Article

Do Affiliated Bankers on Board Enhance Corporate Social Responsibility? US Evidence

Iftekhar Hasan [1], Hui Li [2,*], Haizhi Wang [2] and Yun Zhu [3]

[1] Fordham University and Bank of Finland, 45 Columbus Avenue, 5th Floor, New York, NY 10023, USA; ihasan@fordham.edu

[2] Stuart School of Business, Illinois Institute of Technology, 565 W Adams St., Chicago, IL 60661, USA; hwang23@stuart.iit.edu

[3] The Peter J. Tobin College of Business, St. John's University, 8000 Utopia Parkway, Queens, NY 11439, USA; zhuy@stjohns.edu

*   Correspondence: hli130@hawk.iit.edu; Tel.: +1-314-435-8534

Abstract: In this study, we examine whether and to what extent affiliated bankers on board may affect firms' corporate social performance. Using a propensity score-matched sample from 2002 to 2016, we find that board directors from affiliated banks exert significantly positive influence on firms' corporate social performance. Furthermore, board of directors from affiliated banks are negatively associated with firm investments in corporate social responsibility (CSR) activities when firms experience financial distress. Finally, we find that the effect of affiliated bankers on board on firms' CSR performance depends on the affiliated banks' CSR orientation, as affiliated banker directors from banks with higher CSR orientation have a stronger influence on firms' investments in CSR activities. The results suggest that improving firm's CSR performance is consistent with the affiliated banks' interests.

1. Introduction

The past few decades have witnessed a surge in firm engagements in activities related to corporate social responsibility (CSR). Many firms have allocated scarce resources into CSR activities in the belief that such investment may directly or indirectly create shareholder value, which is often referred to as "doing well by doing good" [1–3]. However, empirical studies investigating the relation between CSR investment and firm performance only yield mixed evidence [4–6]. Despite firms' commitment to corporate social responsibility, many firms embrace a broad spectrum of activities with poor coordination among them. To boost CSR performance and ultimately create shareholder value, firms must develop firm-specific CSR strategies that "are tailored to their stakeholders and organizational objectives" [7]. To this end, corporate boards are essential in monitoring and directing firm investments in CSR-related activities because board of directors are the apex of a firm's decision system.

Existing literature that studies the board's role in firm-level CSR investments has largely focused on how board characteristics influence CSR practices. Empirical studies generally confirm that board attributes, including board independence [8], board diversity [9], women on board [10], and the presence of outside directors [11] go a long way toward improving firm investments in CSR activities. However, as boards are multidimensional, it is unlikely that each outside director is equally active in firms' CSR investments. Less well understood is who plays a more active role in CSR-related decision-making.

In this study, we focus on a specific type of outside directors—affiliated banker directors—and attempt to understand whether and to what extent affiliated bankers on board influence firms' CSR investments. Adams and Licht [12] show that cultural backgrounds and legal origins guide directors in decision-making regarding stakeholders and

shareholders. Moreover, as researchers show that directors rely on their skills, such as experiences [13,14] to fulfill their roles, it is plausible that directors' banking backgrounds play an important role in firms' CSR investments. Although US doctrines, with relatively strong shareholder protection, can discourage active bank involvement in the management of a firm prior to formal bankruptcy [15], bankers on corporate boards are not uncommon in the United States. Prior literature finds that over 30% largest US firms have bankers on their boards [16,17]. Despite its importance, the role of affiliated banker directors on board is still underexplored.

There are several reasons that affiliated banker directors may have the incentives to improve firms' CSR performance. Besides having a fiduciary duty as other board members, affiliated banker directors may pursue the interests of their employing banks [18,19]. Affiliated banker directors have clear economic incentives from their employing banks to reduce risk of firms [19,20]. Existing literature has documented that engaging in CSR activities could reduce firms' downside risks [21,22]. In this sense, affiliated banker directors may exert their influence on firm CSR investments to reduce the risk exposures of the lending portfolios of their employing banks.

Another reason for affiliated banker directors to affect firm investments in CSR activities is their employing banks' CSR orientation which is related to banks' reputation. As banks are normally closely entwined with the economy, the regulators and media have put banks under close scrutiny. In addition, social media and petition sites have made banks confront with more—not less—customer backlash. (e.g., according to Wall Street Journal, in 2018, Bank of America eliminated its free checking account. The move sparked outrage from customers. A petition against the change has collected more than 45,000 signatures on www.change.org website. Bank of America also faced a backlash in 2011 when it planned to charge USD 5 monthly fee for using debit cards for purchases. It eventually abandoned the plan). A way to reduce scrutiny and keep public criticism at bay would be to roll out CSR programs, and, thus, to burnish banks' reputation. For instance, banks are increasingly focusing on sustainable lending. In 2019, according to Wall Street Journal, to address activists' call for stopping providing lines of credits that enable crimes against humanity, Bank of America announced to stop doing business with private prisons and immigration-detention centers. Likewise, JPMorgan Chase and Wells Fargo also pledged to cut their credit exposure with these firms, some of which have long-term relation with banks. This anecdotal evidence collectively demonstrates that banks have a reputational incentive in CSR investments. Empirical studies generally confirm that banks have different CSR orientations due to differences in size, resources, and strategies [23,24], and banks, with different CSR orientations, have an asymmetric influence on borrowers' CSR performance [25]. Thus, it is plausible that affiliated banker directors from banks with higher CSR orientation have a stronger influence on firms' CSR investments.

To explore these research questions, we conduct a series of tests using BoardEx database to obtain directors information and using ASSET4 ESG ratings to measure CSR investments for both firms and banks. Following Burak Güner et al. [26], we define an affiliated banker director as one who works for the bank that currently has or previously (up to 5 years prior) had some types of loan exposure with the monitored firm according to the DealScan database. To control for bias arising from observable confounding factors, we conduct all of our tests using the propensity-score matching method. We also employ an instrumental variable analysis to address omitted variable bias. We find that firms with affiliated banker directors have significantly better CSR investments than matched firms without affiliated banker directors. This finding is robust to using an alternative specification for affiliated banker directors or alternative samples. In addition, the impact is significant on the environmental (E), social (S), and governance (G) subcomponents respectively. We also find that when default risk is high, the impact of affiliated banker directors on firms' CSR investments is significantly reduced, which indicates that risk consideration is a driving force behind affiliated banker directors' CSR decisions. To test our prediction on the connection between banks' CSR orientation and firms' CSR investments,

we focus on our subsample which includes only firms with affiliated banker directors and find that the effect of afflicted banks' CSR orientation on firms' CSR investments is significantly positive.

This paper contributes to the literature in several ways. First, our study is relevant to the literature on the board's role in firms' CSR investments [9,27,28]. Prior studies mainly consider the board as a whole group and relate the firm's CSR to board characteristics, such as board diversity [9], board independence [8], and the presence of women on boards [10]. Given the importance of directors' backgrounds in bringing skills and experiences on board, it is surprising how little empirical work has been done on this front. Our work is the first empirical evidence on the presence of affiliated banker directors on boards and firms' CSR investments.

Second, our paper contributes to the literature on the impact of affiliated banker directors. Prior literature shows that affiliated banker directors consider the interests of their employing banks when making firms' decisions in major aspects including mergers and acquisitions [29], capital structures [17], investments [26], accounting conservatism [18], and CEO compensation [20]. Our study extends the work of Kang et al. [19] that shows affiliated banker directors are especially sensitive to firm's risk taking and, thus, take actions to alleviate firm risk. In the paper, we show that risk mitigation is a key incentive for affiliated banker directors to improve firm's CSR investments. Since the presence of affiliated banker directors on boards is not random, we carefully address the endogeneity concerns in all of our tests. We believe that ours is among the first papers in affiliated banker directors that uses propensity score matching and instrumental variables approach in the majority of our analyses.

Third, our paper adds to the growing literature on the role of key nonshareholder stakeholders in shaping corporate CSR activities [25,30,31]. Most notably, recent papers by Hauptmann [32] and by Francis et al. [33] document that banks reward firms' CSR performance *ex post* by reducing cost of debts or covenant requirements. Our work finds that banks discipline corporate CSR policies *ex ante* by directly sharing the firm's control rights.

The paper proceeds as follows. Section 2 discusses the relevant literature. Section 3 describes the samples and specifications used in testing the links between affiliated banker directors and firms' CSR. Section 4 reports the empirical results. Section 5 provides robustness checks. Section 6 concludes.

2. Literature Review

Company boards, described by Fama and Jensen [34] as "the apex of decision control system", oversee corporate control and decision making for organizations. The extant literature on the board of directors has examined the role of corporate boards on business outcomes such as investments, firm strategies, and financial performance [35–37]. In this study, we focus on corporate engagement in CSR related activities, and investigate whether and to what extent an important but understudied type of directors, affiliated banker directors, may affect firms' CSR performance. Improving firms' CSR performance has been viewed as one type of investment because they incur significant costs, and they can generate significant returns to investors if CSR related strategies are appropriately designed and implemented [38]. Empirical tests that explore the financial costs and returns of CSR investment yield mixed results [39–41]. Notably, CSR investments are complex and require boards to have sufficient knowledge and skillsets to make the right call.

Several studies have investigated the link between board composition and firms' CSR investments [42–44]. Such empirical analyses are based on the idea that firms with CSR oriented boards (i.e., boards with more women directors, independent directors, and financial expertise on the audit committee) could consider the needs and interests of different groups of stakeholders in developing comprehensive CSR strategies and, thus, achieve a superior CSR performance. In an early study, Williams [10] finds that large firms with a higher proportion of women directors on the board engage more in charitable giving to community services, arts, and cultural activities. Similarly, using a sample of

59 firms in the healthcare industry, Bear et al. [27] find that women on board enhance the board's ability to effectively address CSR as having more women directors encourage more participative and open communication among board members. Additionally, focusing on the quality of CSR reporting, Prado-Lorenzo and Garcia-Sanchez [43] find for 283 firms globally that the presence of women on the boards encourages better practices in integrated disclosure of information on greenhouse gases. Besides tilting toward CSR, the presence of independent directors indicates the quality of corporate governance. Based on this idea, Jizi et al. [28] propose that a high proportion of independent directors are presumably more effective in monitoring and controlling management, resulting in a positive impact on firms' CSR activities. To support this argument, using a sample of US large commercial banks from 2009 to 2011, they find evidence that board independence promotes the quality of CSR disclosure in the banking sector. Similarly, using a large sample of 2952 US firms during the period of 1993–2004, Jo and Harjoto [42] show that board independence leads to better CSR performance and hence improves firms' corporate financial performance.

As the enactment of the Sarbanes-Oxley Act of 2002 (SOX) has substantially increased the proportion of outside directors and women directors on board, Zhang et al. [11] focus on the relation of board composition and CSR performance in the post-SOX era and find that for large US firms, a greater presence of outside and women directors is linked to better CSR performance within a firm's industry. Harjoto et al. [9] focus on the presence of women directors and financial expertise on the audit committee and they find that both aspects drive the positive impact on CSR. Furthermore, Shaukat et al. [44] develop a theoretical model that makes explicit links among a firm's board diversity, its CSR strategy, and its CSR performance. Empirically, they find that firms with a more diverse board (as measured by the board's independence, gender diversity, and financial expertise on the audit committee), are more likely to have proactive and comprehensive CSR strategies, and achieve higher CSR performance.

While a diverse board brings a broad set of skills, experiences, expertise, and knowledge, it is still unclear who is actually at play in terms of CSR investments. Cho et al. [45] find that firms with professor-directors have higher CSR performance than those without. Such influence depends on professor-directors' academic background, as they tend to have a higher standard of professional ethics than people working in other professions. CSR investments are known to be costly and complex, which involves competing goals and tradeoffs. Thus, for boards to make effective CSR investments, it is important to have directors with backgrounds that value CSR and have sufficient knowledge and means to integrate it into the heart of the firm's activities. Adams and Licht [12] studied the role of directors' cultural background and legal origins in their decision-making regarding shareholders and stakeholders. Using a survey-based quasi-experimental approach, they found that legal regulations with strong creditor protection and cultural norms that emphasize on egalitarianism and harmony shape directors to be stakeholder-oriented. Nevertheless, studies about the impact of directors' backgrounds on CSR are still very scarce.

