descriptive Statistics

Table 2 Panel A reports firm-level characteristics and Panel B reports country-level and macroeconomic variables. More detailed definitions of each variable can be found in the Appendix.

Panel A. Firm-level variables

Variable	N	Mean	P50	P25	P75	SD
<i>Lt rating_t</i>	9933	14.237	14.000	13.000	16.000	2.905
<i>CSR_{t-1}</i>	9933	0.612	0.697	0.331	0.881	0.288
<i>LogTA_{t-1}</i>	9933	9.372	9.299	8.469	10.210	1.201
<i>Leverage_{t-1}</i>	9933	0.236	0.219	0.137	0.315	0.139
<i>ROA_{t-1}</i>	9933	0.049	0.047	0.023	0.081	0.064
<i>Sale growth_{t-1}</i>	9933	0.077	0.056	-0.011	0.134	0.200
<i>R&D intensity_{t-1}</i>	9933	0.016	0.000	0.000	0.019	0.030
<i>Missing R&D</i>	9933	0.428	0.000	0.000	1.000	0.495
<i>CAPX intensity_{t-1}</i>	9933	0.057	0.045	0.026	0.073	0.046
<i>FA/TA_{t-1}</i>	9933	0.354	0.307	0.155	0.532	0.234
<i>Cash/TA_{t-1}</i>	9933	0.100	0.073	0.031	0.137	0.096
<i>Current ratio_{t-1}</i>	9933	1.541	1.340	0.992	1.848	0.891
<i>Ebit/int_{t-1}</i>	9933	0.213	0.060	0.031	0.127	1.024
<i>Debt/EBITDA_{t-1}</i>	9933	2.699	2.062	1.178	3.406	3.110
<i>Neg Debt/EBITDA_{t-1}</i>	9933	0.011	0.000	0.000	0.000	0.104
<i>Market beta_{t-1}</i>	9933	1.066	1.022	0.634	1.448	0.657
<i>Idiosyncratic risk_{t-1}</i>	9933	0.048	0.043	0.031	0.058	0.025
<i>CSR volatility_{t-1}</i>	8818	0.142	0.089	0.033	0.200	0.147
<i>CF volatility_{t-1}</i>	8812	0.145	0.093	0.049	0.177	0.231
<i>Empolicy_{t-1}</i>	9933	0.335	0.000	0.000	1.000	0.472

Panel B. Country-level and macroeconomic variables

Maturity and credit spread statistics are calculated using US data.

Variable	N	Mean	P50	P25	P75	SD
<i>Sovereign cr rating</i>	42	18.082	18.658	14.495	21.883	3.702
<i>LogCPI</i>	42	4.081	4.208	3.773	4.422	0.376
<i>Trust</i>	31	0.333	0.338	0.203	0.422	0.164
<i>Media freedom</i>	42	0.590	1.000	0.000	1.000	0.460
<i>Gov ideology</i>	34	0.489	0.500	0.215	0.669	0.305
<i>Private credit/GDP</i>	42	0.945	0.940	0.572	1.244	0.420
<i>Mktcap/GDP</i>	42	1.029	0.738	0.434	1.045	1.493
<i>Inflation</i>	42	0.028	0.020	0.016	0.034	0.023
<i>GDP per capita</i>	42	32.144	31.601	11.090	46.677	23.285
<i>Maturity spread</i>	12	2.043	2.110	1.151	2.910	1.104
<i>Credit spread</i>	12	1.571	1.625	1.323	1.780	0.479

Table 3. Base regressions

The dependent variable is long-term credit rating of firms assessed by Standard and Poor's. We convert credit ratings into numerical values from 1(D) to 22(AAA) following Klock et al. (2005). Our sample includes firms associated with the required information between 2002 and 2014. *LogTA* and *GDP per capita* are measured by inflation-adjusted US dollars using 2010 as the base year. *Trust* is country level societal trust based on the most recent wave of the World Values Survey, and *High Trust* is a dummy variable that takes the value 1 if *Trust* is above median and 0 otherwise. Refer to the Appendix for detailed explanations of other variables. Columns (1) and (2) employ ordered logit models. Column (3) is an OLS regression model and controls for SIC2-digit industry, year, and country fixed effects. Columns (4) to (6) are firm fixed effects models. Robust *t*-statistics are calculated after clustering at the firm level for Columns (1) and (2) and after clustering at both country and firm levels for Columns (3) to (6) and are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

