The Dark side of Independent Boards, the Case of Corporate Social Responsibility*

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Abstract

Independent boards have been documented to have a positive effect on corporate governance, however, I show that independent boards improve shareholder value at the cost of sacrificing corporate social responsibility (CSR). Specifically, I find that stakeholders such as employees and consumers' interest have been compromised as a result of board myopia. This result is even stronger among firms in industries with intense product market competition, and among firms with more analysts followed. My result also suggests that negative corporate social behavior may not be fully priced by investors.

1 Introduction

Board of directors have important roles in terms of reducing agency cost, preserving shareholder values, and promoting innovation. The role of independent boards, have also been deemed to be extremely important because it increases operational transparency and reduces C-suite's entrenchment, over-compensation, and likelihood of committing accounting fraud. Independent boards also make the managerial decision making process more favorable to the shareholders. However, in this paper, I show that there could be a dark side of independent boards. The improvement in shareholder value can come at the cost of sacrificing stakeholder's interest, such as the interests of employees and consumers.

I investigate the effect of board independence on different aspects of the corporate social responsibility. Using the Sarbanes-Oxley Act (SOX) as a plausible exogenous shock for identification, I show that when firms transit to a board structure where the majority of the board members are independent members, product deficit and consumer fraud increases. The probability that workers suffer from injuries, as well as the likelihood that the franchise will suffer from major controversies also increases.

It is well documented that independent board members usually help to improve shareholder value. This fact may help to explain why independent boards can lead to a deterioration of corporate social responsibility score. Cotter et al. (1997) show that independent boards increase shareholder by increasing the takeover premium in a tender offer. Knyazeva et al. (2013) also show that independent boards increases shareholder value. However, Faleye et al. (2011) show that independent boards and intensive monitoring increase shareholder value at the cost of increasing managerial myopia, which is consistent with the results in this paper. If poor corporate social behavior increases a company's bottom line and the overall valuation of a firm, an independent board that favor the interest of shareholders will boost company performance at the cost of stakeholders.

A majority of literature has also shown that investors do not fully take corporate social actions into consideration when valuing a firm. Deng et al. (2013) show the stock market does not fully value the benefits of CSR immediately. Di Giuli and Kostovetsky (2014) suggest that any benefits to stakeholders from socially responsible corporate decisions come at the direct expense of firm value. Therefore, it is entirely likely that the independent boards favor corporate decisions that sacrifice stakeholders' interest for shareholders, if investors do not fully price the influence of poor corporate social decisions.

While I show that switching to independent boards lead to decrease in social corporate responsibility score in the overall sample, it is reasonable to believe that this result is especially strong if the product market competition is very intense. When there is less prod-

uct market competition, firms can easily increase profit without jeopardizing the interest of stakeholders. While the market competition is intense, there is not much the firms can do to increase the profit without sacrificing the interest of stakeholders. I show that this hypothesis indeed verified in the data. As product market competition increases, it is more likely that firms earn lower corporate social responsibility score, especially for CSR concern regarding the product market.

Moreover, if more analysts are following a firm, they also give the board more pressure to produce better financial outcome. This pressure is likely to lead to board myopia, as documented in He and Tian (2013). He and Tian (2013) find that more analyst pressure lead to less innovation. Therefore, it is reasonable to believe that when there is an abnormal amount of analyst following a firm, the board is highly likely to have lower CSR score. I find evidence that is consistent with this hypothesis. When firms switch to independent board and they have high pressure from equity analysts, their CSR scores are likely to decrease.

To further verify the mechanism that independent boards transfer stakeholders' interest to shareholders. I investigate whether cost of good sold or COGS, has been decreased after firms switch to a majority independent board structure. Less COGS means less overhead per product, which translate to less production cost per product. The production cost includes labor cost and material cost. Therefore, one the one hand, less COGS can suggest less labor benefit and higher product deficits, it can also suggest improvement in production efficiency on the other hand. Rose (1990) and Dionne et al. (1997) show that the airline industry safety is related COGS. I show that the COGS to asset ratio has decreased after firms switch to independent board. This evidence suggests that decrease in cost of good sold is a potential channel that lead to decrease in CSR score.

I also explore several alternative explanations. Chen et al. (2020) show that when less institutional investors purchase a stock, its corporate social responsibility level is likely to deteriorate. However, I show that the shift to independent board increases institutional investors level. Cohn and Wardlaw (2016) show that workers' health and safety are usually negatively correlated with a firm's leverage level positively correlated with a firm's cash level. So I examine whether shifting to independent boards make a firm increases it leverage while decreasing its cash holding. However, I don't find evidence that shift to independent board is correlated with higher level of leverage or lower level of cash.

This paper contributes to the literature in several ways. First, this paper is related to the literature on corporate social responsibility. Krüger (2015) show that investors do not necessarily react positively to socially beneficial corporate decisions, due to potential agency problem. Riedl and Smeets (2017) find that socially responsible mutual fund actually underperforms, suggesting that when investors hold socially responsible fund, they give up

financial performance for social preference. Cronqvist and Yu (2017) find that when a firm's chief executive officer (CEO) has a daughter, the corporate social responsibility rating (CSR) is about 9.1% higher. Lins et al. (2017) shows that firms are better protected during financial crisis if they have higher CSR score. Hartzmark and Sussman (2019) show that non-pecuniary motive is the main driver of ESG investment. Dai et al. (2020) find that customers exert influence on suppliers' CSR through positive assortative matching and their decision-making process. Both Dyck et al. (2019) and Chen et al. (2020) find that institutional investors increase portfolio companies' CSR performance.

This paper is also related to the literature regarding board structure and firm decision making process. Duchin et al. (2010) show that the effectiveness of outside board members vary with the cost of acquiring information. Nguyen and Nielsen (2010) show that stock market react very negatively after the death of independent boards. Beltratti and Stulz (2012) show that banks with shareholder-friendly board are more likely to suffer from large loss during the financial crisis. Harjoto et al. (2015) show that more women on board leads to higher CSR score. Hyun et al. (2016) find that when the board has more diversity, a firm has higher CSR score. Ahmad et al. (2017) show that the the relationship between board independence and corporate social responsibility is industry specific in Malaysia. Balsmeier et al. (2017) shows independent boards increases patent citation number in more mature technology, but less citation in more risky technology. Bansal et al. (2018) shows that family ownership has a role in terms of the relationship between board and corporate social responsibility. Masulis and Zhang (2019) show that board members have limited attention and they are crucial to shareholder value. Closely related to this paper, Shive and Forster (2020) find that larger board size is associated with higher toxic emission level. My paper contributes to the literature by showing that an independent board that favors shareholders achieve the goal of benefiting shareholders by sacrificing the interest of its stakeholders.

The rest of the paper is organized as followed. In chapter 2 I discuss the potential casual link between board independence and corporate social responsibility. In Chapter 3 I discuss the data that I will be using in this paper. In Chapter 4 I conduct the main empirical analysis and show that switching to independent board lowers the corporate social responsibility score. In Chapter 5 I discuss the product market competition and analyst pressure's effect on CSR score through boards. In Chapter 6 I explore other potential mechanism why board independence can cause lower CSR score. In Chapter 7 I conduct additional robustness check for the main result, and in Chapter 8 I conclude the paper.