To fill the void, we focus on affiliated banker directors. While they have a fiduciary duty to shareholders, affiliated banker directors may also align their decisions with the interests of employing banks. For example, in a study regarding acquisitions, Hilscher and Sisli-Ciamarra [29] find that firms with affiliated banker directors are more inclined to approve acquisitions that are favorable to creditors—more diversified and less cash-financed acquisitions. By building a closer bank-firm relation, affiliated banker directors could bring businesses to their employing banks, thus increasing banks' profits. Using a sample of largest US firms from 1988 to 2001, Burak Güner et al. [26] find that affiliated banker directors affect firms' finance and investment decisions in the interest of banks. Specifically, they reduce firm investment-cash flow sensitivity by extending large loans, particularly through their employing banks. However, financially constrained firms do not enjoy extra financing, as affiliated banker directors increase financing only to firms with good credit worthiness. Besides increasing banks' profits, affiliated banker directors would protect their bank loans [46]. For example, they could limit the risk exposures of

their loans through the price and nonprice terms of debt contracts [17]. Additionally, they could renegotiate lending terms in anticipation of covenant violations [47]. To protect their loans, affiliated banker directors would dissuade the management from engaging in risky investments. For instance, when making decisions regarding CEO compensation, affiliated banker directors could influence CEO's compensation contracts by increasing debt-like compensation and making compensation less sensitive to firm risk, which reduces the CEO's incentive in risk taking [20]. Similarly, Kang et al. [19] find that firms with affiliated banker directors on board have lower stock price crash risk.

In the same vein, affiliated banker directors would affect firms' CSR investments in the interests of their employing banks. One reason that bankers would be in favor of firms' CSR activities is that such investments reduce firm risk. For example, Gao, Li, and Ma [48] find that adopting stakeholder orientation helps firms mitigate debt overhang and reduce risk of default, myopic behavior, and litigation risk. Banks are known to be the fixed claimants who bear high downside risk, as residual claimants have an incentive to increase the riskiness of a firm's existing assets, even when doing so would reduce firm value [49]. Several studies that examine the link between CSR and firm risk find that high CSR firms are less vulnerable to firm-specific adverse events [3] and, as a result, have lower downside tail risks [21,22]. The focus on downside tail risk is germane to banks since the risk of default impacts the ability of a firm to repay creditors. Researchers have found that banks provide more favorable loan terms to firms with better CSR performance [50–52]. While affiliated banker directors can encourage CSR investments to reduce firm risk, their efforts are restricted by firms' available resources. If the firms' financial condition deteriorates, especially when firms face financial distress, firms would be stretched and putting more effort into CSR investments would backfire. Thus, in such a situation, affiliated banker directors would be less inclined to CSR investments.

Another incentive for affiliated banker directors to influence firms' CSR investments is reputational consideration. As banks are highly regulated and are under media scrutiny, they have strong intensive to establish a good reputation. Bushman and Wittenberg-Moerman [53] show that banks with high reputation would have a more rigorous pre-loan evaluation of borrowers' quality and post-loan monitoring of borrowers' performance, and, as a result, after three years of loan initiation, more reputable banks enjoy higher profitability, better credit quality, and enhanced long-term sustainability of earnings. Additionally, having good reputation differentiates banks from their peers, enables them to achieve a competitive advantage, and attracts customers as borrowing from high-reputation banks could certify the quality of borrowers [54]. CSR plays an important role in enhancing banks' reputations as Wu and Shen [24] show that banks put in place initiatives of environmental protection and charity behavior and treat their customers with integrity in order to promote their reputations and brand names, which brings banks higher prices and quantities of noninterest income. For banks with higher CSR ratings, they are more likely to improve borrowers' CSR performance [25]. For borrowers, their ethical behaviors reduce the costs of bank debt financing and such reduction is higher if the lender also exhibits higher ethical standards [55]. Thus, it is plausible that affiliated banker directors from banks with higher CSR orientation could help firms to achieve better CSR investments.

3. Data, Sample, and Measures

3.1. Data

Our sample was built from BoardEx database. Following Kroszner and Strahan [16] and Burak Güner et al. [26], we classified firms' board members as being bankers when they are executives of commercial banks. The commercial bank names were from the Consolidated Reports of Condition and Income (Call Reports) and the Commercial Bank Database of the Federal Reserve Bank of Chicago. With the obtained commercial bank names, we used algorithmic and manual matching on names to determine whether a director is a commercial bank executive. Then, following Burak Güner et al. [26], Sisli-Ciamarra [17], and Hilscher and Sisli-Ciamarra [29], we classified banker directors as affiliated when

their bank belongs to a loan syndicate that has an outstanding loan agreement with the firm currently or within the past five years, as reported in the LPC DealScan database. Our results are robust to the alternative definition of affiliation, which only consider an outstanding loan agreement during the same fiscal year [16,18].

Next, we merged BoardEx data with Thomson Reuters ASSET4 ESG data for CSR performance ratings [56]. The ASSET4 data provides annual integrated ESG rating based on three aspects, environment, society, and corporate governance. Within each aspect, ASSET4 evaluates several core areas. Environmental performance covers three areas: resource reduction, emission reeducation, and product innovation. Social performance is evaluated in seven areas: employment quality, health and safety, training and development, diversity, human rights, community, and product responsibility. Corporate governance performance includes five areas: board structure, compensation policy, board functions, shareholders rights, and vision and strategy. Within each area, ASSET4 uses specific key performance indicators from the raw data—with 178 indicators in total. Typical sources for the raw data include stock exchange filings, annual reports, nongovernmental organization websites, and news.

Further, we supplemented our sample with data from Compustat, CRSP, Thomson Reuters 13F Institutional Holdings, and I/B/E/S to retrieve information related to control variables for our sample firms. As the final step, we excluded observations with missing values and dropped all financial firms (SIC 6000–6900) because we are interested in the relation between affiliated banker directors and nonfinancial firms. Our sampling procedure yielded a final sample of 7013 firm-year observations from 2002 to 2016 by 1062 unique firms, out of which, 712 observations have affiliated bankers on board, and 6301 do not. The reason of choosing our sample period from 2002 to 2016 is that Thomson Reuters ASSET4 ESG data only goes back to 2002 and 2016 is the most current year that the data was available for us.

Our sample only contains US firms due to two reasons. First, some countries, such as France, Germany, and Japan, are traditionally more favorable to stakeholders than the United States and United Kingdom [57]. This country-level difference may introduce additional variation which makes the identification of the causal relationship difficult. Second, existing literature has paid much attention to the role of affiliated banker directors in these countries. For more detail on Germany, see, for example, Edwards and Fischer [58] and Baums [59]; on Japan, see, for example, Kaplan Minton [60] and Ramseyer [61]. However, studies exploring related research questions in US firms are relatively scare.

3.2. Dependent Measures

We used information from ASSET4 ESG data to construct dependent measures by taking the natural logarithm of the provided ESG scores. Compared with the widely used annual KLD data (now MSCI ESGSTATS), the ASSET4 data is better suited for our study for three reasons. First, ASSET4 arguably provides a more objective assessment of the CSR performance of each firm based on publicly available information sources. Second, ASSET4 provides a more comprehensive calculation of the rating score, a continuous ESG ranking score ranging from 0 to 100, while most of the KLD ratings are structured as a binary rating system which examines a firm's CSR strengths and concerns: a firm is given an indicator variable of 0 or 1 across each strength or concern. Third, ASSET4 weights each pillar equally, while KLD has 71% of its subcategories in social performance [62]. In an additional robustness test, we used the alternative measure of firms' CSR performance based on KLD database and we found that our results were consistent.

3.3. Main Expression

Our baseline tests examine the relation between the presence of affiliated banker directors and firms' CSR investments using the model specification as follows.

$$\mathrm{ESG_{it}} = \alpha_0 + \beta_1 \cdot \mathrm{ABD_{it}} + \gamma \cdot Z_{it} + \mu_i + \upsilon_t + \varepsilon_{it} \tag{1}$$

where the dependent variable ESG_{it} is the log of ESG score for firm i in year t. Accordingly, our main explanatory variable, ABD_{it}, equals 1 when firm i has affiliated bankers on board in year t, and 0 otherwise. Z_{it} are control variables that are discussed in detail below. μ_i and υ_t represent industry and year fixed effects, respectively. We used logs of ESG scores to obtain better distributional properties and to reduce the impact of outliers. Our main results were unaffected if we used the raw scores rather than the log scores.

3.4. Control Variables

We included three sets of control variables based on CSR literature [8,56,63] and banking literature [16,18,26]. First, we included firm characteristics associated with CSR, including firm size, leverage, sales growth, market-to-book ratio, return on assets, advertising, R&D intensity, cash holdings, and dividends. Second, we included governance variables associated with CSR, including board size, board independence, CEO duality, outside director ownership, inside director ownership, institutional ownership, and analyst coverage. Finally, we included firm characteristics associated with the probability of having commercial bankers on corporate boards, such as short-term debt, stock return volatility, squared stock return volatility, and asset tangibility. In all analyses, we controlled for year and industry fixed effects by adding year indicators and two-digit SIC industry indicators to minimize concerns arising from omitted time-invariant or industry-specific variables. All variable definitions are described in Appendix A.

3.5. Summary Statistics

Table 1 provides descriptive statistics for the variables used in our empirical tests. Approximately 9.85% of all firm-year observations in our sample have at least one affiliated banker director (ABD). This percentage is consistent with the previous literature. Sisli-Ciamarra [17] reports that 11.63% of firms in their sample (2002–2004) have ABDs. Hilscher and Sisli-Ciamarra [29] find that 11.4% of firms in their sample (2002–2007) have ABDs. Burak Güner et al. [26] find that 6% of firms in their sample (1988–2001) have ABDs. Prior literature shows that lead banks play a dominant role in loan syndicates [64,65]. Thus, we also consider the effect of having affiliated lead banker directors (LABDs) on CSR and we follow Sufi [66]'s criterion for identifying a lead lender if the "Lead Arranger Credit" field indicates "Yes". Approximately 5.11% of the sample has LABDs. We carefully examined the correlations among variables and check the variance inflation factors in the regression analysis to ensure that our results are not driven by multicollinearity.

Table 1. Descriptive statistics.

Variables	Obs	Mean	Std. Dev.	Min	Median	Max
ESG (logged)	7013	3.93	0.45	1.97	3.95	4.58
ABD	7013	0.10	0.30	0.00	0.00	1.00
LABD	7013	0.05	0.22	0.00	0.00	1.00
Firm size	7013	8.79	1.27	5.88	8.66	12.91
Leverage	7013	0.25	0.16	0.00	0.24	0.58
Sales growth	7013	0.06	0.12	−0.16	0.04	0.35
Return on assets	7013	0.15	0.07	0.01	0.14	0.29
Market-to-book ratio	7013	2.03	1.00	0.97	1.69	4.65
Advertising	7013	0.01	0.02	0.00	0.00	0.06
R&D intensity	7013	0.02	0.04	0.00	0.00	0.12
Asset tangibility	7013	0.30	0.24	0.00	0.21	0.89
Cash holdings	7013	0.38	0.20	0.05	0.37	0.87
Dividends	7013	0.68	0.47	0.00	1.00	1.00
Short-term debt	7013	0.03	0.04	0.00	0.01	0.28
Stock return volatility	7013	0.10	0.05	0.03	0.09	0.28
Squared stock return volatility	7013	0.01	0.01	0.00	0.01	0.08
Board size	7013	2.31	0.20	1.95	2.30	2.71
Board independence	7013	0.22	0.13	0.08	0.18	0.57
CEO duality	7013	0.46	0.50	0.00	0.00	1.00
Inside director ownership	7013	0.00	0.00	0.00	0.00	0.01
Outside director ownership	7013	0.00	0.00	0.00	0.00	0.01
Institutional ownership	7013	0.63	0.31	0.00	0.73	1.00
Analyst coverage	7013	2.53	0.64	0.00	2.64	4.01

4. Empirical Results

We first tested whether firms with affiliated banker directors sitting on their boards have higher CSR investments than firms without affiliated banker directors. A major concern in the test is the endogeneity issue since affiliated banker directors are not randomly assigned. Specifically, commercial bankers tend to sit on boards of firms due to their risk concerns and lender liability. Kroszner and Strahan [16] find that bankers sit on the boards of firms with larger firm size, lower information asymmetry, and higher leverage ratio. To alleviate concern arises from omitted time-invariant or industry-specific variables, we controlled for industry fixed effects and year fixed effects for all our regressions. To alleviate concern arises from confounding factors, we adopted propensity score matching method and performed the vast majority of our analysis. The propensity score matching procedure is discussed in detail below. Additionally, it is possible that other unobservable factors that are omitted from our fixed effects control and propensity-score model drive both the affiliated bankers' decisions to serve on boards as well as firm's CSR investments. To the extent that there are other director-specific characteristics that we do not control for may explain both firms' CSR investments and the presence of affiliated banker directors on board, our coefficient estimates may be biased. Affiliated banker director's personal connection, either with other board members or the management, is a possible factor, in the sense that affiliated banker directors who have personal connection can enjoy more private information or private benefits and are more likely to sit on the boards. Such personal connection is usually unobservable. Thus, firms' higher CSR investments might not be because of the presence affiliated banker directors as we have argued so far. It might simply be the result of the presence of affiliated banker director proxying for unobservable personal connection. One potential solution is to use instrumental variables that are correlated with the presence of affiliated bankers on board but do not affect the firm's CSR investments directly except through affiliated banker directors. Our instrumental variables are discussed in detail below.