VARIABLES	(1) <i>Ordered Logit</i>	(2) <i>Ordered Logit</i>	(3) <i>OLS</i>	(4) <i>Firm Fixed</i>	(5) <i>Firm Fixed High Trust</i>	(6) <i>Firm Fixed Low Trust</i>
<i>CSR_{t-1}</i>	2.966*** (15.808)	0.726*** (3.867)	0.671*** (9.027)	0.321** (2.305)	0.284** (2.115)	0.432 (0.887)
<i>LogTA_{t-1}</i>		0.860*** (13.988)	0.799*** (20.350)	0.631*** (7.487)	0.669*** (9.812)	0.461* (1.884)
<i>Leverage_{t-1}</i>		-3.457*** (-8.040)	-3.197*** (-14.661)	-2.011*** (-10.157)	-2.224*** (-23.532)	-0.087 (-0.172)
<i>ROA_{t-1}</i>		11.515*** (13.455)	10.147*** (14.468)	3.791*** (10.846)	3.649*** (9.932)	5.334** (2.764)
<i>Sale growth_{t-1}</i>		-0.615*** (-4.795)	-0.576*** (-8.892)	-0.109 (-1.533)	-0.110 (-1.388)	-0.070 (-0.423)
<i>R&D intensity_{t-1}</i>		4.393** (2.111)	4.325*** (3.479)	1.414* (1.778)	2.083** (2.421)	-4.153 (-1.250)
<i>Missing R&D_{t-1}</i>		-0.257** (-2.110)	-0.282** (-2.563)	0.104 (1.278)	0.002 (0.021)	0.253** (2.186)
<i>CAPX intensity_{t-1}</i>		1.355 (1.084)	1.186 (1.177)	3.360*** (4.451)	3.167*** (3.525)	4.452* (2.007)
<i>FA/TA_{t-1}</i>		0.548 (1.502)	0.623 (1.344)	1.153*** (3.550)	1.324*** (2.984)	0.317 (0.621)
<i>Cash/TA_{t-1}</i>		-0.635 (-1.038)	-0.704 (-1.471)	-0.104 (-0.452)	-0.075 (-0.321)	0.179 (0.220)
<i>Current ratio_{t-1}</i>		0.195*** (3.070)	0.194** (2.613)	0.114*** (3.626)	0.103*** (4.239)	0.193 (1.468)
<i>EBIT/Int_{t-1}</i>		0.024 (0.789)	0.032 (1.582)	0.011 (1.043)	0.014 (1.128)	-0.030 (-1.448)
<i>Debt/EBITDA_{t-1}</i>		-0.146*** (-7.752)	-0.128*** (-7.045)	-0.071*** (-5.992)	-0.071*** (-5.784)	-0.076*** (-3.375)
<i>Neg Debt/EBITDA_{t-1}</i>		-2.085*** (-3.761)	-1.631*** (-3.459)	-1.078*** (-5.280)	-1.121*** (-4.972)	0.232 (0.655)
<i>Market beta_t</i>		-0.582*** (-11.734)	-0.545*** (-6.541)	-0.163*** (-4.560)	-0.166*** (-4.566)	-0.110 (-1.648)
<i>Idiosyncratic risk_t</i>		-34.417*** (-19.409)	-31.651*** (-14.298)	-15.366*** (-12.586)	-15.940*** (-11.599)	-12.048** (-2.554)
<i>Maturity spread_t</i>		0.282** (2.166)	0.395*** (7.938)	0.164*** (4.009)	0.081 (1.088)	0.519** (2.136)