2 Board structure and corporate social responsibility

The board structure has a profound effect on the managerial decision making process. The composition of the board, the size of the board and other aspects of the board could all have potential effects on corporate decisions, and thus corporate performance. There is also not a definitive answer to what kind of board structure and number is optimal. For example, in Coles et al. (2008), the authors find that for more complex firm, Tobin's Q increases with the number of board members while for less complex firm, Tobin's Q decreases with the number of board members. A large literature[1], however, agrees that independent board structure is more optimal and beneficial for shareholder value. In this paper, I focus on the effect of independent board on corporate social responsibility.

To study the potential link between independent board and corporate social responsibility, I use the exogenous variation of board structure induced by the Sarbanes-Oxley Act. The Sarbanes-Oxley Act of 2002 is an active response to the corporate accounting scandal such as the Enron scandal and the WorldCom scandal. These corporate scandals cost investors billions of dollar and therefore the need for outside monitoring and a more independent board structure became obvious. The SOX Act enforces rules which includes enhancing the white collar crime penalty, increasing corporate fraud accountability, increasing auditor independence, and most relevant for this paper, requiring public trading firms to have a majority of independent board members on a firm's board and on the auditing, compensation, and nomination subcommittee[2].

While SOX promotes corporate responsibility to shareholders, the concept of corporate responsibility is not the same as corporate social responsibility to stakeholders. Promoting corporate social responsibility means responsible corporate actions to employees, consumers, and the society in general, while corporate responsibility simply stress the importance of being responsible to shareholders. Chen et al. (2020) shows that the selling, general and administrative expenses, or SG&A are positively correlated with corporate social responsibility scores. This result suggests that socially responsible corporate decisions can represents a significant cost to shareholders. Therefore, it is reasonable to believe that independent boards would push for corporate decisions that benefit the shareholders at the cost of stakeholders.

[1] See Nguyen and Nielsen (2010), Balsmeier et al. (2017), and Masulis and Zhang (2019) for example.

[2] As detail documented in Balsmeier et al. (2017), both the Nasdaq and New York stock exchanges required firms to have the majority of board members to be independent board members. New York Stock Exchange requires compensation and nomination committees to be consisted of 100% independent board members. Nasdaq requires compensation and nomination committees to be consisted of more than 50% independent board members.

3 Data

The data set I use for my study is from Institutional Shareholder Services database (IRRC) and MSCI ESG KLD database (KLD), as well as the 13-F filing from the Thomson Reuters Institutional Holding database. The KLD data covers information regarding several categories of social corporate responsibility score at firm level, which includes employee relations, environment impact, product quality, workforce diversity and corporate governance. A firm is given "Strengths" and "Concerns" point for each good or bad policy the firm does.

In this paper, I use the KLD rating scores for 4 dimensions: Community (Com), Employee relations (Emp), Environment (Env), and product (Pro). I exclude corporate governance and management diversity, because they have been extensively studied in other paper[3]. The final CSR scores for each firms are calculated from 36 different categories in the four dimensions. The KLD rating sample period is from 1996 to 2006. I sum the total number of strengths to calculate the total Strengths score and sum of total Weakness score. Then I calculate the total score by subtracting Concern scores from Strength scores to obtain an overall KLD score for each firm.

The IRRC covers comprehensive information of the board. It includes the name, gender, ethnicity, primary employer, primary title of the board member. The dataset also includes the compensation, nomination and audit subcommittee membership information. Last but not least, the dataset covers whether the board member is a current employee of the firm and to what extent is related to the firm, allows me to identify whether the board member is an independent board member or not.

After I merge the KLD dataset with the IRRC dataset, I also combine and produce firm characteristics form the Compustat data and the Thomson Reuters Institutional Holding database. I obtain the following variables. Size is the natural logarithm of market equity. BEME is the total book value of the assets divided by the total market value of the firm. Total is the total number of board members on a firm's board. ILLIQ is the Amihud illiquidity measure as calculated in Amihud (2002).

For independent variables other than corporate social responsibility score, I also include COGS, Leverage, Cash, and IO. COGS is the total cost of the materials and labor directly used to create the good divided by the total asset. Leverage is the amount of long term debt divided by total asset. IO is the percentage of institutional ownership divided by total share outstanding. Cash is the total amount of cash and cash equivalent divided by the total amount of asset.

[3]See Sarkar and Sarkar (2004), Gupta and Fields (2009), Duchin et al. (2010), and Nguyen and Nielsen (2010) for example.

4 Empirical analysis

4.1 Identification strategy

The identification strategy of this paper relies on regulatory change that has been similarly used in Balsmeier et al. (2017) and Duchin et al. (2010). I use the Sarbanes-Oxley Act (SOX) as a plausible exogenous shock to board structure. The regulatory change induced board structure change for a set of more than hundreds of firms. The identification of the casual relationship between board independence and corporate social responsibility scores comes from the comparison between control group firms that already have more than 50% independent board members before the SOX Act and treatment group firms that switch to the majority independent board structure after the 2001 SOX Act.

In order to establish the comparability between the treatment and the control group, I estimate all my models based on a matched sample, where the treatment and the control group of firms are comparable in terms of observable characteristics before 2002. The methodology I am using is propensity score kernel matching with a Gaussian kernel, and I drop firms with weight less than 0.2 from the propensity score matching model.[4] I match the treatment and the control group based on the following firm characteristics. Size, is the natural logarithm of market equity. BEME is the total book value of the assets divided by the total market value of the firm. Total is the total number of board members on a firm's board. ILLIQ is the Amihud illiquidity measure as calculated in Amihud (2002). In the robustness check, I also test one to one matching, as well as non-matching at all, the overall results remains largely the same in one to one matching, and become slightly stronger in in the non-matching sample.[5] These evidence suggests that the main results to highly robust to different matching techniques and matching variables.

Table one provides summary statistics for the treatment group and the control group. The treatment group consists of 139 firms while the control group consists of 397 firms. The mean difference is insignificant for all four characteristics, SIZE, BEME, Total, and ILLIQ. Before the matching, the main difference between the treatment and the control group comes from the Book to market ratio. The treatment group has slightly higher book to market ratio than the control group. However, this difference does not seem to affect CSR score even in the whole sample, as there is no significant correlation between book to market ratio and corporate social responsibility score. In Figure 1, I also show the sample satisfy the parallel

[4]The methodology of the kernel matching has been documented and used in Heckman et al. (1997), Heckman et al. (1998), Heckman et al. (1999), and Abadie and Imbens (2006).

[5]In the unreported table, I also match the treatment and control group based on firm variables such as firm age, total asset, R&D level, and Capex level. The overall results remain the same.

trend assumption, treatment and control group show similar trends in the dependent variable in the absence of treatment.

4.2 Methodology

I use the following OLS regression to measure the casual relationship between board independence and corporate social responsibility score.

$$CSR_{i,t+1} = \beta_0 + \beta_1 \cdot \text{ independentboard}_{it} + \gamma \cdot Z_{it} + \theta_t + \alpha_i + \epsilon_{it} \quad (1)$$

β_1 captures the effect of board independence on corporate social responsibility by the affected firms. $Z_{i,t}$ is a vector of firm characteristics, such as SIZE, Book to Market, ILLIQ, Total. θ_t is the year fixed effects. α_i is the firm fixed effects that control for any un-observable firm heterogeneity that is time-invariant. In an alternative regression, I also use $CSR_{i,t+3}$, or CSR score three years after the treatment year in my regression. This Diff-in-Diff model is similar to the one being used in Balsmeier et al. (2017).