Another endogeneity concern, reverse causality, arises when firms demanding certain CSR performance may choose affiliated bankers as board directors. Nonetheless, to our

best knowledge, we do not identify any research that documents such findings. Moreover, other than choosing banker directors, firms have many different (sometime easier) ways to achieve desirable CSR outcomes such as hiring a top executive. Given the percentage of firms with affiliated banker directors in our sample, we think that reverse causality is not a major concern of endogeneity.

4.1. Propensity Score Matching Method

We used propensity-score matching, a widely used method in empirical research, to control for confounding factors. Specifically, for each firm-year, we estimate the conditional probability (i.e., propensity score) of having affiliated banker directors sitting on boards using a logit model on the control variables discussed above since they are all relevant in estimating the probability of affiliated banker directors on boards (see Equation (2)). We matched each observation with affiliated banker directors to at most three observations without affiliated banker directors to construct our matched sample. Following Erken et al. [18], we required matches to have a maximum caliper difference of 0.001 (odd ratio). The first-stage logit model has a log-likelihood of −1859.7 and a McFadden's pseudo R-squared of 0.19. Moreover, the model has an 91% prediction accuracy. As Hoetker [67] indicates, this percentage needs to be adjusted since it does not consider the fact that 90% of sample firms do not have affiliated banker directors sitting on their board. Thus, following Veall and Zimmermann [68], we calculated $\lambda' = (0.91 - 0.90)/(1 - 0.90) = 11\%$, which shows that the performance of our model has a significant 11% improvement over blind guessing. These statistics indicate the appropriateness of the choice of independent variables and the overall fit of the logit model.

$$
\begin{aligned}
\text{Prob}(Y = 1) = - \ & 14.499 + 0.66^{***} \times \text{Firm size} + -0.001 \times \text{Leverage} \\
& + -0.189 \times \text{Sales growth} + 2.138^{**} \times \text{Return on assets} \\
& + 0.021 \times \text{Market to book radio} + 6.788^{**} \times \text{Advertising} \\
& + 0.502 \times \text{R\&D intensity} + -0.592 \times \text{Cash holdings} \\
& + 0.764^{***} \times \text{Dividends} + 2.295^{***} \times \text{Board size} \\
& + -0.057 \times \text{Board independence} + -0.426^{***} \times \text{CEO duality} \\
& + -42.206^{**} \times \text{Oudside director ownership} \\
& + 45.704^{*} \times \text{Inside director ownership} \\
& + -0.444^{**} \times \text{Institutional ownership} \\
& + -0.098 \times \text{Analyst coverage} + 1.194 \times \text{Short} - \text{term debt} \\
& + 8.277^{**} \times \text{Stock return volatility} \\
& + -16.533 \times \text{Squared stock return volatility} \\
& + -0.053 \times \text{Asset tangibility}
\end{aligned}
\tag{2}
$$

The matching procedure reduced our sample from 7103 to 1994 firm-year observations, of which 648 have affiliated banker directors on board and 1346 do not. Following Lemmon and Roberts [69], we performed group mean tests for the set of observables of treatment group and control group. In line with our expectation, most variables are not statistically different for two subgroups. Thus, we constructed a matched sample with two groups of firms that are identical in the set of observable characteristics, but differ in their board composition (i.e., with affiliated banker directors versus without affiliated banker directors). The regression results based on the propensity score matched sample are reported in columns 1 and 2 of Table 2. We find that affiliated banker directors improve firms' CSR investment significantly. Specifically, the coefficient of ABD is 0.03, which indicates that, all other things equal, firms with affiliated banker directors have ESG scores 3% higher than firms without affiliated banker directors. The result is more salient if affiliated banker directors are from lead banks, with the coefficient being 0.054.

Table 2. Baseline regression.

Independent Variables	Dependent Variable: ESG (Logged)					
	Full Sample				Financial Crisis Subsample	
	PSM		IV Estimation (2S)			
	(1)	(2)	(3)	(4)	(5)	(6)
ABD	0.030 **		0.059 ***		0.064 **	
	(0.015)		(0.016)		(0.028)	
LABD		0.054 ***		0.059 ***		0.049 *
		(0.020)		(0.017)		(0.029)
Firm size	0.159 ***	0.123 ***	0.132 ***	0.125 ***	0.148 ***	0.130 ***
	(0.009)	(0.011)	(0.009)	(0.009)	(0.018)	(0.020)
Leverage	0.018	−0.026	−0.038	−0.014	0.151	0.126
	(0.067)	(0.093)	(0.059)	(0.059)	(0.117)	(0.120)
Sales growth	−0.228 ***	−0.282 ***	−0.269 ***	−0.288 ***	−0.325 ***	−0.125
	(0.071)	(0.098)	(0.072)	(0.072)	(0.121)	(0.128)
Return on assets	0.249	0.596 ***	−0.012	−0.072	0.309	−0.282
	(0.171)	(0.223)	(0.167)	(0.177)	(0.302)	(0.323)
Market-to-book ratio	−0.009	−0.019	0.011	0.012	0.023	0.029
	(0.014)	(0.019)	(0.014)	(0.014)	(0.026)	(0.028)
Advertising	1.391 ***	0.013	−0.428	−0.748	2.049 **	2.700 ***
	(0.514)	(0.695)	(0.520)	(0.528)	(1.016)	(1.015)
R&D intensity	0.483	1.468 ***	2.252 ***	1.944 ***	3.028 ***	3.962 ***
	(0.354)	(0.428)	(0.333)	(0.329)	(0.642)	(0.600)
Cash holdings	0.231 ***	0.241 ***	0.360 ***	0.289 ***	0.201 *	0.361 ***
	(0.068)	(0.090)	(0.057)	(0.056)	(0.111)	(0.114)
Dividends	0.054 **	0.114 ***	0.082 ***	0.095 ***	0.092 ***	0.044
	(0.023)	(0.034)	(0.019)	(0.019)	(0.036)	(0.037)
Board size	0.154 ***	0.319 ***	0.379 ***	0.306 ***	0.336 ***	0.207 **
	(0.045)	(0.059)	(0.047)	(0.048)	(0.086)	(0.087)
Board independence	−0.148 ***	−0.141 *	−0.149 **	−0.105	−0.221 *	−0.376 ***
	(0.056)	(0.074)	(0.065)	(0.066)	(0.116)	(0.125)
CEO duality	−0.022	−0.007	−0.019	−0.009	−0.011	−0.052 *
	(0.015)	(0.021)	(0.015)	(0.015)	(0.028)	(0.030)
Outside director ownership	−2.604	−9.815 ***	6.749 **	9.107 ***	1.318	1.842
	(3.088)	(3.774)	(3.253)	(3.238)	(5.435)	(5.452)
Inside director ownership	−13.214 ***	−11.867 **	−2.732	−3.436	−2.391	7.926
	(3.903)	(5.531)	(4.443)	(4.747)	(7.784)	(8.131)
Institutional ownership	−0.053 *	−0.094 **	−0.027	−0.054 *	−0.017	−0.048
	(0.029)	(0.041)	(0.029)	(0.028)	(0.050)	(0.051)
Analyst coverage	0.091 ***	0.083 ***	0.126 ***	0.145 ***	0.074 **	0.083 **
	(0.017)	(0.023)	(0.015)	(0.016)	(0.030)	(0.034)
Short-term debt	−0.151	−0.064	0.601 ***	0.598 ***	−0.353	0.218
	(0.187)	(0.278)	(0.189)	(0.185)	(0.314)	(0.329)
Stock return volatility	−1.011	−1.168	−1.559 **	−1.738 **	1.337	−0.118
	(0.711)	(1.039)	(0.746)	(0.770)	(1.342)	(1.391)
Squared stock return volatility	1.868	4.492	5.268 **	4.995 *	−3.526	−0.874
	(2.464)	(4.127)	(2.677)	(2.837)	(4.476)	(4.713)
Asset tangibility	0.125 **	−0.005	0.133 **	0.164 **	0.002	0.129
	(0.062)	(0.083)	(0.065)	(0.064)	(0.125)	(0.132)
Constant	1.924 ***	1.696 ***	1.365 ***	1.087 ***	1.273 ***	1.825 ***
	(0.193)	(0.236)	(0.271)	(0.378)	(0.283)	(0.394)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1994	1045	2029	2031	537	528
R-squared	0.542	0.591	0.575	0.557	0.647	0.616
Durbin–Wu–Hausman (endogeneity test)			12.07 ($p = 0.00$)		2.8 ($p = 0.09$)	
Cragg–Donald F-statistic (weak identification test)			84.65 ($p = 0.00$)		32.16 ($p = 0.00$)	
Hansen's J-statistic (overidentification test)			0.41 ($p = 0.82$)		0.81 ($p = 0.67$)	

* indicates $p < 0.10$, two-tailed; ** indicates $p < 0.05$, two-tailed; *** indicates $p < 0.01$, two-tailed.

While the first-stage logit model includes all control variables to generate propensity score, we recognize that hidden bias arising from unobserved variables may bias our qualitative and quantitative inferences about the effect of affiliated banker directors on firms' CSR investments. Thus, we performed a Rosenbaum bounds sensitivity analysis [70]

to econometrically determine whether unobservable variables may change our causal inferences. Using different factor values to capture the magnitude of hidden bias, we can examine the resulted changes in the confidence interval of regression coefficients of having affiliated banker directors. At a certain factor, when the hidden bias is large enough, the confidence interval of the coefficients for affiliated banker directors on boards would have negative values. In such case, the positive relation between having affiliated banker directors and firms' CSR investments may be challenged. We do not report our Rosenbaum bounds sensitivity analysis, but they are available upon request. We find that when the factor is 1.2, a confidence interval of a point estimate has negative values. To facilitate interpretation, we translated the factor to corresponding change in each variable in the first-stage logit model that is equivalent to the same magnitude of hidden bias. Using sale growth as an example, the hidden bias at a factor of 1.2 is equivalent to 7.7 standard deviations in order to challenge our findings. We thereby conclude that it is unlikely an unobservable factor can lead to the rejection of the causal effect of affiliated banker directors on firms' CSR investments.

4.2. Instrumental Variables Approach

In order to obtain consistent estimates, we performed analyses using the instrumental variable approach to address the possible endogeneity issue with the propensity-score matched sample. Following existing literature, we used the following three instrumental variables to estimate the predicted probability of lenders sitting on the boards of borrowers. First, we used proximity which reflects the degree of closeness between the bank and the firm. Erkens et al. [18] show that a closer physical distance reduces the cost of serving on the board. It is unlikely that the physical distance between the bank and the firm could have a direct effect on a focal firm's CSR investments. Following Dass and Massa [71], we define proximity of the firm as $-\ln(1 + \text{Firm\_HQ Distance})$, where Firm_HQ Distance is the average geographical distance between the firm and the headquarters of all banks that have branches located in the same county.