<i>Credit spread_t</i>		-2.254*** (-5.352)	-0.629*** (-4.078)	-0.287** (-2.701)	-1.089*** (-3.999)	-3.129*** (-2.989)
<i>Sovereign cr rating_t</i>		0.298*** (5.486)	0.318*** (3.949)	0.308*** (5.180)	0.303** (2.811)	0.184** (2.807)
<i>Private credit/GDP_t</i>		-0.001 (-0.343)	-0.001 (-0.445)	-0.010*** (-3.487)	-0.010*** (-2.925)	0.011 (1.013)
<i>Mktcap/GDP_t</i>		-0.000 (-0.338)	-0.000 (-0.544)	0.001*** (2.771)	0.001** (2.548)	0.003 (0.439)
<i>Inflation_t</i>		3.797** (2.537)	3.624 (1.457)	1.108 (0.964)	1.204 (0.611)	2.597 (1.621)
<i>GDP per cap_t</i>		-0.117*** (-3.051)	-0.112** (-2.363)	-0.077** (-2.707)	-0.086*** (-3.158)	0.152 (1.438)
Observations	9,933	8,897	8,896	8,776	7,649	1,127
Adjusted R-squared			0.650	0.918	0.921	0.890
Pseudo R-squared	0.0826	0.218				
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	No	No	No
Country FE	Yes	Yes	Yes	No	No	No
Firm FE	No	No	No	Yes	Yes	Yes
SE clustered by	Firm	Firm	Firm & Country	Firm & Country	Firm & Country	Firm & Country

Table 4. Country-level Societal Trust and the CSR-Long-term Credit Rating Relation

The dependent variable is S&P's long-term issuer credit rating. Column (2) covers a non-US sample. *Trust* is country level societal trust based on the most recent wave of the World Values Survey, and *High Trust* is a dummy variable that takes the value 1 if *Trust* is above median and 0 otherwise. *LogCPI* is the logarithm of the corruption perception index (CPI), and *High CPI* is a dummy variable that takes the value 1 if *LogCPI* is above median and 0 otherwise. *Media freedom* takes the value 1 if a country has full media freedom and 0 otherwise. Refer to the Appendix for detailed explanations of other variables. Robust *t*-statistics are calculated after clustering at both country and firm levels and are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

VARIABLES	(1)	(2) Without US	(3)	(4)	(5)
<i>CSR_{t-1}</i>	-0.849** (-2.097)	-0.764* (-1.946)	-8.384*** (-3.941)	-0.693 (-1.522)	-0.488 (-1.233)
<i>High Trust</i>	9.777** (2.103)	5.320** (2.688)			
<i>High Trust * CSR_{t-1}</i>	1.660*** (4.109)	2.049*** (5.001)			
<i>LogCPI_t</i>			0.667 (0.889)		
<i>LogCPI_t * CSR_{t-1}</i>			2.121*** (4.246)		
<i>High CPI</i>				-0.686 (-1.615)	
<i>High CPI * CSR_{t-1}</i>				1.479*** (3.252)	
<i>Media Freedom_t</i>					-0.799*** (-3.012)
<i>Media Freedom_t * CSR_{t-1}</i>					1.282*** (3.098)
<i>Sovereign cr rating_t</i>	0.320*** (4.006)	0.364*** (5.255)	0.284*** (3.885)	0.304*** (3.714)	1.282*** (3.098)
Financial variables controlled	Yes	Yes	Yes	Yes	Yes
Macro variable controlled	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes
SE clustered by	Firm & Country	Firm & Country	Firm & country	Firm & country	Firm & country
Observations	8,896	4,008	8,896	8,896	8,895
Adjusted R-squared	0.652	0.662	0.652	0.651	0.651

Table 5. Internal trust building and the effect of CSR on long-term credit rating