In Table 2, I show that independent board strongly and negatively affect corporate social responsibility score in terms of product market credibility, and CSR performance in terms of employment condition both in the short term and long term. Switching to independent board does not affect environmental CSR performance and community CSR score. It should not come at as a surprise that the easiest way to cut cost and make shareholders happy is through cutting the benefit of employees and reduce the overhead cost of the product. While polluting the environment may also help to save cost and boost the bottom line, high penalty of pollution may deter firms from doing bad deed that lower the CSR environment score. For community CSR score, the KLD mainly score firms based on charity giving. While benefiting the shareholders is a essential duty of the board, giving to charity may be a more salient way to offset the negative effect of hurting employees and consumers.

For the control variables, smaller firms are correlated with higher CSR product market ratings, and higher CSR employment performance rating. Book to market ratio affect the four sub-items of CSR scores differently. The ILLIQ measure is un-correlated with CSR score. The Total variable, or the total number of board member is highly positively correlated with CSR scores of product market, community, and employment. This result suggests that although independent board members may harm stakeholder's interest holding the size of the board fixed, a larger board always improve corporate social responsibility score. Consistent with Cheng (2008), the potential channel could be that the a larger board means more difficult for the board to reach consensus, thereby reduce the extreme actions that could be conducted by a firm. While corporate actions that could potentially increase and decrease

CSR scores are both reduced, since there is more variability for bad corporate CSR actions than good corporate CSR actions, the overall effect is an increase in CSR score associated with larger board size.

In both Table 3 and Table 4, I show that independent boards negatively affect product market quality and employment condition mainly through CSR concern instead of CSR strength of the firms. Strength measures the good deed of the firms when weakness measures the bad deed that the firms have committed. These two tables show that after firms switch to independent boards, they perform as well as the control group in terms of the good deed section of the corporate social responsibility score, but perform much worse in terms of bad deed.

Therefore, it seems natural to investigate what's the exact CSR item that the treatment group was weak in. In Table 5, I show that independent board negatively affect product safety, consumer advertisement credibility and product pricing behavior. Among these CSR items, consumer advertisement fraud is the major controversy that cause the CSR score to be lower in companies with independent boards. Advertisement fraud is a cheap and quick way to boost sales and increase a firm's bottom line.

In Table 6, Health and safety concern is a major for CSR score concerning employment, combining with Table 5, we show that independent boards may help the shareholder boost their shareholder value at the cost of sacrificing corporate social responsibility score. This could work conditional on the fact that investors do not fully price the weak corporate social responsibility behavior.

5 Product market and equity analyst pressure

In McManus and Schaur (2016), the authors show that when there is more competition coming from abroad, worker's health condition is more likely to be compromised. In a monopoly market, it is reasonable to assume that the company can increase profit without jeopardizing corporate social responsibility because when company have more market power, they can more easily earn higher profit from consumers without fraud. Therefore, I hypothesize that the effect of corporate social responsibility should be more pronounced in the high competitiveness subsample. I measure industry competitiveness using the Herfindahl-Hirschman Index, or the HHI index. Then I sort the whole sample into two subsamples, high competitiveness subsample and low competitiveness subsample based on the median HHI index cutoff. For industry classification, I map the SIC code into the Fama-French 48 industry classification.

The result is being presented in Table 7, it is clear that the result is more pronounced

in the highly competitive industry. The point estimate difference between less and more competitiveness industry is economically large and significant. This evidence supports the hypothesis that the negative effect of independent board on CSR score is more pronounced in the high competitiveness subsample.

Another perspective to check to further support my main result is how intensively analysts are following a firm. If analysts intensively follow a subset of firms and shareholders are provided with lot of information based only on financial analysis of these firms, it is likely that the independent board members are more pressured to push for corporate policy that benefit the shareholder instead of the stakeholders. He and Tian (2013) show that analyst pressure leads to less innovation because the company has more pressure to produce short-term profits. Therefore, I hypothesize that the effect of corporate social responsibility should be more pronounced in the subsample of firms which they are intensively followed by equity analysts.

A straightforward way to sort firms based on the intensity of analyst following may be to simply sort firms based on the number of analysts that follow a particular firm. However, the size or total market capitalization of a firm is usually highly correlated with the number of analysts that are following a firm. Therefore, I regress the number of analysts that follow a firm on the logarithmic total market capitalization of a firm, and define the residual from this regression to be the abnormal number of analysts that are following a firm. Then, I sort all firms into two subsamples based the median abnormal number of analysts cutoff. In Table 8, I show that firms with high abnormal analyst followed suffer from more product deficits, while firms with low abnormal analyst followed did not suffer from low CSR score in terms of product market concern.

In the unreported table, I also test product market pressure and analyst pressure's influence on CSR regarding employment, it seems high product market pressure and analyst pressure does not have an interaction effect with independent board in terms of determining CSR scores.

6 Potential mechanism

In this section, I explore potential mechanisms that can cause independent board to sacrifice stakeholder's interest for shareholder's interest. Cohn and Wardlaw (2016) show that for CSR concern related to the employment, higher leverage and less cash holding can be a major cause of deteriorated employment condition. Therefore, I test that whether switching to independent board will lead to higher leverage and less cash holding. Moreover, it has been documented in Chen et al. (2020) and Dyck et al. (2019) that institutional shareholding

can have a significant impact on corporate social responsibility, therefore, I also test whether independent boards leads to higher institutional holding. Last but not least, I also check the impact of independent boards on cost of good sold, or COGS. According to Rose (1990) and Dionne et al. (1997), less overhead to product means lower product quality and less labor salary, and higher probability of airline safety concern.

In Table 9, I show the result that switching to independent board does not lead to significant change in leverage, suggesting that the finding in this paper works through a different channel. Switching to independent board leads to increase in institutional ownership, as well as cash holding. However, higher institutional ownership and cash holding level should lead to an increase in CSR score, not a decrease. Therefore, these mechanisms does not explain the results in this paper. Switching to independent board does lead to a decrease in COGS level. This evidence suggests that decrease in cost of good sold is a potential channel that lead to decrease in CSR score for product market and employment condition.

7 Robustness Check

In Table 10, I conduct the robustness check to show that the baseline results hold in the full sample without matching. Then, I also use one-to-one matching to see if the baseline results hold. One-to-one matching applies a similar matching techniques as the sample used in the main regression specification (1) but also force the number of firms in the control group to equal to the number of firms in the treatment group. Table 11 shows the baseline results remain unchanged. In Table 12, I change the identification condition. Now I impose a stricter definition of independent board where the firm's three sub-committees, compensation committee, auditing committee, and the nomination committee also needs majority in independent board members in order to be qualified as treatment firm. I use the main regression specification (1) and the baseline result also remain unchanged.

In Table 13, I also test if other governance mechanism could potentially explain our main result. The other governance mechanism I test are Classified Board, Anti-greenmail, Poison Pill, Cumulative Voting, and Governance Index. Classified Board equals one if not all board of directors can be re-elected at once. Anti-greenmail equals one if the firm has a provision is a special clause in a firm's corporate charter that prevents the board of directors from approving greenmail payments. Poison Pill equals to one if the firm has a shareholder rights plan. Cumulative Voting equals to one if the firm allows for cumulative voting mechanism, which is is a voting system used by organizations that allow shareholders to vote proportionately to the number of shares they hold. Governance Index is the governance index developed by Gompers et al. (2003). The results show that these mechanisms does not affect

our main results.