Second, we used the characteristic of the local commercial-bank market. This instrument proxies for the availability of or relative cost of other sources of capital in local areas. The more concentrated the commercial-bank markets near the firm' location, the less barriers for lenders to sit on the borrowers' boards. However, the characteristic of the local commercial bank market should not have a direct effect on a focal firm's CSR investments. Following Berger, Miller, Petersen, Rajan, and Stein [72] and Dass and Massa [71], we used concentration of the banking market, which is defined as a Herfindahl Index (ranging between 0 and 1) based on the number of branches in the same county as the firm.

Third, we used industry importance to primary lender. Kroszner and Strahan [16] find that banks with an executive sitting on a firm's board concentrate their lending to that firm's industry, indicating that industry specialization increases the importance of acquiring information about a firm's industry. However, it is unlikely that primary lender's industry importance would have a direct effect on a focal firm's CSR investments. Following Erkens et al. [18], we define industry importance to primary lender as the fraction of loans issued by a firm's primary lender in the firm's industry currently or within the past five years, excluding the loans issued to the focal firm. Primary lender is a bank that holds the largest fraction of a firm's debt outstanding at the fiscal year-end. When lending shares are missing in DealScan database, we assume that all syndicate members hold an equal share of the loan.

Similar to traditional two-stage least squares approach, we used the predicted occurrence of affiliated banker directors, which is captured exogenously by three instrumental variables discussed above, instead of the realized affiliated banker directors, which is presumably affected by endogenous factors. As we continued to use propensity score matching method to remove observable differences, we created two groups based on the predicted occurrence of affiliated banker directors, which is an indicator variable (ABD IV). In the first group, we set ABD IV equal 1, in the case when an observation's predicted

probability of having an affiliated banker director is in the top quartile of our sample. In the second group, we set ABD IV equal 0, in the case when an observation's predicted probability of having an affiliated banker director is in the bottom quartile of our sample. We dropped observations in the second and third quartile of the predicted affiliated banker director to build a strong instrument [73]. We then used the same propensity score matching method to pair ABD IV and non-ABD IV groups to remove observable differences.

Columns 3 and 4 of Table 2 present the second-stage regression results based on instrumental variables estimator, and we document consistent results that affiliated banker directors improve firms' CSR investments significantly. In particular, we conducted several post-estimation diagnostic tests to ensure the appropriateness of our choice of instrumental variables. The Durbin–Wu–Hausman test statistics is 12.07, with a *p*-value of 0.000, which indicates that it is appropriate to treat the presence of affiliated banker directors as endogenous. While having more instruments than endogenous variables is desirable since we can use more information to obtain the predicted value, it is important that the overidentifying restrictions hold. Since we had three instruments but one endogenous variable, we were able to estimate the Hansen's *J*-statistic for overidentifying restrictions. This test examines whether the instruments correlate with the error term. If they do, it suggests that the model is mis-specified. For our regression, the Hansen *J*-statistic is 0.41, with a *p*-value of 0.82, which implies that our instruments are relevant and valid. In addition, for weak identification test, we calculated the Cragg–Donald statistic, which is 84.65, with a *p*-value = 0.000. This indicates that our instruments are strongly relevant.

In columns 5 and 6 of Table 2, we examined whether the documented relation between affiliated banker directors and CSR continues to hold during the global financial crisis. In the crisis, firms face liquidity issues due to economic disruption. Thus, to ensure the robustness of our findings, we performed the same analysis based on the subsample ranging from 2007 to 2009. Our findings continue to hold in this time period.

To ensure that our findings are not driven by the measures of instrument variables, we performed the same analysis using alternative measures for the instrument variables. Specifically, for proximity, instead of taking the average of the distance between firms and headquarters of all bank branches located in the same county as the firm, we used the weighted distance by branch ratio that is based on the number of branches of each bank in the county. We also used alternative definition of proximity, the reciprocal of average distance of the firm from all the lending banks in the syndicate. For the alternative measure of the characteristic of the local commercial-bank market, we used a Herfindahl Index based on the bank deposits of all the branches located in the county. In addition, we applied traditional two-stage least squares by using the industry's probability of having affiliated banker directors to instrument for the firm's probability of having affiliated banker directors. Our findings are robust to all these alternative measures of instrumental variables. For the sake of brevity, we do not report these results.

Our definition of affiliated banker directors (ABDs) indicator does not completely exclude the effect of unaffiliated banker directors. For firm-year observations that have ABDs equal to 1, it may be the case that firms' have both affiliated and unaffiliated bankers sitting on their board. To rule out the possibility that our results are driven by unaffiliated banker directors, we regress unaffiliated banker director indicator (UABD) on CSR ratings and find insignificant results. UABD is an indicator that equals to 1 when firms have unaffiliated banker directors, and 0 otherwise. Furthermore, it may be the case that our finding is driven by loan relation rather than affiliated banker directors. Thus, to rule out this possibility, we regress loan connection (Loans, no banker on board) on CSR ratings and find insignificant results. Loan connection (Loans, no banker on board) is an indicator that equals to 1 when firms have loan outstanding but do not have any affiliated banker directors, and 0 otherwise. Both results are reported in Appendix B.

4.3. Affiliated Banker Directors' Influence along E, S, and G

Besides the overall CSR rating, subcomponents of the firms' CSR policies are also important for affiliated banker directors, and thus their related banks. Starting with environmental (E) issues, which are big concerns for banks' lending practices. If climate change or action to avert it poses a particular problem to firms, they may be less likely to get bank loans. Chava [50] finds that firms with environmental concerns pay higher interest on their loans and have fewer banks participating in their loan syndicates. Additionally, climate litigation is a growing risk for banks' businesses. FDIC requires banks to perform environmental risk analysis before making a loan and continue the environmental risk assessment during the life of the loan by monitoring the borrowers and their collateral for potential environmental concerns. (https://www.fdic.gov/regulations/laws/rules/5000-4 900.html) (accessed on 1 October 2020). In 2020, according to the Economist, Federal reserve conducted stress tests to evaluate banks' capital strength and now they are considering how to incorporate climate change risks into evaluation as the European counterparts have started to perform stress tests to assess climate change risks for financial resilience.

Social (S) issues, such as human rights and community, have long played important roles in banks' lending decisions. According to the Community Reinvestment Act [74], enacted in 1977, banks are required to meet credit needs of low- and moderate-income communities. Regulators assess banks' compliance based on their lending to poor neighborhoods and small businesses. The results can determine whether banks are allowed to merge, to open, or move branches. Furthermore, Miller, Eden, and Li [75] find that banks' CRA ratings positively affect their financial performance. Governance (G) issues are naturally key aspects for affiliated banker directors in the fact that board of directors play a central role in monitoring and advising management by approving major business decisions and corporate strategy [34,76,77].

With these views in mind, we take a closer look at the subcomponents of CSR ratings. In addition to the overall ESG rating score, ASSET 4 reports individual ratings for each subcomponent, which enables us to study the effect of affiliated banker directors on environmental, social, and governance components, respectively. Table 3 presents our results for each component using the instrumental variables approach. In columns 1, 2, and 3, we related the presence of affiliated banker directors to environmental (E), social (S), and governance (G), respectively. In columns 4, 5, and 6, we look at the relation of affiliated lead banker directors and each component. Consistent with our expectations, affiliated banker directors have a significant positive effect on every component. Among them, we find that affiliate banker directors have the most significant impact on the social component of ESG rating.

4.4. Affiliated Banker Directors on Firm CSR: Financial Distress Situation

Given that firms' CSR strategies are costly and depend on available resources, affiliated banker directors may not always choose to have more CSR investments. As affiliated banker directors are sensitive to risk and thus would prioritize bank loans over CSR investments when firm risk is high, we investigated when firms face a high likelihood of financial distress, whether the effect of affiliated banker directors on CSR would change. It is plausible that firms with higher likelihoods of financial distress may have limited resources. Thus, banks would cut firms' CSR investments in order to protect bank loans, resulting in a lower effect of affiliated banker directors on CSR. We propose the following empirical model:

$$\text{ESG}_{it} = \alpha_0 + \beta_1 \cdot \text{ABD}_{it} + \beta_2 \cdot \text{Financial distress}_{it} + \beta_3 \cdot \text{ABD}_{it} \cdot \text{Financial distress}_{it} + \gamma \cdot Z_{it} + \mu_i + \upsilon_t + \varepsilon_{it} \qquad (3)$$

Table 3. Affiliated banker directors and E/S/G.

Independent Variables	Dependent Variables					
	Environment (1)	Social (2)	Governance (3)	Environment (4)	Social (5)	Governance (6)
ABD	0.061 **	0.120 ***	0.052 ***			
	(0.030)	(0.028)	(0.015)			
LABD				0.063 **	0.092 ***	0.057 ***
				(0.031)	(0.028)	(0.015)
Firm size	0.258 ***	0.216 ***	0.032 ***	0.242 ***	0.197 ***	0.031 ***
	(0.017)	(0.016)	(0.009)	(0.017)	(0.016)	(0.009)
Leverage	0.047	−0.015	−0.107 **	0.033	0.106	−0.140 **
	(0.108)	(0.101)	(0.054)	(0.109)	(0.098)	(0.054)
Sales growth	−0.477 ***	−0.292 **	−0.138 **	−0.612 ***	−0.304 **	−0.101
	(0.132)	(0.123)	(0.066)	(0.134)	(0.121)	(0.067)
Return on assets	−0.009	0.334	−0.258*	−0.211	0.331	−0.266
	(0.308)	(0.287)	(0.154)	(0.327)	(0.295)	(0.164)
Market-to-book ratio	0.019	0.005	0.012	0.013	0.009	0.007
	(0.025)	(0.024)	(0.013)	(0.026)	(0.023)	(0.013)
Advertising	−0.215	−0.730	−0.739	−0.647	−1.646 *	−0.786
	(0.956)	(0.889)	(0.478)	(0.975)	(0.881)	(0.489)
R&D intensity	3.920 ***	3.415 ***	0.886 ***	3.296 ***	2.840 ***	0.798 ***
	(0.613)	(0.570)	(0.307)	(0.608)	(0.549)	(0.305)
Cash holdings	0.549 ***	0.572 ***	0.213 ***	0.482 ***	0.517 ***	0.146 ***
	(0.105)	(0.098)	(0.053)	(0.104)	(0.094)	(0.052)
Dividends	0.162 ***	0.143 ***	0.023	0.170 ***	0.180 ***	0.023
	(0.035)	(0.033)	(0.017)	(0.036)	(0.032)	(0.018)
Board size	0.643 ***	0.466 ***	0.193 ***	0.600 ***	0.460 ***	0.089 **
	(0.087)	(0.081)	(0.043)	(0.089)	(0.080)	(0.045)
Board independence	0.119	−0.520 ***	−0.137 **	0.099	−0.383 ***	−0.108 *
	(0.119)	(0.111)	(0.059)	(0.122)	(0.110)	(0.061)
CEO duality	−0.040	−0.014	−0.005	−0.022	−0.005	−0.002
	(0.027)	(0.026)	(0.014)	(0.028)	(0.026)	(0.014)
Outside director ownership	0.184	18.406 ***	5.033 *	11.240 *	16.200 ***	6.668 **
	(5.980)	(5.565)	(2.992)	(5.987)	(5.406)	(3.001)
Inside director ownership	−5.816	7.982	−6.317	−8.767	6.295	−6.725
	(8.168)	(7.601)	(4.087)	(8.776)	(7.924)	(4.399)
Institutional ownership	−0.088 *	−0.050	−0.009	−0.129 **	−0.064	−0.046 *
	(0.053)	(0.049)	(0.027)	(0.052)	(0.047)	(0.026)
Analyst coverage	0.153 ***	0.160 ***	0.114 ***	0.188 ***	0.179 ***	0.127 ***
	(0.028)	(0.026)	(0.014)	(0.029)	(0.026)	(0.015)
Short-term debt	0.788 **	0.954 ***	0.336 *	1.043 ***	0.581 *	0.440 **
	(0.347)	(0.323)	(0.174)	(0.341)	(0.308)	(0.171)
Stock return volatility	−0.851	−2.968 **	−1.349 **	−0.960	−3.126 **	−1.642 **
	(1.371)	(1.276)	(0.686)	(1.423)	(1.285)	(0.714)
Squared stock return volatility	4.768	9.602 **	3.732	3.080	9.355 **	4.385 *
	(4.921)	(4.580)	(2.462)	(5.245)	(4.736)	(2.629)
Asset tangibility	0.324 ***	0.297 ***	-0.049	0.408 ***	0.268 **	0.023
	(0.119)	(0.111)	(0.060)	(0.118)	(0.107)	(0.059)
Constant	−1.085 **	−0.211	3.309 ***	−1.740 **	−1.171 *	3.497 ***
	(0.498)	(0.463)	(0.249)	(0.700)	(0.632)	(0.351)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2029	2029	2029	2031	2031	2031
R-squared	0.564	0.511	0.332	0.550	0.504	0.304

* indicates $p < 0.10$, two-tailed; ** indicates $p < 0.05$, two-tailed; *** indicates $p < 0.01$, two-tailed.