The dependent variable is the long-term credit rating of firms issued by Standard and Poor's. We convert credit rating into numeric values from 1(D) to 22(AAA) following Klock et al. (2005). All models include both firm and year fixed effects. *Empolicy* takes 1 if the company has a policy for maintaining long term employment growth and stability, else 0. Column (4) and (5) cover firms with GRI reporting and non-GRI reporting, respectively. Refer to the Appendix for detailed explanations of other variables. Robust *t*-statistics are calculated after clustering at both country and firm levels and are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

VARIABLES	(1)	(2)	(3)	(4) GRI	(5) Non-GRI
<i>CSR_{t-1}</i>	0.347** (2.288)	0.436** (2.494)	0.150 (1.069)	0.660** (2.344)	0.071 (0.977)
<i>CSR volatility_t</i>	-0.241* (-1.919)				
<i>CF volatility_t</i>	-0.120* (-1.892)				
<i>High CSR volatility_t</i>		0.053 (1.420)			
<i>High CSR volatility_t*CSR_{t-1}</i>		-0.165** (-2.066)			
<i>Empolicy_{t-1}</i>			-0.558*** (-5.096)		
<i>Empolicy_{t-1}* CSR_{t-1}</i>			0.648*** (4.596)		
<i>Sovereign cr rating_t</i>	0.308*** (5.733)	0.309*** (5.782)	0.347*** (7.517)		
Financial variables controlled	Yes	Yes	Yes	Yes	Yes
Macro variables controlled	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
Industry FE	No	No	No	No	No
Country FE	No	No	No	No	No
SE clustered by	Firm & Country	Firm & Country	Firm & Country	Firm & Country	Firm & Country
Observations	7,667	7,674	6,797	3,261	2,070
Adjusted R-squared	0.922	0.922	0.925	0.934	0.940

Table 6. Endogeneity issues

We address endogeneity issues using three different methods: external shock analysis (Panel A), difference regressions (Panel B), and fixed effect instrumental variable (IV) regressions (Panel C)

Panel A. CSR effect during external shocks

Panel A reports the effect of CSR in the presence of external shocks, including sovereign debt downgrades (Column (1)), the Western Europe sovereign debt crisis (Column (2)), the US financial crisis (either 2007–2008 or 2007–2009) (Columns (3)–(6)). The dependent variable is Standard and Poor's long-term issuer credit rating. We convert credit ratings into numerical values following (Klock et al. (2005)), with 1 corresponding to D and 22 corresponding to AAA. *LogTA* and *GDP per capita* are measured by inflation adjusted US dollars using 2010 as the base year. *CSR2006* is the constant pre-crisis CSR score as of 2006 year end. Columns (1) and (2) control for SIC2-digit industry, year, and country fixed effects and Columns (3)–(6) control firm fixed effects. Columns (4) to (6) use difference-in-differences (DID) estimation with continuous treatment. Refer to the Appendix for detailed explanations of other variables. Robust *t*-statistics are calculated after clustering at both country and firm levels and are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

VARIABLES	(1) OLS	(2) OLS W. Europe	(3) Firm FE	(4) Firm FE	(5) Firm FE High Trust	(6) Firm FE Low Trust
<i>CSR_{t-1}</i>	0.629*** (8.177)	0.140 (0.187)	0.247 (1.616)			
<i>Sovereign downgrade</i>	0.032 (0.245)					
<i>Sovereign down*CSR_{t-1}</i>	0.463*** (3.516)					
<i>Sovereign downgrade2</i>		-1.286* (-1.795)				
<i>Sovereign down2*CSR_{t-1}</i>		2.033** (2.681)				
<i>Fin crisis (2007-09)</i>			-0.474*** (-4.055)	-0.244*** (-5.128)	-0.505*** (-4.134)	-0.760* (-2.191)
<i>Fin crisis*CSR_{t-1}</i>			0.245** (2.080)			
<i>CSR2006*Fin crisis</i>				0.300*** (3.093)	0.484*** (2.997)	-0.048 (-0.049)
<i>CSR2006*Post crisis (2013-14)</i>				-0.072 (-0.676)	0.169 (0.954)	-0.322 (-0.223)
<i>Sovereign cr rating_t</i>	0.341*** (4.400)	0.234** (2.540)	0.307*** (5.209)	0.314*** (5.901)	0.300*** (2.863)	0.229*** (3.500)
Financial variables controlled	Yes	Yes	Yes	Yes	Yes	Yes
Macro variables controlled	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,896	738	8,776	5,628	6,567	682
Adjusted R-squared	0.651	0.751	0.918	0.925	0.915	0.888
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	No	No	No	No