I also use an instrumental variable model as in Knyazeva et al. (2013) to further verify the baseline results. In the first stage, I use variation in the number of firms within 100 km of a firm's headquarter and other controls to predict the percentage of independent board members of a firm. Knyazeva et al. (2013) show that the number of firms near the headquarter of a company is a good proxy for the availability of potential independent directors for the company. Then in the second-stage regressions, I examine the effects of independent board on corporate social responsibility score. In Table 14, I show that the baseline result remains unchanged, the independent board leads to lower CSR scores in concern of employment and the concern of the product quality.

8 Conclusion

In this paper, I document that when firms switch to independent boards, it has the surprising effect of lowering the firm's corporate social responsibility score. This effect has been at odd with the common perception that independent board structure usually improves the corporate governance of a firm. My result suggests that independent board members value the responsibility to shareholder more than the responsibility to stakeholders. In a world where shareholders fully internalize the interest of stakeholders, it is likely that we would observe a different result. The overall atmosphere and attitude toward ESG has dramatically shifted over the last 5 years. It is possible that board members in the recent years are more likely to cater to the interest of the new generation of socially responsible shareholders by pushing for policies that favor stakeholders such as the employees and the customers. More research awaits to be done regarding the relationship between the board and corporate social responsibility.

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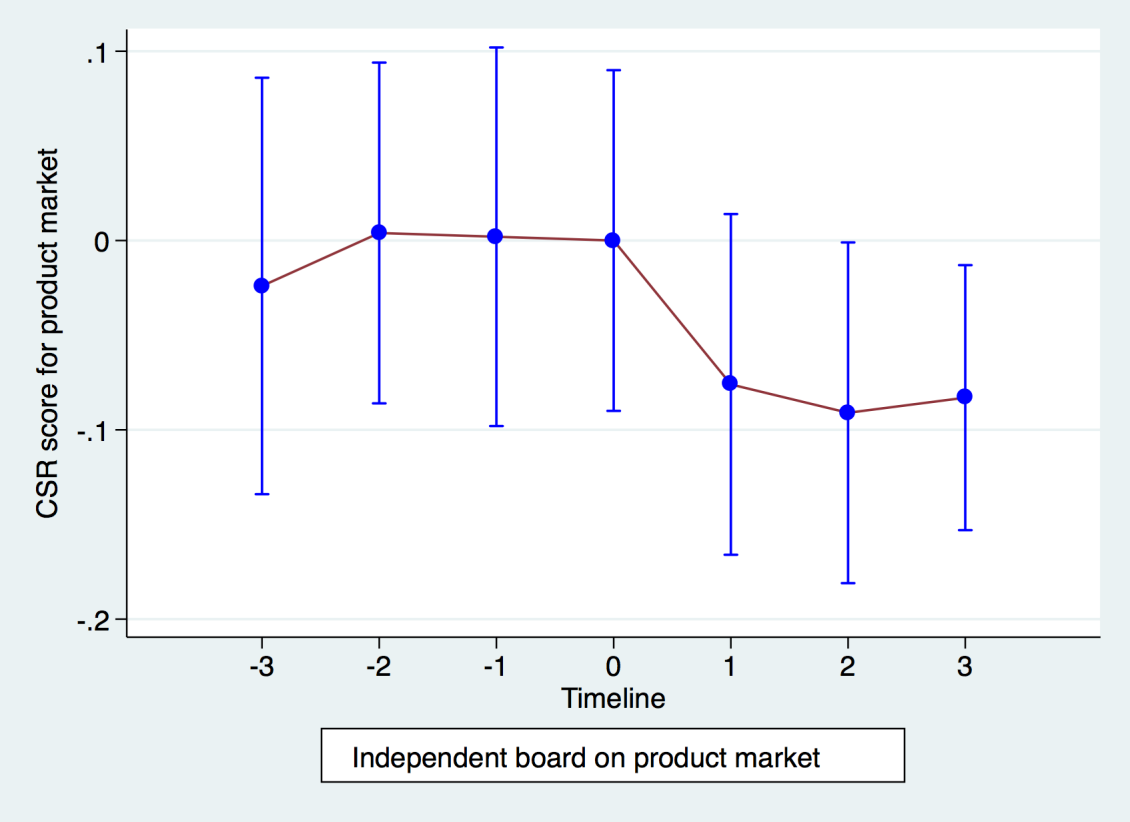
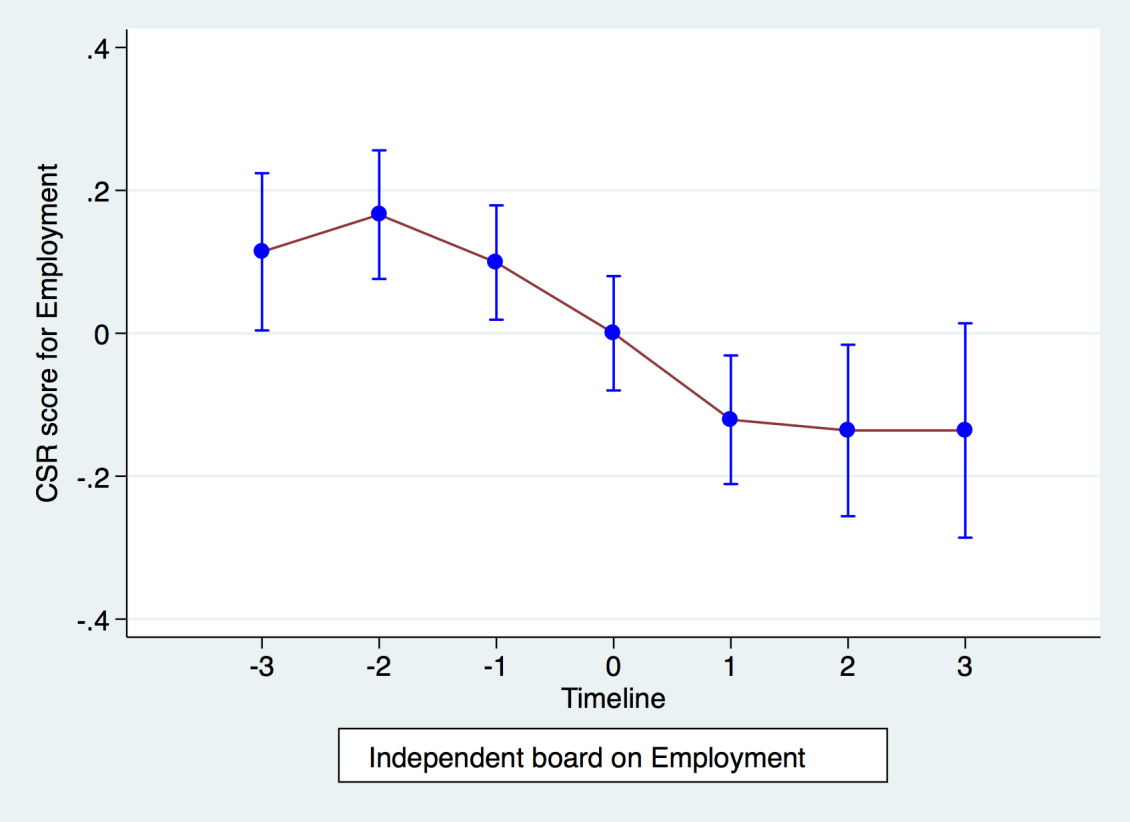
Figure 1: Independent boards and CSR product market performance score