We calculated the modified Altman [78]'s *z*-score to gauge the likelihood of financial distress for our sample firms. Alman's *z*-score is defined as below:

$$
\begin{aligned}
\text{Altman's z} - \text{score} \\
= 1.2 \times \frac{\text{Working capital}}{\text{Total assets}} + 1.4 \times \frac{\text{Retained earning}}{\text{Total assets}} + 3.3 \times \frac{\text{EBIT}}{\text{Total assets}} \\
+ \frac{\text{Sales}}{\text{Total assets}} + 0.6 \frac{\text{Market value of equity}}{\text{Total liabilities}}
\end{aligned}
\tag{4}
$$

Following Burak Güner et al. [26], we used the 1.8 cutoff for the "distress zone." If the z-score is less than 1.8, we set the financial distress indicator equal 1, and 0 otherwise. We interact the financial distress indicator with affiliated banker director dummy. β_3 in Equation (3) is our coefficient of interest. Table 4 presents the results. Columns 1 and 2 show the results using propensity score matched sample and columns 3 and 4 show the results using instrumented variables. The significant and negative coefficients on the interaction terms reveal that when the probability of financial distress is high, affiliated banker directors, as expected, eschew from CSR investments. The coefficient of the interaction term with lead affiliated banker directors in column 2 (4) is −0.115 (−0.077), which is lower than −0.088 (−0.061), the coefficients of the interaction term with affiliated banker directors that show in column 1 (3). This finding indicates that lead affiliated banker directors reduce more of the firms' CSR investments when the likelihood of financial distress is high. As lead banks play a dominant role in loan syndicates, they are more sensitive to risk.

4.5. Does the CSR Orientation of Affiliated Bank Matter?

While we have so far demonstrated that affiliated banker directors on board improve firms' CSR investments overall, it is important and informative to examine whether such influence would depend on affiliated banks' CSR orientation. The heavily regulated and closely scrutinized banking businesses give banks a motive to engage in CSR investment activities (both their own and that of their affiliated firms), thus, to protect their reputation. Such reputational incentive would be more significant among high-reputational banks, as top-tier banks may be worthwhile for some clients, in which case borrowing from banks with higher reputation signals the quality of borrowers [54]. Therefore, we expect that affiliated banker directors from lending banks with higher CSR orientation would be associated with higher firms' CSR investments.

In this section, we focus on a subsample in which banks' CSR ratings are available. To identify the bank's CRS ratings, we hand matched the names of all the banks to ASSET4 database. For some firms of our sample that have multiple affiliated banker directors from different banks, we calculated the equally weighted average of ESG ratings of these banks.

Table 4. Affiliated banker directors and corporate social responsibility (CSR): financial distress situation.

Independent Variables	Dependent Variable: ESG (Logged)			
	PSM		IV Estimation (2S)	
	(1)	**(2)**	**(3)**	**(4)**
ABD	0.074 ***		0.055 ***	
	(0.018)		(0.017)	
LABD		0.073 ***		0.065 ***
		(0.022)		(0.018)
Financial distress	−0.012	0.013	−0.030	−0.038
	(0.027)	(0.034)	(0.029)	(0.031)
ABD × Financial distress	−0.088 ***		−0.061 *	
	(0.033)		(0.033)	
LABD × Financial distress		−0.115 **		−0.077 **
		(0.045)		(0.035)
Firm size	0.156 ***	0.132 ***	0.158 ***	0.167 ***
	(0.009)	(0.011)	(0.010)	(0.010)
Leverage	−0.155 **	0.038	0.076	0.061
	(0.067)	(0.090)	(0.060)	(0.060)
Sales growth	−0.262 ***	−0.328 ***	−0.375 ***	−0.344 ***
	(0.072)	(0.089)	(0.068)	(0.070)
Return on assets	−0.058	0.291	0.277 *	0.331 **
	(0.174)	(0.200)	(0.166)	(0.166)
Market-to-book ratio	−0.004	−0.005	−0.011	0.001
	(0.014)	(0.017)	(0.013)	(0.013)
Advertising	0.850	1.796 ***	−0.038	−0.751
	(0.527)	(0.685)	(0.527)	(0.515)
R&D intensity	1.359 ***	0.403	1.648 ***	1.271 ***
	(0.360)	(0.419)	(0.324)	(0.325)
Cash holdings	0.323 ***	0.177 **	0.278 ***	0.275 ***
	(0.069)	(0.085)	(0.055)	(0.055)
Dividends	0.084 ***	0.045	0.077 ***	0.066 ***
	(0.024)	(0.029)	(0.018)	(0.019)
Board size	0.084 *	0.320 ***	0.239 ***	0.219 ***
	(0.047)	(0.057)	(0.045)	(0.046)
Board independence	−0.244 ***	−0.241 ***	−0.210 ***	−0.131 **
	(0.057)	(0.070)	(0.066)	(0.065)
CEO duality	−0.017	0.014	0.012	0.010
	(0.015)	(0.019)	(0.015)	(0.015)
Outside director ownership	0.285	−12.805 ***	3.747	3.217
	(3.044)	(3.677)	(3.130)	(3.183)
Inside director ownership	−2.314	−1.575	−7.648 *	−8.422 *
	(4.022)	(4.862)	(4.405)	(4.529)
Institutional ownership	−0.071 **	−0.004	−0.096 ***	−0.095 ***
	(0.030)	(0.039)	(0.027)	(0.027)
Analyst coverage	0.106 ***	0.096 ***	0.116 ***	0.110 ***
	(0.017)	(0.021)	(0.014)	(0.015)
Short-term debt	0.057	−0.169	0.613 ***	0.512 ***
	(0.204)	(0.252)	(0.181)	(0.185)
Stock return volatility	−2.625 ***	−1.542 *	−1.267 *	−1.049
	(0.716)	(0.928)	(0.731)	(0.742)
Squared stock return volatility	8.039 ***	3.846	2.860	2.936
	(2.492)	(3.435)	(2.589)	(2.637)
Asset tangibility	0.184 ***	0.182 **	0.185 ***	0.208 ***
	(0.064)	(0.078)	(0.061)	(0.062)
Constant	2.116 ***	1.770 ***	1.645 ***	1.496 ***
	(0.183)	(0.266)	(0.248)	(0.263)
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Observations	1961	1054	2182	2090
R-squared	0.533	0.579	0.551	0.554

* indicates $p < 0.10$, two-tailed; ** indicates $p < 0.05$, two-tailed; *** indicates $p < 0.01$, two-tailed.

Since the assignment of affiliated banker directors on board is not random, interpreting our results as causal evidence can be confounded by endogeneity issues. Reverse causality, in the case when CSR motivated firms choose banks with a CSR orientation, is not likely to be a concern. Prior literature shows that banks positively impact the evolution of borrower's CSR profile, not the other way around [25] The main concern is omitted variable

bias. Our estimates of the impact of affiliated banks' CSR orientation on the firm's CSR performance are conditional on the firm's decision to have the banker sitting on its board. This may induce a selection bias if the variables that determine such impact are the same as those explaining the firm's decision to have the affiliated banker serving on its board. For instance, as CSR investments are costly and focus on long-term projects, firms that are attuned to CSR activities are more likely to build a strong relation with reputational banks by having their bankers to sit on firms' boards in order to facilitate their future borrowings. In this case, the impact of affiliated banks' CSR orientation on firms' CSR performance is due to firms' potential financing needs, such that

$$\mathrm{ESG}_{it}^* = \alpha_0 + \beta_1 \cdot \mathrm{ABD's\ ESG}_{it} + \gamma \cdot Z_{it} + \mu_i + \upsilon_t + \varepsilon_{it} \tag{5}$$

$$D_{it}^* = \theta \cdot X_{it} + \eta_{it} \tag{6}$$

If $D_{it}^* > 0$, $\mathrm{ESG}_{it}^* = \mathrm{ESG}_{it}^*$, $D_{it}^* = 1$, and otherwise,

$$\text{If } D_{it}^* \leq 0, \ \mathrm{ESG}_{it} \text{ is not observed, and } D_{it}^* = 0, \tag{7}$$

where Equation (5) relates affiliated banks' ESG ratings with firms' ESG ratings, and Equation (6) represents firms' decisions to have an affiliated banker sitting on boards. X_{it} are explanatory variables that affect the presence of affiliated banker directors. The conditions in Equation (7) say that we do not observe the relation between banks' ESG ratings and firms' ESG ratings for the firms that do not have affiliated banker directors. Thus, the presence of affiliated banker directors is endogenous, which depends on an unobserved latent variable, D_{it}^*.

　　To address the endogenous choices, we used the Heckman [79] two-stage procedure. In the first stage, we estimated Equation (6), the presence of affiliated bankers on firms' boards, using a probit model. The dependent variable is an indicator that follows the same definition in our baseline model, which equals 1 in the year when the firm has affiliated banker directors, and 0 otherwise. The vector X_{it} contains the main determinants of the presence of affiliated banker directors. Previous literature shows that firms with and without banker directors are significantly different in their financial characteristics [26,80,81]. Furthermore, banks' personal connection [82] and equity ownership [71] may affect firms' decisions in choosing board members. Thus, in our Equation (6), the firm characteristics variables that explain the presence of affiliated banker directors include firm size, leverage, short-term debt, cash holdings, market-to-book ratio, R&D intensity, sales growth, capital structure, and board size. Following Hilscher and Sisli-Ciamarra [29], we averaged all firm characteristic variables in the first stage over the past three years because board composition does not change immediately to changes in a firm's financial characteristics. Besides firm characteristics, Equation (6) also includes bank's equity connection and personal connection between banks and firms. To proxy for banks' equity ownership in firms, we used an indicator that equals to 1 if the affiliated bank has equity ownership in firms, and 0 otherwise. Following Engelberg et al. [82], we focused on two types of personal connection with firms: (1) past educational connections, formed when two people graduate from the same school in higher education within 2 years of one another, and (2) past professional connections, formed when two people overlap through either a common past job or past board membership.

　　In the second stage, we estimated the following empirical model:

$$\mathrm{ESG}_{it} = \alpha_0 + \beta_1 \cdot \mathrm{ABD's\ ESG}_{it} + \gamma \cdot Z_{it} + \delta \cdot \mathrm{IMR}_{it} + \mu_i + \upsilon_t + \varepsilon_{it}, \tag{8}$$

where IMR_{it} is the inverse Mills ratio, calculated using estimates from the probit model in Equation (6). Adding the inverse Mills ratio in the second-stage regressions allow us to control for selection bias.

　　Table 5 presents the results for the second-stage estimations. The first-stage results, left unreported for the sake of space, are available upon request. In column 1, we use the equally weighted average of ESG ratings of banks that affiliated banker directors are

employed as the independent variable; while in column 2, our independent variable is the equally weighted average of ESG ratings of banks that lead affiliated banker directors are employed. Both coefficients are statistically and economically significant. For example, in column 1, the coefficient estimate of the affiliated banks' ESG rating is 0.197, with a *p*-value less than 0.01. This result implies that affiliated banker directors from banks with higher CSR orientation have a stronger influence on firms' CSR investments.

Table 5. Affiliated banks' CSR orientation.