Country FE	Yes	Yes	No	No	No	No
Firm FE	No	No	Yes	Yes	Yes	Yes
SE clustered by	Firm & Country	Firm & Country	Firm & Country	Firm & Country	Firm & Country	Firm & Country

Panel B. Difference regression

The dependent variable is *Lt rating* (t + 1 or t + 2 or t + 3) minus *Lt rating* (t) for Models (1)–(3). For Model (4), the dependent variable is *CSR* (t + 2)–*CSR* (t).

VARIABLES	(1) $\Delta Lt\ rating_{t+1}$ (1 year)	(2) $\Delta Lt\ rating_{t+2}$ (2 year)	(3) $\Delta Lt\ rating_{t+3}$ (3 year)	(4) ΔCSR_{t+2} (2 year)
<i>Lt rating</i> _t – <i>Lt rating</i> _{t-2}	0.006 (0.679)	-0.058** (-2.127)	-0.107*** (-3.647)	0.002 (0.861)
<i>CSR</i> _t – <i>CSR</i> _{t-2}	0.105 (1.412)	0.263** (2.155)	0.378** (2.079)	-0.154*** (-20.343)
<i>LogTA</i> _t – <i>LogTA</i> _{t-2}	0.137*** (3.771)	0.037 (0.521)	-0.053 (-0.709)	0.003 (0.450)
<i>Leverage</i> _t – <i>Leverage</i> _{t-2}	-0.590*** (-6.042)	-0.951*** (-5.071)	-0.664*** (-3.076)	0.016 (0.789)
<i>ROA</i> _t – <i>ROA</i> _{t-2}	1.652*** (8.920)	1.993*** (7.662)	2.135*** (7.323)	-0.024 (-1.093)
<i>Sale growth</i> _t – <i>Sale growth</i> _{t-2}	0.045 (1.290)	0.112** (2.404)	0.082 (1.673)	-0.008** (-2.276)
<i>R&D intensity</i> _t – <i>R&D intensity</i> _{t-2}	-1.733* (-1.863)	-1.889 (-1.033)	-0.289 (-0.133)	0.051 (0.556)
<i>Missing R&D</i> _t – <i>Missing R&D</i> _{t-2}	-0.014 (-0.474)	-0.003 (-0.054)	0.004 (0.046)	0.008 (1.236)
<i>CAPX intensity</i> _t – <i>CAPX intensity</i> _{t-2}	-0.043 (-0.108)	-1.465 (-1.501)	-2.163* (-1.917)	0.007 (0.158)
<i>FA/TA</i> _t – <i>FA/TA</i> _{t-2}	0.343** (2.433)	0.836*** (3.061)	0.968*** (2.717)	-0.033 (-0.767)
<i>Cash/TA</i> _t – <i>Cash/TA</i> _{t-2}	0.531** (2.499)	0.930*** (3.404)	0.892** (2.496)	0.036 (1.667)
<i>Current ratio</i> _t – <i>Current ratio</i> _{t-2}	0.018 (1.176)	0.027 (1.272)	0.045 (1.386)	-0.002 (-0.688)
<i>EBIT/Int</i> _t – <i>EBIT/Int</i> _{t-2}	0.002 (0.209)	-0.006 (-0.607)	0.013 (0.990)	0.004*** (8.294)
<i>Debt/EBITDA</i> _t – <i>Debt/EBITDA</i> _{t-2}	-0.016*** (-6.702)	-0.023*** (-4.319)	-0.026*** (-3.261)	0.001* (1.781)
<i>Neg Debt/EBITDA</i> _t – <i>Neg Debt/EBITDA</i> _{t-2}	-0.030 (-0.354)	-0.159 (-0.670)	-0.141 (-0.492)	0.021* (1.783)
<i>Market beta</i> _t – <i>Market beta</i> _{t-2}	0.012 (1.229)	0.019 (1.198)	0.015 (0.975)	0.001 (0.389)
<i>Idiosyncratic risk</i> _t – <i>Idiosyncratic risk</i> _{t-2}	-1.141** (-2.546)	-2.252*** (-3.264)	-1.955** (-2.246)	-0.065 (-0.648)
<i>Sovereign cr rating</i> _t – <i>Sovereign cr rating</i> _{t-2}	0.035 (1.033)	-0.021 (-0.505)	-0.104 (-0.749)	0.006 (1.381)
Year FE	Yes	Yes	Yes	Yes
SIC2 industry FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
SE clustered by	Firm & Country	Firm & country	Firm & country	Firm & country
Observations	7,193	6,089	5,029	5,942
Adjusted R-squared	0.0707	0.0790	0.101	0.0899