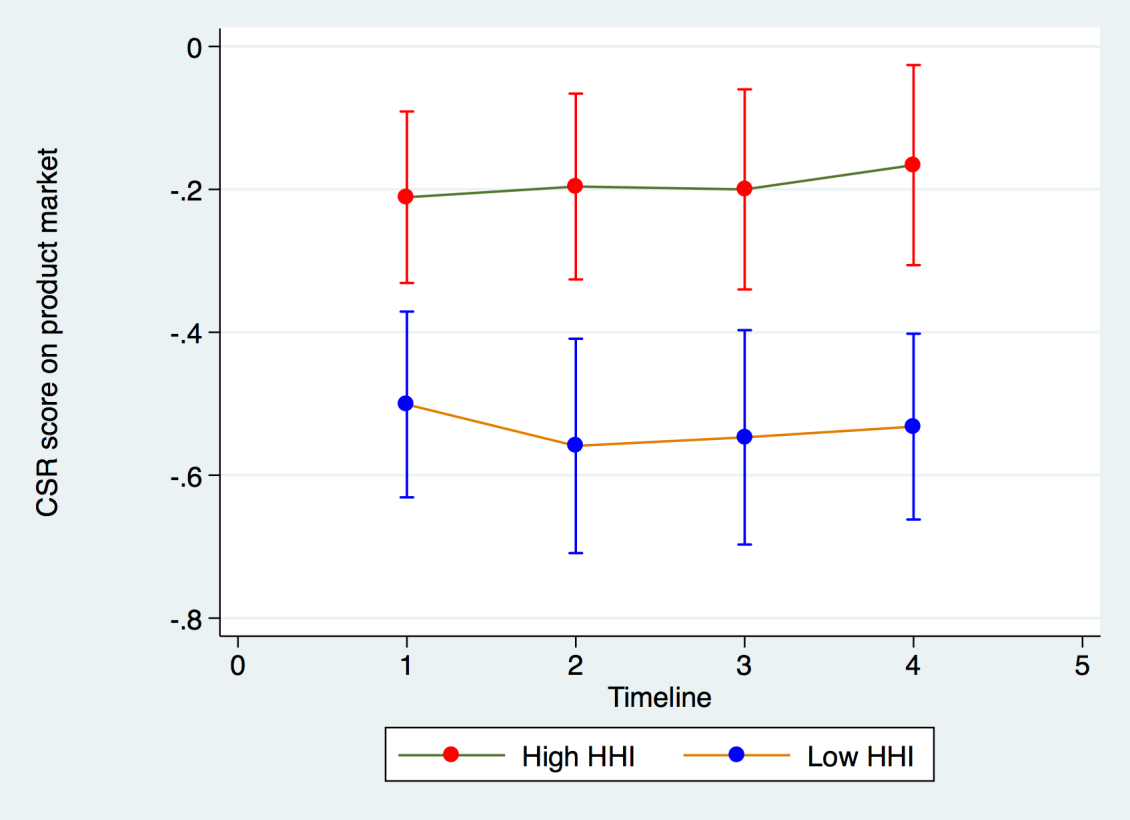
Estimates of the coefficients a change in board independence on CSR product market performance score over time. For the graphs we defined dummy variables for the time firms changed from a minority of independent board members to an independent board. t_0 indicates the year of the switch and serves as the reference category.t_{n-1} indicate the years before the switch, and t_{n+1} the corresponding years after the switch.

Figure 2: Independent boards and CSR employment performance score



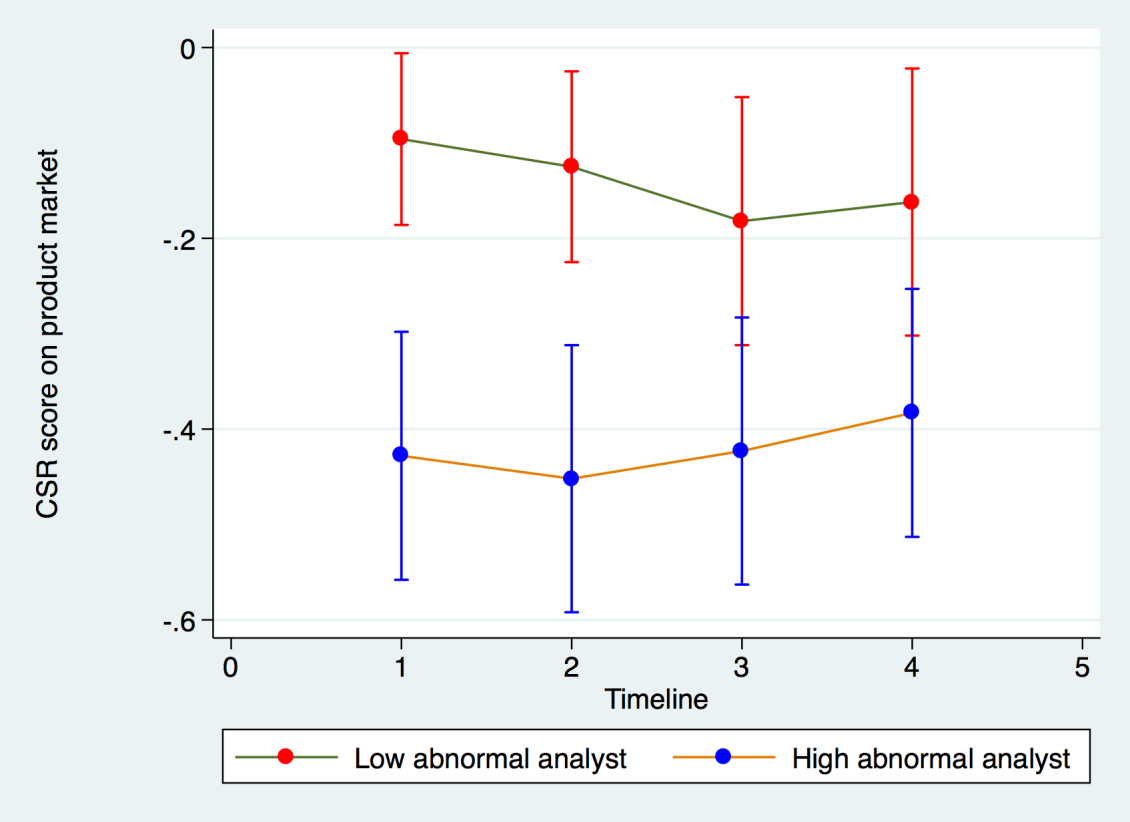
Estimates of the coefficients a change in board independence on CSR employment performance score over time. For the graphs we defined dummy variables for the time firms changed from a minority of independent board members to an independent board. t_0 indicates the year of the switch and serves as the reference category.t_{n-1} indicate the years before the switch, and t_{n+1} the corresponding years after the switch.