Independent Variables	Dependent Variable: ESG(logged)	
	(1)	(2)
Affiliated Banks' ESG(ABD)	0.197 ***	
	(0.053)	
Affiliated Banks' ESG(LABD)		0.172 *
		(0.097)
Firm size	0.122 ***	0.097 ***
	(0.015)	(0.019)
Leverage	−0.008	0.028
	(0.122)	(0.143)
Sales growth	−0.118	−0.081
	(0.107)	(0.128)
Return on assets	0.132	0.290
	(0.311)	(0.354)
Market-to-book ratio	0.006	0.003
	(0.026)	(0.037)
Advertising	1.240	−1.507
	(0.839)	(0.941)
R&D intensity	−0.023	0.380
	(0.581)	(0.682)
Cash holdings	0.232 *	0.385 ***
	(0.122)	(0.147)
Dividends	0.212 ***	0.341 ***
	(0.044)	(0.050)
Board size	−0.130 *	−0.455 ***
	(0.079)	(0.101)
Board independence	−0.005	−0.042
	(0.081)	(0.095)
CEO duality	0.048 **	0.068 **
	(0.023)	(0.027)
Outside director ownership	−10.346 **	−4.649
	(4.242)	(4.792)
Inside director ownership	2.745	16.323 *
	(6.134)	(8.829)
Institutional ownership	−0.111 **	0.077
	(0.054)	(0.073)
Analyst coverage	0.014	−0.007
	(0.029)	(0.035)
Short-term debt	−0.443	−0.165
	(0.334)	(0.390)
Stock return volatility	−3.902 ***	−4.849 ***
	(1.029)	(1.485)
Squared stock return volatility	14.503 ***	9.869 *
	(3.514)	(5.958)
Asset tangibility	0.192 **	0.384 ***
	(0.097)	(0.139)
Inverse Mills ratio	−0.051 **	−0.160 ***
	(0.025)	(0.034)
Constant	2.438 ***	3.752 ***
	(0.359)	(0.574)
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Observations	6939	7028

* indicates *p* < 0.10, two-tailed; ** indicates *p* < 0.05, two-tailed; *** indicates *p* < 0.01, two-tailed.

Generally, one key specification issue for implementing selection models is the need for exclusion restrictions because multicollinearity problem arises from using the same set of variables to predict fitted value, which is subsequently entered into the main equation.

In the Heckman selection model, exclusion restrictions are not necessary because the first stage estimation based on probit model is nonlinear [83]. In other words, in the second stage estimation, entering the inverse Mills ratio along with the same set of variables used in the first-stage estimation will not cause multicollinearity problem because the inverse Mills ratio is estimated with a nonlinear model (i.e., probit model) in the first-stage estimation.

5. Robustness Tests

In this section, we examine whether our primary results are robust to using different database and alternative method to define affiliated banker directors. Overall, these tests, which are summarized in Tables 6 and 7, reinforce our finding that affiliated banker directors improve firms' CSR performance.

Table 6. Alternative measure of CSR based on KLD database.

Independent Variables	Dependent Variable: CSR			
	PSM		IV Estimation (2S)	
	(1)	(2)	(3)	(4)
ABD	0.400 ***		0.069	
	(0.086)		(0.065)	
LABD		0.419 ***		0.117 *
		(0.136)		(0.064)
Firm size	0.362 ***	0.401 ***	0.306 ***	0.302 ***
	(0.042)	(0.067)	(0.030)	(0.030)
Leverage	−1.364 ***	−1.532 ***	−0.637 ***	−0.446 **
	(0.310)	(0.510)	(0.191)	(0.190)
Sales growth	−1.095 ***	−0.242	−0.997 ***	−0.961 ***
	(0.332)	(0.609)	(0.210)	(0.206)
Market-to-book ratio	0.450 ***	0.333 ***	0.227 ***	0.223 ***
	(0.059)	(0.095)	(0.042)	(0.041)
Dividends	−0.104	−0.037	−0.120 *	−0.051
	(0.116)	(0.197)	(0.065)	(0.064)
Board size	0.572 **	0.230	1.056 ***	1.075 ***
	(0.237)	(0.385)	(0.156)	(0.152)
Board independence	0.105	0.190	−0.362	−0.032
	(0.296)	(0.475)	(0.229)	(0.222)
CEO duality	−0.137	−0.168	−0.114 **	−0.098 *
	(0.084)	(0.134)	(0.055)	(0.054)
Institutional ownership	−0.721 ***	−0.954 ***	−0.537 ***	−0.478 ***
	(0.149)	(0.272)	(0.098)	(0.098)
Analyst coverage	0.355 ***	0.458 ***	0.310 ***	0.318 ***
	(0.074)	(0.133)	(0.046)	(0.045)
Short-term debt	3.236 ***	2.193 *	2.418 ***	1.453 ***
	(0.782)	(1.175)	(0.573)	(0.549)
Stock return volatility	−6.341 **	−4.989	−9.334 ***	−7.420 ***
	(2.892)	(4.647)	(1.866)	(1.820)
Squared stock return volatility	10.237	10.093	20.912 ***	16.114 ***
	(8.799)	(13.928)	(4.814)	(4.692)
Constant	−8.973 ***	−4.831	−6.110 ***	−6.325 ***
	(1.821)	(3.406)	(0.876)	(0.844)
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Observations	4174	2041	5686	5727
R-squared	0.283	0.314	0.238	0.244

* indicates $p < 0.10$, two-tailed; ** indicates $p < 0.05$, two-tailed; *** indicates $p < 0.01$, two-tailed.

Table 7. Alternative definition of affiliated banker directors.

Independent Variables	Dependent Variable: ESG(logged)			
	PSM		IV Estimation (2S)	
	(1)	**(2)**	**(3)**	**(4)**
ABD	0.052 ***		0.071 ***	
	(0.016)		(0.016)	
LABD		0.066 ***		0.054 ***
		(0.021)		(0.016)
Firm size	0.149 ***	0.128 ***	0.132 ***	0.122 ***
	(0.010)	(0.012)	(0.009)	(0.009)
Leverage	−0.067	0.141	−0.087	−0.014
	(0.070)	(0.094)	(0.059)	(0.058)
Sales growth	−0.272 ***	−0.182 *	−0.266 ***	−0.349 ***
	(0.074)	(0.099)	(0.072)	(0.071)
Return on assets	−0.325*	0.184	−0.034	0.037
	(0.184)	(0.242)	(0.165)	(0.171)
Market-to-book ratio	0.036 **	0.010	0.017	0.015
	(0.015)	(0.021)	(0.014)	(0.013)
Advertising	0.900	1.484 **	−0.520	−0.582
	(0.561)	(0.719)	(0.519)	(0.522)
R&D intensity	1.267 ***	0.922 **	2.116 ***	2.109 ***
	(0.400)	(0.451)	(0.336)	(0.317)
Cash holdings	0.215 ***	0.131	0.262 ***	0.294 ***
	(0.074)	(0.092)	(0.057)	(0.056)
Dividends	0.058 **	0.148 ***	0.103 ***	0.109 ***
	(0.025)	(0.034)	(0.019)	(0.019)
Board size	0.153 ***	0.176 ***	0.296 ***	0.297 ***
	(0.050)	(0.064)	(0.048)	(0.048)
Board independence	−0.186 ***	−0.190 **	−0.180 ***	−0.119 *
	(0.061)	(0.076)	(0.065)	(0.066)
CEO duality	−0.009	0.002	−0.013	−0.017
	(0.016)	(0.022)	(0.015)	(0.015)
Outside director ownership	−3.337	−9.335 **	8.505 **	10.698 ***
	(3.428)	(3.663)	(3.317)	(3.382)
Inside director ownership	−2.890	−1.136	−6.897	−6.027
	(4.106)	(5.927)	(4.625)	(4.753)
Institutional ownership	−0.045	0.075*	−0.057 **	−0.066 **
	(0.032)	(0.043)	(0.028)	(0.028)
Analyst coverage	0.094 ***	0.134 ***	0.130 ***	0.154 ***
	(0.018)	(0.024)	(0.015)	(0.016)
Short-term debt	−0.193	0.190	0.654 ***	0.407 **
	(0.212)	(0.297)	(0.192)	(0.184)
Stock return volatility	−1.705 **	−0.990	−1.660 **	−1.928 **
	(0.752)	(0.953)	(0.753)	(0.761)
Squared stock return volatility	4.137	0.989	6.322 **	6.149 **
	(2.566)	(3.404)	(2.709)	(2.786)
Asset tangibility	0.241 ***	0.224 **	0.066	0.181 ***
	(0.067)	(0.090)	(0.064)	(0.064)
Constant	2.012 ***	1.846 ***	1.494 ***	1.801 ***
	(0.235)	(0.240)	(0.301)	(0.303)
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Observations	1754	915	2045	2074
R-squared	0.528	0.611	0.576	0.557

* indicates $p < 0.10$, two-tailed; ** indicates $p < 0.05$, two-tailed; *** indicates $p < 0.01$, two-tailed.

5.1. Alternative Measure of CSR

To ensure that our findings are not database driven, we re-estimated our baseline regression using the MSCI ESG KLD database (KLD), the widely used database in existing literature (see, e.g., Chen et al. [30]; Deng et al. [1]). The KLD rates firms' CSR performance in major qualitative areas: environment, community, corporate governance, diversity, employee relations, human rights, product quality and safety, and whether firms' operations are related to alcohol, gaming, firearms, military contracting, nuclear, or tobacco. Following Chen et al. [30], we excluded human rights and the last area (i.e., whether firms' operations are related to alcohol, gaming, firearms, military contracting, nuclear, or tobacco).

Columns 1 and 2 in Table 6 present the results using PSM sample; whereas columns 3 and 4 present the results using instrumented variables. Our findings do not change when we use KLD database.

5.2. Alternative Definition of Affiliated Banker Directors

We then investigated whether our results are sensitive to the alternative definition of ABDs, which only consider an outstanding loan agreement during the same fiscal year [16,18]. Then, to identify LABDs, we still followed Sufi [66]'s criterion for identifying a lead lender if the "Lead Arranger Credit" field indicates "Yes". Table 7 presents the results. In columns 1 and 2, we report results based on PSM sample. In columns 3 and 4, we perform similar analysis using instrumental variable approach. We find that our results do not change when we use alternative definition of affiliated banker directors.

In all the regressions, the coefficient estimates of institutional ownership are negative, which is contrary to Chen et al. [30]'s and Dyck et al. [56]'s finding that institutional ownership is positively related to firm's CSR performance. However, in their studies, they investigate the institutional investors in general and do not consider the role of banks in their studies. Firms, by having affiliated bankers serving on their boards, form a strong relationship with lenders. While banking literature shows that a strong relationship enables borrowers to achieve lower loan spreads, it is not always beneficial to borrowers. As banks acquire inside information about the borrowers, they are more informed than other participants in the equity market. Dass and Massa [71] find that such information asymmetry increases adverse selection for other market participants (e.g., institutional investors), lowers the firm's stock liquidity, and reduces firm value. Thus, for firms with affiliated banker directors, they are likely to be less attractive to institutional investors.

6. Conclusions

This study examined how affiliated banker directors influence the firms' CSR investment. We found that firms with affiliated bankers on board have higher CSR than firms without affiliated bankers on board. This result is robust to controlling for an extensive list of observable confounding factorings using propensity-score matching. In addition, instrumental variable analyses suggest that the higher CSR performance for firms with affiliated bankers on board is unlikely to be driven by endogenous factors. Moreover, we found that when default risk is high, affiliated banker directors restrain from firm's CSR activities, which suggests that risk consideration is a driving force behind the influence of affiliated banker directors on firms' CSR. Furthermore, for firms with affiliated banker directors, we found a positive relation between banks' and firms' CSR investment, which indicates that the affiliated banker directors from banks with higher CSR orientation have more influence on firms' CSR investment.

Our paper has practical implications for policymakers regarding corporate governance, especially the board composition. The Sarbanes-Oxley Act of 2002 discourages public corporations from having related parties (e.g., affiliated directors) on board. However, academic literature regarding the board composition is inconclusive on the impact of affiliated directors [76], and there are benefits that stem from a boards' different professional backgrounds [84]. As this paper illustrates, affiliated banker directors have a positive influence on corporate social responsibility in the private sector—the private pro-

vision of public goods [85], which can be important for improving social welfare. While governments are believed to be responsible for providing public goods, they might not always be incentivized and effective in fulfilling the job, in which case they fail to deal with externalities. Corporate governance reforms, thus, should take into account the positive externalities provided by private sectors.