Panel C. Firm fixed effect Instrumental Variable (IV) Regressions

The dependent variable in the first stage is *CSR* and the dependent variable in the second stage in Columns (1)–(5) is *Lt rating* (*t*). We use 2 IVs in the first stage: (1) the most recent three-year average government political orientation score that takes the values 0, 1, and 0.5, respectively, if political orientation is right, left, and center and (2) the annual country average CSR scores. Only the first stage of Column (1) is shown below. Column (1) uses the overall sample, Columns (2) and (4) use the high trust country sample and Columns (3) and (5) use the low trust country sample. Refer to the Appendix for detailed explanations of the other variables. Robust *t*-statistics are calculated after clustering at both the country and firm levels and are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

VARIABLES	First stage <i>CSR_t</i>	(1) <i>Lt rating_t</i> <i>Overall</i> <i>sample</i>	(2) <i>Lt rating_t</i> <i>High Trust</i>	(3) <i>Lt rating_t</i> <i>Low Trust</i>	(4) <i>Lt rating_t</i> <i>High CPI</i>	(5) <i>Lt rating_t</i> <i>Low CPI</i>
<i>CSR_t</i> (instrumented)		2.056** (2.059)	1.792* (1.722)	10.078 (1.282)	2.050** (2.103)	1.288 (0.185)
<i>Sovereign cr rating_t</i>	0.000 (0.01)	0.328*** (9.624)	0.333*** (5.559)	0.096 (0.835)	0.232*** (3.606)	0.330*** (7.343)
Instruments:						
<i>Last 3 years Country Ideology</i>	0.049*** (6.65)					
<i>Country average CSR scores_t</i>	0.117* (1.86)					
Financial variables controlled	Yes	Yes	Yes	Yes	Yes	Yes
Macro variables controlled	Yes	Yes	Yes	Yes	Yes	Yes
Kleibergen-Paap rk LM statistic (Under-identification test)	22.456*** (p=0.00)					
Kleibergen-Paap rk Wals F statistic (Weak identification test)	24.125*** (p=0.00)					
Hansen J statistic (Over-identification test)	0.104 (p=0.75)					
Endogenous chi-square test	4.011** (p=0.05)					
Year fixed	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed	Yes	Yes	Yes	Yes	Yes	Yes
SEC clustered by	Country & Year	Country & Year	Country & Year	Country & Year	Country & Year	Country & Year
Observations	8,195	8,195	7,174	1,021	7,559	632
Adjusted R-squared	0.832	0.912	0.917	0.784	0.915	0.898

Table 7. Alternative stories: Financial constraints, leverage, and corporate governance

The dependent variable is S&P's long-term issuer credit rating. All models use firm and year fixed effects. Columns (1) and (2) reporting results for firms that are financially constrained (measured by the KZ index and WW index) do not drive our results. Column (3) reports results for firms with high leverage and Column (4) reports results after controlling for corporate governance. Robust *t*-statistics are calculated after clustering at both country and firm levels and are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