Figure 3: Independent boards and CSR product score for firms in high HHI industries vs. firms in low HHI industries



Estimates of the coefficients a change in board independence on CSR product market performance score over time for both the High HHI subsample and low HHI subsample. For the graphs we defined dummy variables for the time firms changed from a minority of independent board members to an independent board. t_0 indicates the year of the switch and serves as the reference category.t_{n-1} indicate the years before the switch, and t_{n+1} the corresponding years after the switch.

Figure 4: Independent boards and CSR product score for high abnormal analyst followed firms vs. low abnormal analyst followed firms



Estimates of the coefficients a change in board independence on CSR product score over time for both the high abnormal analyst followed vs. low abnormal analyst followed subsamples. For the graphs we defined dummy variables for the time firms changed from a minority of independent board members to an independent board. t_0 indicates the year of the switch and serves as the reference category.t_{n-1} indicate the years before the switch, and t_{n+1} the corresponding years after the switch.

Table 1: Summary Statistics

This table presents mean values of the independent variables used in the Table 2 over the period 1996–2016, and t-statistics for differences in means across the treatment group and the control group. All independent variables are measured at the end of the prior fiscal year. Size is the natural logarithm of market equity. BEME is the total book value of the assets divided by the total market value of the firm. Total is the total number of board members on a firm's board. ILLIQ is the Amihud illiquidity measure as in Amihud (2002). T_mean is the mean value of the characteristic for the treatment group. T_N is the number of observations in the treatment group. C_mean is the mean value of the characteristic for the control group. C_N is the number of observations in the control group. mean_difference is the difference between the mean of the treatment and the control group.

	T_mean	T_N	C_mean	C_N	mean_difference	T-statistics
SIZE	22.24834	139	22.21556	397	-.0327777	(-0.23)
BEME	.3622469	139	.3316782	397	-.0305687	(-1.24)
Total	9.870504	139	9.874055	397	.0035518	(0.01)
ILLIQ	1.38e-08	139	7.67e-09	397	-6.11e-09	(-1.16)

Table 2: Independent Board and CSR performance

Estimates of the coefficient β_1 and standard error (in parentheses) in a panel regression where β_1 captures the effect of board independence on corporate social responsibility by the affected firms.

$$CSR_{i,t+n} = \beta_0 + \beta_1 \cdot \text{ independentboard}_{it} + \gamma \cdot Z_{it} + \theta_t + \alpha_i + \epsilon_{it} \quad (2)$$

$Z_{i,t}$ is a vector of firm characteristics, such as SIZE, Book to Market, ILLIQ, Total. θ_t is the year fixed effects. α_i is the firm fixed effects that control for any un-observable firm heterogeneity that is time-invariant. This Diff-in-Diff model is similar to the one being used in Balsmeier et al. (2017). Standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1) PRO n=1 b/se	(2) ENV n=1 b/se	(3) COM n=1 b/se	(4) EMP n=1 b/se	(5) PRO n=3 b/se	(6) ENV n=3 b/se	(7) COM n=3 b/se	(8) EMP n=3 b/se
board	-0.347***	0.006	0.012	-0.188**	-0.358***	0.066	0.108	-0.216*
	(0.09)	(0.06)	(0.06)	(0.08)	(0.10)	(0.09)	(0.07)	(0.11)
SIZE	-0.089***	-0.017	0.021	-0.034	-0.133***	0.043	0.024	-0.124**
	(0.03)	(0.03)	(0.02)	(0.04)	(0.03)	(0.03)	(0.03)	(0.05)
BEME	-0.025	0.102*	0.180***	-0.250*	-0.154**	0.019	0.042	-0.116
	(0.07)	(0.06)	(0.06)	(0.13)	(0.08)	(0.08)	(0.06)	(0.14)
Total	0.029***	-0.007	0.020**	0.056***	0.022*	0.004	0.032***	0.044***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
ILLIQ	0.019	-0.068	-0.091	0.034	0.166	0.247	0.266	0.002
	(0.06)	(0.36)	(0.19)	(0.13)	(0.16)	(0.34)	(0.87)	(0.15)
Constant	1.525**	0.329	-0.528	0.474	2.560***	-1.085	-0.681	2.484**
	(0.60)	(0.62)	(0.54)	(0.94)	(0.69)	(0.80)	(0.61)	(1.12)
R-squared	0.041	0.002	0.008	0.015	0.049	0.002	0.012	0.014
N	3836	3836	3836	3836	3511	3511	3511	3511

Table 3: Independent Board and CSR product market performance

Estimates of the coefficient β_1 and standard error (in parentheses) in a panel regression where β_1 captures the effect of board independence on corporate social responsibility by the affected firms.

$$CSR_{i,t+n} = \beta_0 + \beta_1 \cdot \text{ independentboard}_{it} + \gamma \cdot Z_{it} + \theta_t + \alpha_i + \epsilon_{it} \tag{3}$$

$Z_{i,t}$ is a vector of firm characteristics, such as SIZE, Book to Market, ILLIQ, Total. θ_t is the year fixed effects. α_i is the firm fixed effects that control for any un-observable firm heterogeneity that is time-invariant. n equals one in the short term regression, and three in the long-term regression. Standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1) Short-term Strength b/se	(2) Long-term Strength b/se	(3) Short-term Weakness b/se	(4) Long-term Weakness b/se
board	-0.057	-0.076	-0.290***	-0.282***
	(0.04)	(0.05)	(0.07)	(0.08)
SIZE	0.003	0.013	-0.092***	-0.146***
	(0.01)	(0.01)	(0.02)	(0.03)
BEME	-0.023	-0.042	-0.002	-0.112
	(0.02)	(0.03)	(0.07)	(0.07)
Total	0.007*	0.007	0.022**	0.014
	(0.00)	(0.01)	(0.01)	(0.01)
ILLIQ	0.008	0.312	0/114	0.134
	(0.138)	(0.239)	(0.558)	(0.152)
Constant	0.061	-0.155	1.464***	2.718***
	(0.26)	(0.30)	(0.55)	(0.61)
R-squared	0.006	0.009	0.040	0.053
N	3836	3510	3836	3510

Table 4: Independent Board and CSR Employment performance

Estimates of the coefficient β_1 and standard error (in parentheses) in a panel regression where β_1 captures the effect of board independence on corporate social responsibility by the affected firms.

$$CSR_{i,t+n} = \beta_0 + \beta_1 \cdot \text{ independentboard}_{it} + \gamma \cdot Z_{it} + \theta_t + \alpha_i + \epsilon_{it} \tag{4}$$

$Z_{i,t}$ is a vector of firm characteristics, such as SIZE, Book to Market, ILLIQ, Total. θ_t is the year fixed effects. α_i is the firm fixed effects that control for any un-observable firm heterogeneity that is time-invariant. n equals one in the short term regression, and three in the long-term regression. Standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1) Short-term Strength b/se	(2) Long-term Strength b/se	(3) Short-term Weakness b/se	(4) Long-term Weakness b/se
board	0.051	0.042	-0.240***	-0.258***
	(0.05)	(0.07)	(0.06)	(0.09)
SIZE	0.113***	0.120***	-0.147***	-0.243***
	(0.03)	(0.04)	(0.03)	(0.04)
BEME	-0.042	-0.001	-0.208**	-0.116
	(0.07)	(0.08)	(0.09)	(0.11)
Total	0.017*	0.009	0.039***	0.035***
	(0.01)	(0.01)	(0.01)	(0.01)
ILLIQ	0.152	0.159	-0.118	-0.156
	(0.993)	(0.139)	(0.103)	(0.102)
Constant	-2.074***	-2.113**	2.548***	4.584***
	(0.67)	(0.86)	(0.67)	(0.83)
R-squared	0.016	0.013	0.036	0.057
N	3836	3510	3836	3510