This study has several limitations that can be addressed by future research. First, although our findings support that affiliated banker directors influence firms' CSR investment for risk and reputational consideration, we acknowledge that this may not be the only explanation as trust [86] may be an alternative incentive for the CSR investment decisions. Firms, by having affiliated bankers sit on their boards, can build a strong relationship with lenders, which would enhance the trust between lenders and borrowers. This alternative explanation could be explored by future research. Nevertheless, it should be noted that these explanations may not be mutually exclusive.

Second, our study only looks at US firms. Thus, our results should be limited to the US and should not be generalized to other nations. The US, in general, shares different culture, legal system, and regulatory environment with other nations. The shareholder protection is strongest in common law countries like the US, weakest in French-style civil law countries, with German and Scandinavian-style law countries somewhere in the middle [87]. For this reason, we cannot claim that our conclusions are applicable to firms in other nations. We believe that it would be fruitful for future studies to examine whether affiliated banker directors in other nations also influence firms' CSR investments.

Third, our paper is agnostic regarding the firm performance and market reaction to the impact of affiliated banker directors on CSR investment. Thus, none of our findings are to say that more CSR investment is always better. In the future, it would be interesting to see how the market reacts to affiliated banker directors' influence on firms' CSR investments, which could shed light on the ongoing debate on firm engagements in CSR-related activities and firm performance. Overall, our study contributes to the understanding of how board composition can influence firms' CSR engagement.

Appendix A

Table A1. Variable definitions and data sources.

Variables	Definition	Sources
ESG(logged)	Natural logarithm of a firm's overall ESG rating	ASSET4
Affiliated Banks' ESG(ABD)	Natural logarithm of overall ESG ratings for a firm's ABDs employed banks	ASSET4
Affiliated Banks' ESG(LABD)	Natural logarithm of overall ESG ratings for a firm's LABDs employed banks	ASSET4
ABD	Equals 1 when a firm has at least one affiliated banker director, and 0 otherwise	BoardEx, DealScan
LABD	Equals 1 when a firm has an affiliated lead banker on its board, and 0 otherwise	BoardEx, DealScan
UABD	Equals 1 when a firm has an unaffiliated banker on its board, and 0 otherwise	BoardEx, DealScan
Loans, no affiliation	Equals 1 when a firm has loan relation, but no banker director on its board, and 0 otherwise	BoardEx, DealScan
Firm size	Natural logarithm of total assets of a firm	Compustat
Leverage	All debt/total assets	Compustat
Sales growth	Changed in sales/lagged total sales	Compustat
Market-to-book ratio	Market value of assets over book value of assets	Compustat
Return on assets	Operating Income Before Depreciation/total assets	Compustat
Advertising	Annual firm advertising spending/total assets	Compustat
R&D intensity	Annual firm R&D spending/total assets	Compustat
Cash holdings	Current assets/total assets	Compustat
Dividends	Equals 1 when a firm has a nonzero dividend this year, and 0 otherwise	Compustat
Board size	Natural logarithm of number of directors	BoardEx
Board independence	Number of outside directors/total number of directors	BoardEx
CEO duality	Equals 1 when the CEO is not the chairman of the board, and 0 otherwise	BoardEx
Outside director ownership	Common shares held by outside directors scaled by total common shares outstanding	BoardEx, CRSP
Inside director ownership	Common shares held by inside directors scaled by total common shares outstanding	BoardEx, CRSP
Institutional ownership	Common shared held by institutional investors/total common shares outstanding	Thomson Reuters CDA/Spectrum Institutional 13(F) fillings data, CRSP
Analyst coverage	Natural logarithm of the mean of the number of analysts followed	I/B/E/S
Short-term debt	Short-term debt outstanding/total assets	Compustat
Stock return volatility	Standard deviation of monthly stock returns over the prior three years	CRSP
Squared stock return volatility	Squared of stock return volatility	CRSP
Asset tangibility	Property, plant, and equipment/total assets	Compustat
Financial distress	Equals 1 when a firm's modified Altman's (1968) Z-score is less than 1.8, and 0 otherwise	Compustat

Appendix B

Table A2. Unaffiliated banker directors and CSR.

Independent Variables	Dependent Variable: ESG(logged)	
	(1)	**(2)**
UABD	−0.011	
	(0.009)	
Loans, no banker on board		0.010
		(0.009)
Firm size	0.165 ***	0.170 ***
	(0.006)	(0.006)
Leverage	−0.093 **	−0.056
	(0.038)	(0.034)
Sales growth	−0.216 ***	−0.240 ***
	(0.043)	(0.041)
Return on assets	0.418 ***	0.475 ***
	(0.100)	(0.089)
Market-to-book ratio	−0.013	−0.017 **
	(0.008)	(0.007)
Advertising	0.102	0.169
	(0.324)	(0.340)
R&D intensity	1.404 ***	1.881 ***
	(0.220)	(0.188)
Asset tangibility	0.229 ***	0.238 ***
	(0.038)	(0.036)
Cash holdings	0.310 ***	0.280 ***
	(0.038)	(0.036)
Stock return volatility	−1.472 ***	−1.785 ***
	(0.437)	(0.434)
Squared stock return volatility	4.188 ***	5.190 ***
	(1.462)	(1.476)
Short-term debt	0.229 **	0.356 ***
	(0.113)	(0.113)
Board size	0.210 ***	0.258 ***
	(0.028)	(0.028)
Board independence	−0.234 ***	−0.236 ***
	(0.037)	(0.038)
Outside director ownership	−2.213	−1.916
	(1.779)	(1.740)
Inside director ownership	−2.101	−3.838
	(2.536)	(2.583)
Institutional ownership	−0.070 ***	−0.056 ***
	(0.018)	(0.017)
Analyst coverage	0.092 ***	0.076 ***
	(0.010)	(0.009)
CEO duality	−0.019 **	−0.007
	(0.010)	(0.009)
Dividends	0.064 ***	0.060 ***
	(0.013)	(0.011)
Constant	1.582 ***	1.466 ***
	(0.142)	(0.137)
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Observations	5490	5957
R-squared	0.499	0.467

** indicates $p < 0.05$, two-tailed; *** indicates $p < 0.01$, two-tailed.

References

1. Deng, X.; Kang, J.-K.; Low, B.S. Corporate social responsibility and stakeholder value maximization: Evidence from mergers. *J. Financ. Econ.* **2013**, *110*, 87–109. [CrossRef]
2. Dimson, E.; Karakaş, O.; Li, X. Active Ownership. *Rev. Financ. Stud.* **2015**, *28*, 3225–3268. [CrossRef]
3. Krüger, P. Corporate goodness and shareholder wealth. *J. Financ. Econ.* **2015**, *115*, 304–329. [CrossRef]
4. Margolis, J.D.; Elfenbein, H.A.; Walsh, J.P. Does it pay to be good? A meta-analysis and redirection of research on the relationship between corporate social and financial performance. *Ann. Arbor* **2007**, *1001*, 48109-1234.
5. Margolis, J.D.; Walsh, J.P. Misery Loves Companies: Rethinking Social Initiatives by Business. *Adm. Sci. Q.* **2003**, *48*, 268–305. [CrossRef]
6. Servaes, H.; Tamayo, A. The role of social capital in corporations: A review. *Oxf. Rev. Econ. Policy* **2017**, *33*, 201–220. [CrossRef]
7. Ruf, B.M.; Muralidhar, K.; Brown, R.M.; Janney, J.J.; Paul, K. An Empirical Investigation of the Relationship between Change in Corporate Social Performance and Financial Performance: A Stakeholder Theory Perspective. *J. Bus. Ethics* **2001**, *32*, 143–156. [CrossRef]
8. Harjoto, M.; Jo, H. Corporate Governance and CSR Nexus. *J. Bus. Ethics* **2011**, *100*, 45–67. [CrossRef]
9. Harjoto, M.; Laksmana, I.; Lee, R. Board Diversity and Corporate Social Responsibility. *J. Bus. Ethics* **2015**, *132*, 641–660. [CrossRef]
10. Williams, R.J. Women on Corporate Boards of Directors and their Influence on Corporate Philanthropy. *J. Bus. Ethics* **2003**, *42*, 1–10. [CrossRef]
11. Zhang, J.Q.; Zhu, H.; Ding, H.-B. Board Composition and Corporate Social Responsibility: An Empirical Investigation in the Post Sarbanes-Oxley Era. *J. Bus. Ethics* **2013**, *114*, 381–392. [CrossRef]
12. Adams, R.B.; Licht, A.N. Shareholders and Stakeholders around the World: The Role of Values, Culture, and Law in Directors' Decisions (12 June 2019). European Corporate Governance Institute—Law Working Paper No. 459/2019. Available online: https://ssrn.com/abstract=3407873 (accessed on 7 March 2021).
13. Adams, R.B.; Akyol, A.C.; Verwijmeren, P. Director skill sets. *J. Financ. Econ.* **2018**, *130*, 641–662. [CrossRef]
14. Dass, N.; Kini, O.; Nanda, V.; Onal, B.; Wang, J. Board Expertise: Do Directors from Related Industries Help Bridge the Information Gap? *Rev. Financ. Stud.* **2014**, *27*, 1533–1592. [CrossRef]
15. Roe, M.J. Strong managers, weak owners. In *The Political Roots of American Corporate Finance*; Princeton University Press: Princeton, NJ, USA, 1996.
16. Kroszner, R.S.; Strahan, P.E. Bankers on boards: Monitoring, conflicts of interest, and lender liability. *J. Financ. Econ.* **2001**, *62*, 415–452. [CrossRef]
17. Sisli-Ciamarra, E. Monitoring by Affiliated Bankers on Board of Directors: Evidence from Corporate Financing Outcomes. *Financ. Manag.* **2012**, *41*, 665–702. [CrossRef]
18. Erkens, D.H.; Subramanyam, K.R.; Zhang, J. Affiliated Banker on Board and Conservative Accounting. *Account. Rev.* **2014**, *89*, 1703–1728. [CrossRef]
19. Kang, M.J.; Kim, Y.H.; Liao, Q. Do bankers on the board reduce crash risk? *Eur. Financ. Manag.* **2020**, *26*, 684–723. [CrossRef]
20. Kang, M.J.; Kim, A. Bankers on the Board and CEO Incentives. *Eur. Financ. Manag.* **2017**, *23*, 292–324. [CrossRef]
21. Diemont, D.; Moore, K.; Soppe, A. The Downside of Being Responsible: Corporate Social Responsibility and Tail Risk. *J. Bus. Ethics* **2016**, *137*, 213–229. [CrossRef]
22. Hoepner, A.G.; Oikonomou, I.; Sautner, Z.; Starks, L.T.; Zhou, X. ESG Shareholder Engagement and Downside Risk (19 September 2019). European Corporate Governance Institute—Finance Working Paper No. 671/2020. Available online: https://ssrn.com/abstract=2874252 (accessed on 1 October 2020).
23. Cornett, M.M.; Erhemjamts, O.; Tehranian, H. Greed or good deeds: An examination of the relation between corporate social responsibility and the financial performance of U.S. commercial banks around the financial crisis. *J. Bank. Financ.* **2016**, *70*, 137–159. [CrossRef]
24. Wu, M.-W.; Shen, C.-H. Corporate social responsibility in the banking industry: Motives and financial performance. *J. Bank. Financ.* **2013**, *37*, 3529–3547. [CrossRef]
25. Houston, J.F.; Shan, H. Corporate ESG Profiles and Banking Relationships (24 October 2019). Available online: https://ssrn.com/abstract=3331617 (accessed on 1 October 2020).
26. Burak Güner, A.; Malmendier, U.; Tate, G. Financial expertise of directors. *J. Financ. Econ.* **2008**, *88*, 323–354. [CrossRef]
27. Bear, S.; Rahman, N.; Post, C. The Impact of Board Diversity and Gender Composition on Corporate Social Responsibility and Firm Reputation. *J. Bus. Ethics* **2010**, *97*, 207–221. [CrossRef]
28. Jizi, M.I.; Salama, A.; Dixon, R.; Stratling, R. Corporate Governance and Corporate Social Responsibility Disclosure: Evidence from the US Banking Sector. *J. Bus. Ethics* **2014**, *125*, 601–615. [CrossRef]
29. Hilscher, J.; Sisli-Ciamarra, E. Conflicts of interest on corporate boards: The effect of creditor-directors on acquisitions. *J. Corp. Financ.* **2013**, *19*, 140–158. [CrossRef]
30. Chen, T.; Dong, H.; Lin, C. Institutional shareholders and corporate social responsibility. *J. Financ. Econ.* **2020**, *135*, 483–504. [CrossRef]
31. Schiller, C. Global supply-chain networks and corporate social responsibility. In Proceedings of the 13th Annual Mid-Atlantic Research Conference in Finance (MARC) Paper, Villanova, PA, USA, 1 April 2018; Available online: https://ssrn.com/abstract=3089311 (accessed on 1 October 2020).