VARIABLES	(1) High KZ Financially constrained	(2) High WW Financially constrained	(3) High leverage	(4)
CSR_{t-1}	0.312** (2.596)	0.437*** (6.790)	0.353** (2.567)	0.345** (2.694)
$CGOV_{t-1}$				-0.093 (-0.910)
<i>Sovereign cr rating_t</i>	0.524*** (9.082)	0.137*** (3.054)	0.221*** (3.285)	0.307*** (5.142)
Financial variables controlled	Yes	Yes	Yes	Yes
Macro variables controlled	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
SE clustered by	Firm & country	Firm & country	Firm & country	Firm & country
Observations	4,394	2,546	5,233	8,776
Adjusted R-squared	0.905	0.903	0.911	0.918

Table 8. Value implication of CSR and trust

The dependent variable is ROA in Columns (1)–(4) and Tobin’s Q in Columns (5)–(8). All models control for firm and time-varying country fixed effects. *CSR2006* is the constant pre-crisis CSR score as of 2006 year end. Columns (2) and (6) use difference-in-differences (DID) estimation with continuous treatment. The *Inflation* variable is absorbed when we include time-varying country fixed effects. Robust *t*-statistics are calculated after clustering at both country and firm levels and are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>ROA</i>	<i>ROA</i>	<i>ROA</i>	<i>ROA</i>	<i>Q</i>	<i>Q</i>	<i>Q</i>	<i>Q</i>
		Year \geq 2006	High Trust	Low Trust		Year \geq 2006	High Trust	Low Trust
<i>CSR_{t-1}</i>	0.005** (2.712)		0.005** (2.314)	0.011 (0.948)	0.098** (2.581)		0.101*** (2.837)	0.057 (0.246)
<i>Fin crisis</i> (2007-09)		-69.122 (-0.361)				292.660 (0.142)		
<i>CSR2006*Fin crisis</i>		0.015** (2.312)				0.113*** (3.716)		
<i>CSR2006*Post crisis</i> (2013-14)		-0.006** (-2.209)				-0.106** (-2.263)		
<i>LogTA_{t-1}</i>	-0.037*** (-9.266)	-0.043*** (-5.947)	-0.040*** (-18.764)	-0.008 (-0.885)	-0.338*** (-6.161)	-0.315*** (-4.893)	-0.370*** (-9.439)	0.010 (0.106)
<i>Leverage_{t-1}</i>	-0.007 (-1.418)	0.016* (1.809)	-0.008 (-1.653)	-0.034 (-1.249)	-0.164 (-1.040)	-0.059 (-0.444)	-0.158 (-0.855)	-0.724 (-1.503)
<i>ROA_{t-1}</i>		0.084*** (5.019)			0.685*** (6.287)	0.508*** (6.747)	0.708*** (5.740)	0.163 (0.267)
<i>Sale growth_{t-1}</i>	0.029*** (7.627)	0.024*** (10.298)	0.031*** (10.452)	0.017** (2.243)	0.018 (0.233)	0.066 (1.470)	0.066 (1.460)	-0.310 (-1.128)
<i>R&D intensity_{t-1}</i>	0.100 (1.482)	0.184*** (2.831)	0.137** (2.277)	-0.157 (-0.821)	1.969** (2.059)	1.867** (2.388)	2.209** (2.413)	2.293 (1.356)
<i>Missing R&D_{t-1}</i>	-0.004 (-1.388)	-0.006 (-1.098)	-0.003 (-1.146)	-0.001 (-0.175)	0.020 (0.666)	-0.030 (-0.805)	0.007 (0.168)	0.123** (2.200)
<i>CAPX intensity_{t-1}</i>	0.017 (1.154)	-0.069* (-2.016)	0.023 (1.417)	-0.027 (-0.347)	0.441** (2.331)	0.048 (0.146)	0.401* (1.947)	0.862* (1.834)
<i>FA/TA_{t-1}</i>	-0.023** (-2.334)	-0.000 (-0.045)	-0.024* (-2.074)	-0.021** (-2.181)	-0.164 (-1.221)	-0.314 (-1.263)	-0.197 (-1.290)	-0.062 (-0.357)
<i>Cash/TA_{t-1}</i>	0.068*** (8.060)	0.071*** (5.724)	0.068*** (7.412)	0.068** (2.709)	0.382** (2.599)	0.332*** (5.680)	0.421*** (3.967)	-0.187 (-0.186)
<i>Market beta_t</i>	0.001 (1.533)	0.001 (0.776)	0.001 (0.712)	0.006** (2.230)	-0.023*** (-3.594)	-0.037*** (-4.194)	-0.029*** (-4.768)	0.015 (0.604)
<i>Idiosyncratic risk_t</i>	-0.283*** (-7.111)	-0.170*** (-3.688)	-0.290*** (-5.967)	-0.142** (-2.330)	-0.473 (-1.570)	0.479 (1.464)	-0.290 (-0.944)	-0.887 (-0.677)
<i>Private credit/GDP_t</i>	-14.744 (-1.253)	13.861 (0.248)	100.338 (1.277)	1.270 (0.853)	-55.283 (-0.668)	311.556 (1.554)	-13.469 (-0.339)	0.537 (0.043)
<i>Mktcap/GDP_t</i>	-1.643 (-0.535)	-0.095 (-0.120)	-3.223* (-1.951)	2.725 (1.625)	-88.390 (-1.140)	20.636 (1.189)	-16.173 (-0.264)	13.117 (0.864)
<i>GDP per cap_t</i>	119.199 (1.392)	12.227 (0.296)	-90.374** (-2.584)	0.273 (0.033)	1,480.512 (0.969)	-404.833 (-1.294)	558.130 (0.572)	142.795 (0.630)
Firm fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country#Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Interaction fixed effect								
SE clustered by	Firm & country	Firm & country	Firm & country	Firm & Country	Firm & Country	Firm & country	Firm & country	Firm & country
Observations	9,016	5,782	7,918	1,098	8,117	5,187	7,149	968
Adjusted R-squared	0.522	0.516	0.521	0.557	0.815	0.791	0.778	0.894