Table 5: Short-term product market weakness: product safety, consumer fraud, predatory pricing, and controversies with franchise

Estimates of the coefficient β_1 and standard error (in parentheses) in a panel regression where β_1 captures the effect of board independence on corporate social responsibility by the affected firms.

$$CSR_{i,t+1} = \beta_0 + \beta_1 \cdot \text{ independentboard}_{it} + \gamma \cdot Z_{it} + \theta_t + \alpha_i + \epsilon_{it} \tag{5}$$

$Z_{i,t}$ is a vector of firm characteristics, such as SIZE, Book to Market, ILLIQ, Total. θ_t is the year fixed effects. α_i is the firm fixed effects that control for any un-observable firm heterogeneity that is time-invariant. Standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1) Product Safety Weakness b/se	(2) Consumer Fraud Weakness b/se	(3) Predatory Pricing Weakness b/se	(4) Controversial Franchise Weakness b/se
board	-0.044*	-0.138***	-0.072**	-0.033
	(0.02)	(0.04)	(0.03)	(0.03)
SIZE	-0.024**	-0.036**	-0.007	-0.023***
	(0.01)	(0.01)	(0.01)	(0.01)
BEME	-0.012	0.010	-0.009	0.012
	(0.02)	(0.05)	(0.03)	(0.02)
Total	0.004	0.003	0.008*	0.006
	(0.00)	(0.01)	(0.00)	(0.00)
ILLIQ	0.050	-0.031	0.007	-0.013
	(0.051)	(0.021)	(0.015)	(0.010)
Constant	0.413*	0.603*	0.003	0.392**
	(0.24)	(0.33)	(0.18)	(0.18)
R-squared	0.010	0.019	0.010	0.008
N	3836	3836	3836	3836

Table 6: Short-term employment weakness: Union Relations, Health and Safety Concern, workforce reduction, Other concern

Estimates of the coefficient β_1 and standard error (in parentheses) in a panel regression where β_1 captures the effect of board independence on corporate social responsibility by the affected firms.

$$CSR_{i,t+1} = \beta_0 + \beta_1 \cdot \text{ independentboard}_{it} + \gamma \cdot Z_{it} + \theta_t + \alpha_i + \epsilon_{it} \tag{6}$$

$Z_{i,t}$ is a vector of firm characteristics, such as SIZE, Book to Market, ILLIQ, Total. θ_t is the year fixed effects. α_i is the firm fixed effects that control for any un-observable firm heterogeneity that is time-invariant. Standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1) Union Relationship Weakness b/se	(2) Health and Safety Weakness b/se	(3) Workforce Reduction Weakness b/se	(4) Other concern Weakness b/se
board	-0.046*	-0.079***	0.003	-0.045*
	(0.02)	(0.03)	(0.02)	(0.03)
SIZE	-0.010	-0.083***	-0.008	-0.032***
	(0.01)	(0.01)	(0.01)	(0.01)
BEME	-0.035	-0.005	-0.012	-0.024
	(0.02)	(0.03)	(0.03)	(0.03)
Total	0.001	0.004	0.001	-0.007*
	(0.00)	(0.00)	(0.00)	(0.00)
ILLIQ	0.004	-0.022	-0.092	-0.014*
	(0.006)	(0.173)	(0.017)	(0.008)
Constant	0.197	1.747***	0.115	0.736***
	(0.17)	(0.26)	(0.26)	(0.24)
R-squared	0.010	0.035	0.000	0.012
N	3835	3836	3799	3836

Table 7: CSR Product Market performance in non-competitive vs. competitive industry

Estimates of the coefficient β_1 and standard error (in parentheses) in a panel regression where β_1 captures the effect of board independence on corporate social responsibility by the affected firms.

$$CSR_{i,t+n} = \beta_0 + \beta_1 \cdot \text{ independentboard}_{it} + \gamma \cdot Z_{it} + \theta_t + \alpha_i + \epsilon_{it} \tag{7}$$

$Z_{i,t}$ is a vector of firm characteristics, such as SIZE, Book to Market, ILLIQ, Total. θ_t is the year fixed effects. α_i is the firm fixed effects that control for any un-observable firm heterogeneity that is time-invariant. Standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Non-competitive industry			
	(1)	(2)	(3)	(4)
	n=1	n=2	n=3	n=4
	b/se	b/se	b/se	b/se
board	-0.211*	-0.196	-0.200	-0.166
	(0.12)	(0.13)	(0.14)	(0.14)
All controls	X	X	X	X
R-squared	0.016	0.020	0.022	0.013
N	2007	1935	1863	1783
	Competitive industry			
board	-0.501***	-0.556***	-0.545***	-0.544***
	(0.13)	(0.15)	(0.15)	(0.13)
All controls	X	X	X	X
R-squared	0.084	0.088	0.098	0.089
N	1829	1740	1645	1555
Wald test of difference	0.290*	0.360*	0.345*	0.378**
	(0.17)	(0.19)	(0.20)	(0.19)

Table 8: CSR Product Market performance with high abnormal analyst followed firm vs. low abnormal analyst followed firm

Estimates of the coefficient β_1 and standard error (in parentheses) in a panel regression where β_1 captures the effect of board independence on corporate social responsibility by the affected firms.

$$CSR_{i,t+n} = \beta_0 + \beta_1 \cdot \text{ independentboard}_{it} + \gamma \cdot Z_{it} + \theta_t + \alpha_i + \epsilon_{it} \tag{8}$$

$Z_{i,t}$ is a vector of firm characteristics, such as SIZE, Book to Market, ILLIQ, Total. θ_t is the year fixed effects. α_i is the firm fixed effects that control for any un-observable firm heterogeneity that is time-invariant. Standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	low abnormal analyst followed firm			
	(1)	(2)	(3)	(4)
	n=1	n=2	n=3	n=4
	b/se	b/se	b/se	b/se
board	-0.096	-0.118	-0.175	-0.181
	(0.09)	(0.10)	(0.13)	(0.15)
All Controls	X	X	X	X
R-squared	0.018	0.019	0.022	0.017
N	1791	1721	1648	1572
	high abnormal analyst followed firm			
board	-0.428***	-0.452***	-0.423***	-0.382***
	(0.13)	(0.14)	(0.14)	(0.13)
All Controls	X	X	X	X
R-squared	0.058	0.069	0.069	0.055
N	2045	1954	1860	1766
Wald test of difference	0.332**	0.334*	0.248	0.201
	(0.15)	(0.17)	(0.19)	(0.19)

Table 9: Independent board and COGS, Leverage, Institutional Ownership, Cash

Estimates of the coefficient β_1 and standard error (in parentheses) in a panel regression where β_1 captures the effect of board independence on variable $K_{i,t+1}$ by the affected firms. K equals Cost of Good sold, or COGS. Leverage, Institutional ownership percentage, and the amount of cash of the firm.