32. Hauptmann, C. Corporate Sustainability Performance and Bank Loan Pricing: It Pays to Be Good, but Only When Banks Are Too (1 November 2017). Saïd Business School WP 2017–2020. Available online: https://ssrn.com/abstract=3067422 (accessed on 1 October 2020).

33. Francis, B.; Hasan, I.; Liu, L.; Wang, H. Employee Treatment and Contracting with Bank Lenders: An Instrumental Approach for Stakeholder Management. *J. Bus. Ethics* **2019**, *158*, 1029–1046. [CrossRef]

34. Fama, E.F.; Jensen, M.C. Separation of Ownership and Control. *J. Law Econ.* **1983**, *26*, 301–325. [CrossRef]

35. Adams, R.B.; Ferreira, D. Women in the boardroom and their impact on governance and performance. *J. Financ. Econ.* **2009**, *94*, 291–309. [CrossRef]

36. Huang, Q.; Jiang, F.; Lie, E.; Yang, K. The role of investment banker directors in M & A. *J. Financ. Econ.* **2014**, *112*, 269–286. [CrossRef]

37. Masulis, R.W.; Wang, C.; Xie, F. Globalizing the boardroom—The effects of foreign directors on corporate governance and firm performance. *J. Account. Econ.* **2012**, *53*, 527–554. [CrossRef]

38. Porter, M.E.; Kramer, M.R. The link between competitive advantage and corporate social responsibility. *Harv. Bus. Rev.* **2006**, *84*, 78–92. [PubMed]

39. Eccles, R.G.; Ioannou, I.; Serafeim, G. The Impact of Corporate Sustainability on Organizational Processes and Performance. *Manag. Sci.* **2014**, *60*, 2835–2857. [CrossRef]

40. Masulis, R.W.; Reza, S.W. Agency Problems of Corporate Philanthropy. *Rev. Financ. Stud.* **2015**, *28*, 592–636. [CrossRef]

41. Servaes, H.; Tamayo, A. The Impact of Corporate Social Responsibility on Firm Value: The Role of Customer Awareness. *Manag. Sci.* **2013**, *59*, 1045–1061. [CrossRef]

42. Jo, H.; Harjoto, M.A. The Causal Effect of Corporate Governance on Corporate Social Responsibility. *J. Bus. Ethics* **2012**, *106*, 53–72. [CrossRef]

43. Prado-Lorenzo, J.-M.; Garcia-Sanchez, I.-M. The Role of the Board of Directors in Disseminating Relevant Information on Greenhouse Gases. *J. Bus. Ethics* **2010**, *97*, 391–424. [CrossRef]

44. Shaukat, A.; Qiu, Y.; Trojanowski, G. Board Attributes, Corporate Social Responsibility Strategy, and Corporate Environmental and Social Performance. *J. Bus. Ethics* **2016**, *135*, 569–585. [CrossRef]

45. Cho, C.H.; Jung, J.H.; Kwak, B.; Lee, J.; Yoo, C.-Y. Professors on the board: Do they contribute to society outside the classroom? *J. Bus. Ethics* **2017**, *141*, 393–409. [CrossRef]

46. Byrd, D.T.; Mizruchi, M.S. Bankers on the board and the debt ratio of firms. *J. Corp. Financ.* **2005**, *11*, 129–173. [CrossRef]

47. Roberts, M.R.; Sufi, A. Renegotiation of financial contracts: Evidence from private credit agreements. *J. Financ. Econ.* **2009**, *93*, 159–184. [CrossRef]

48. Gao, H.; Li, K.; Ma, Y. Stakeholder Orientation and the Cost of Debt: Evidence from State-Level Adoption of Constituency Statutes. *J. Financ. Quant. Anal.* **2020**, 1–37. [CrossRef]

49. Jensen, M.C.; Meckling, W.H. Theory of the firm: Managerial behavior, agency costs and ownership structure. *J. Financ. Econ.* **1976**, *3*, 305–360. [CrossRef]

50. Chava, S. Environmental Externalities and Cost of Capital. *Manag. Sci.* **2014**, *60*, 2223–2247. [CrossRef]

51. Goss, A.; Roberts, G.S. The impact of corporate social responsibility on the cost of bank loans. *J. Bank. Financ.* **2011**, *35*, 1794–1810. [CrossRef]

52. Hasan, I.; Hoi, C.K.; Wu, Q.; Zhang, H. Social Capital and Debt Contracting: Evidence from Bank Loans and Public Bonds. *J. Financ. Quant. Anal.* **2017**, *52*, 1017–1047. [CrossRef]

53. Bushman, R.M.; Wittenberg-Moerman, R. The Role of Bank Reputation in "Certifying" Future Performance Implications of Borrowers' Accounting Numbers. *J. Account. Res.* **2012**, *50*, 883–930. [CrossRef]

54. Ross, D.G. The "Dominant Bank Effect:" How High Lender Reputation Affects the Information Content and Terms of Bank Loans. *Rev. Financ. Stud.* **2010**, *23*, 2730–2756. [CrossRef]

55. Kim, M.; Surroca, J.; Tribó, J.A. Impact of ethical behavior on syndicated loan rates. *J. Bank. Financ.* **2014**, *38*, 122–144. [CrossRef]

56. Dyck, A.; Lins, K.V.; Roth, L.; Wagner, H.F. Do institutional investors drive corporate social responsibility? International evidence. *J. Financ. Econ.* **2019**, *131*, 693–714. [CrossRef]

57. Tirole, J. *The Theory of Corporate Finance*; Princeton University Press: Princeton, NJ, USA, 2010.

58. Edwards, J.; Fischer, K. *Banks, Finance and Investment in Germany*; Cambridge University Press: Cambridge, UK, 1996.

59. Baums, T. *Universal Banks and Investment Companies in Germany*; Inst. für Handels-und Wirtschaftsrecht: Kiel, Germany, 1995.

60. Kaplan, S.N.; Minton, B.A. Appointments of outsiders to Japanese boards: Determinants and implications for managers. *J. Financ. Econ.* **1994**, *36*, 225–258. [CrossRef]

61. Ramseyer, J.M. *Explicit Reasons for Implicit Contracts: The Legal Logic to the Japanese Main Bank System*; Coase-Sandor Institute for Law & Economics Working Paper No. 17; University of Chicago Law School: Chicago, IL, USA, 1993; Available online: https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?referer=https://scholar.google.com/&httpsredir=1&article=1203&context=law_and_economics (accessed on 1 October 2020).

62. Aaron Chatterji, R.D.; Levine, D.; Touboul, S. *Do Ratings of Firms Converge? Implications for Strategy Research*; Institute for Research on Labor and Employment Working Paper No. 107–14; UC Berkeley: Berkeley, CA, USA, 2014; Available online: https://escholarship.org/uc/item/21t0n6wg (accessed on 1 October 2020).

63. Ferrell, A.; Liang, H.; Renneboog, L. Socially responsible firms. *J. Financ. Econ.* **2016**, *122*, 585–606. [CrossRef]

64. Bharath, S.T.; Dahiya, S.; Saunders, A.; Srinivasan, A. Lending Relationships and Loan Contract Terms. *Rev. Financ. Stud.* **2011**, *24*, 1141–1203. [CrossRef]
65. Holmstrom, B.; Tirole, J. Financial Intermediation, Loanable Funds, and The Real Sector. *Q. J. Econ.* **1997**, *112*, 663–691. [CrossRef]
66. Sufi, A. Information Asymmetry and Financing Arrangements: Evidence from Syndicated Loans. *J. Financ.* **2007**, *62*, 629–668. [CrossRef]
67. Hoetker, G. The use of logit and probit models in strategic management research: Critical issues. *Strateg. Manag. J.* **2007**, *28*, 331–343. [CrossRef]
68. Veall, M.R.; Zimmermann, K.F. Pseudo-R2 measures for some common limited dependent variable models. *J. Econ. Surv.* **1996**, *10*, 241–259. [CrossRef]
69. Lemmon, M.; Roberts, M.R. The Response of Corporate Financing and Investment to Changes in the Supply of Credit. *J. Financ. Quant. Anal.* **2010**, *45*, 555–587. [CrossRef]
70. Rosenbaum, P.R. Overt bias in observational studies. In *Observational Studies*; Springer: New York, NY, USA, 2002; pp. 71–104.
71. Dass, N.; Massa, M. The Impact of a Strong Bank-Firm Relationship on the Borrowing Firm. *Rev. Financ. Stud.* **2011**, *24*, 1204–1260. [CrossRef]
72. Berger, A.N.; Miller, N.H.; Petersen, M.A.; Rajan, R.G.; Stein, J.C. Does function follow organizational form? Evidence from the lending practices of large and small banks. *J. Financ. Econ.* **2005**, *76*, 237–269. [CrossRef]
73. Baiocchi, M.; Small, D.S.; Lorch, S.; Rosenbaum, P.R. Building a Stronger Instrument in an Observational Study of Perinatal Care for Premature Infants. *J. Am. Stat. Assoc.* **2010**, *105*, 1285–1296. [CrossRef]
74. Smith, N.C.; Soonieus, R. How Board Members Really Feel About ESG, from Deniers to True Believers. *Havard Business Review*. Available online: https://hbr.org/2019/04/how-board-members-really-feel-about-esg-from-deniers-to-true-believers (accessed on 1 October 2020).
75. Miller, S.R.; Eden, L.; Li, D. CSR Reputation and Firm Performance: A Dynamic Approach. *J. Bus. Ethics* **2020**, *163*, 619–636. [CrossRef]
76. Adams, R.B.; Hermalin, B.E.; Weisbach, M.S. The Role of Boards of Directors in Corporate Governance: A Conceptual Framework and Survey. *J. Econ. Lit.* **2010**, *48*, 58–107. [CrossRef]
77. Hermalin, B.E.; Weisbach, M.S. The Determinants of Board Composition. *Rand J. Econ.* **1988**, *19*, 589–606. [CrossRef]
78. Altman, E.I. Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy. *J. Financ.* **1968**, *23*, 589–609. [CrossRef]
79. Heckman, J.J. Sample Selection Bias as a Specification Error. *Econometrica* **1979**, *47*, 153–161. [CrossRef]
80. Ferreira, M.A.; Matos, P. Universal Banks and Corporate Control: Evidence from the Global Syndicated Loan Market. *Rev. Financ. Stud.* **2012**, *25*, 2703–2744. [CrossRef]
81. Santos, J.A.C.; Rumble, A.S. The American keiretsu and universal banks: Investing, voting and sitting on nonfinancials' corporate boards. *J. Financ. Econ.* **2006**, *80*, 419–454. [CrossRef]
82. Engelberg, J.; Gao, P.; Parsons, C.A. Friends with money. *J. Financ. Econ.* **2012**, *103*, 169–188. [CrossRef]
83. Kai, L.; Prabhala, N.R. Chapter 2—Self-Selection Models in Corporate Finance. In *Handbook of Empirical Corporate Finance*; Eckbo, B.E., Ed.; Elsevier: San Diego, CA, USA, 2007; pp. 37–86.
84. Anderson, R.C.; Reeb, D.M.; Upadhyay, A.; Zhao, W. The Economics of Director Heterogeneity. *Financ. Manag.* **2011**, *40*, 5–38. [CrossRef]
85. Kitzmueller, M.; Shimshack, J. Economic Perspectives on Corporate Social Responsibility. *J. Econ. Lit.* **2012**, *50*, 51–84. [CrossRef]
86. Lins, K.V.; Servaes, H.; Tamayo, A. Social Capital, Trust, and Firm Performance: The Value of Corporate Social Responsibility during the Financial Crisis. *J. Financ.* **2017**, *72*, 1785–1824. [CrossRef]
87. La Porta, R.; Lopez-De-Silanes, F.; Shleifer, A. Corporate Ownership around the World. *J. Financ.* **1999**, *54*, 471–517. [CrossRef]