Table 9. Robustness Tests

The dependent variable is S&P's long-term issuer credit rating. Columns (1)–(4) and (6) control for firm and year fixed effects. Columns (5) and (7) include firm and time-varying country fixed effects. Column (8) controls for SIC4-digit industry, year, and country fixed effects. Robust *t*-statistics are calculated after clustering at both country and year levels for Columns (1)–(5) and firm and year levels for Columns (6)–(8) and are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

VARIABLES	(1) No US	(2) No Japan	(3)	(4)	(5)	(6)	(7)	(8)
<i>CSR_{t-1}</i>	0.555*** (3.386)	0.230*** (3.071)			0.241*** (3.154)	0.321** (2.478)	0.241* (1.840)	0.854*** (4.573)
<i>Socail_{t-1}</i>			0.284*** (4.017)					
<i>Env_{t-1}</i>				0.196*** (3.011)				
<i>Sovereign cr rating_t</i>	0.317*** (9.793)	0.280*** (8.857)	0.307*** (9.816)	0.309*** (9.880)	3,438.219 (0.000)	0.308*** (5.966)	1,011.155 (0.000)	0.322*** (5.910)
Financial variables controlled	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Macro variables controlled	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Year fixed	Yes	Yes	Yes	Yes	No	Yes	No	Yes
SIC4 industry fixed	No	No	No	No	No	No	No	Yes
Country# year FE	No	No	No	No	No	No	No	Yes
Industry#year FE	No	No	No	No	Yes	No	Yes	No
SE clustered by	Country & Year	Country & Year	Country & Year	Country & Year	Country & Year	Firm & Year	Firm & Year	Firm & Year
Observations	3,913	7,917	8,776	8,776	8,724	8,776	8,724	8,887
Adjusted R-squared	0.915	0.914	0.918	0.930	0.921	0.918	0.921	0.715