$$K_{i,t+1} = \beta_0 + \beta_1 \cdot \text{ independentboard}_{it} + \gamma \cdot Z_{it} + \theta_t + \alpha_i + \epsilon_{it} \tag{9}$$

$Z_{i,t}$ is a vector of firm characteristics, such as SIZE, Book to Market, ILLIQ, Total. θ_t is the year fixed effects. α_i is the firm fixed effects that control for any un-observable firm heterogeneity that is time-invariant. Standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
	cogs	Leveragereal	instiown	cash
	b/se	b/se	b/se	b/se
board	-0.031**	-0.010	0.065***	0.030***
	(0.01)	(0.01)	(0.01)	(0.01)
SIZE	-0.039***	-0.036***	0.049***	0.001
	(0.01)	(0.01)	(0.01)	(0.00)
BEME	-0.035	-0.027***	0.012	0.017*
	(0.03)	(0.01)	(0.02)	(0.01)
Total	-0.002	0.001	-0.006***	-0.003**
	(0.00)	(0.00)	(0.00)	(0.00)
ILLIQ	-0.042	-0.009	0.134***	-0.007
	(0.04)	(0.01)	(0.02)	(0.00)
Constant	1.531***	0.997***	-0.400***	0.134
	(0.22)	(0.13)	(0.13)	(0.10)
R-squared	0.023	0.045	0.093	0.015
N	3757	2736	3811	3542

Table 10: Independent Board and CSR score, full sample without matching

Estimates of the coefficient β_1 and standard error (in parentheses) in a panel regression where β_1 captures the effect of board independence on corporate social responsibility by the affected firms.

$$CSR_{i,t+n} = \beta_0 + \beta_1 \cdot \text{ independentboard}_{it} + \gamma \cdot Z_{it} + \theta_t + \alpha_i + \epsilon_{it} \tag{10}$$

$Z_{i,t}$ is a vector of firm characteristics, such as SIZE, Book to Market, ILLIQ, Total. θ_t is the year fixed effects. α_i is the firm fixed effects that control for any un-observable firm heterogeneity that is time-invariant. Standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	PRO	ENV	COM	EMP	PRO	ENV	COM	EMP
	n=1	n=1	n=1	n=1	n=3	n=3	n=3	n=3
	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se
board	-0.380***	0.016	0.012	-0.204**	-0.384***	0.068	0.098	-0.239**
	(0.10)	(0.06)	(0.06)	(0.08)	(0.10)	(0.09)	(0.07)	(0.11)
SIZE	-0.070***	-0.042*	-0.012	-0.027	-0.095***	0.025	0.007	-0.087**
	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	(0.04)
BEME	-0.050	0.011	0.070**	-0.060	-0.056	0.064	0.032	-0.114*
	(0.04)	(0.04)	(0.03)	(0.05)	(0.04)	(0.04)	(0.03)	(0.06)
Total	0.021***	-0.004	0.013*	0.042***	0.025***	0.000	0.023**	0.030**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
ILLIQ	0.036	-0.012	-0.093	-0.010	0.163	0.000	-0.002	0.032
	(0.06)	(0.03)	(0.17)	(0.13)	(0.14)	(0.04)	(0.08)	(0.15)
Constant	1.155**	0.803	0.255	0.262	1.608***	-0.723	-0.279	1.660*
	(0.46)	(0.50)	(0.43)	(0.74)	(0.55)	(0.60)	(0.46)	(0.91)
R-squared	0.034	0.002	0.003	0.009	0.039	0.002	0.007	0.010
N	6307	6307	6307	6307	5471	5471	5471	5471

Table 11: Independent Board and CSR score one-to-one matching

Estimates of the coefficient β_1 and standard error (in parentheses) in a panel regression where β_1 captures the effect of board independence on corporate social responsibility by the affected firms.

$$CSR_{i,t+n} = \beta_0 + \beta_1 \cdot \text{ independentboard}_{it} + \gamma \cdot Z_{it} + \theta_t + \alpha_i + \epsilon_{it} \tag{11}$$

$Z_{i,t}$ is a vector of firm characteristics, such as SIZE, Book to Market, ILLIQ, Total. θ_t is the year fixed effects. α_i is the firm fixed effects that control for any un-observable firm heterogeneity that is time-invariant. Standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	PRO	ENV	COM	EMP	PRO	ENV	COM	EMP
	n=1	n=1	n=1	n=1	n=3	n=3	n=3	n=3
	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se
board	-0.254***	0.127	0.076	-0.238**	-0.261***	0.183	0.156	-0.050
	(0.09)	(0.10)	(0.08)	(0.12)	(0.07)	(0.16)	(0.12)	(0.20)
SIZE	-0.088***	0.060**	0.012	0.011	-0.092**	0.060	0.057**	-0.163***
	(0.03)	(0.03)	(0.03)	(0.05)	(0.04)	(0.04)	(0.03)	(0.06)
BEME	-0.050	0.110**	0.069**	-0.011	-0.060	0.128**	0.048	-0.085
	(0.05)	(0.04)	(0.03)	(0.08)	(0.05)	(0.05)	(0.04)	(0.13)
Total	0.001	0.001	0.001	0.031	0.018	0.043*	0.002	-0.003
	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.03)	(0.01)	(0.03)
ILLIQ	0.118	0.034	-0.442*	-0.335**	0.420*	-0.060	-0.019	-0.249*
	(0.12)	(0.07)	(0.26)	(0.16)	(0.24)	(0.10)	(0.22)	(0.14)
Constant	1.900***	-1.379**	-0.182	-0.385	1.799**	-1.726*	-1.195*	3.578***
	(0.68)	(0.54)	(0.58)	(1.02)	(0.79)	(0.94)	(0.64)	(1.24)
R-squared	0.042	0.015	0.012	0.010	0.050	0.032	0.025	0.017
N	1709	1709	1709	1709	1497	1497	1497	1497

Table 12: Independent Board and CSR score, three subcommittee additional criterion

Estimates of the coefficient β_1 and standard error (in parentheses) in a panel regression where β_1 captures the effect of board independence on corporate social responsibility by the affected firms.

$$CSR_{i,t+n} = \beta_0 + \beta_1 \cdot \text{ independentboard}_{it} + \gamma \cdot Z_{it} + \theta_t + \alpha_i + \epsilon_{it} \tag{12}$$

$Z_{i,t}$ is a vector of firm characteristics, such as SIZE, Book to Market, ILLIQ, Total. θ_t is the year fixed effects. α_i is the firm fixed effects that control for any un-observable firm heterogeneity that is time-invariant. Standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	PRO	ENV	COM	EMP	PRO	ENV	COM	EMP
	n=1	n=1	n=1	n=1	n=3	n=3	n=3	n=3
	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se
board	-0.306***	0.008	0.022	-0.184**	-0.298***	-0.008	0.073	-0.211**
	(0.08)	(0.06)	(0.05)	(0.08)	(0.09)	(0.08)	(0.06)	(0.10)
SIZE	-0.094***	-0.017	0.021	-0.036	-0.140***	0.048	0.028	-0.125**
	(0.03)	(0.03)	(0.02)	(0.04)	(0.03)	(0.03)	(0.03)	(0.05)
BEME	-0.028	0.102*	0.179***	-0.249*	-0.164**	0.028	0.046	-0.121
	(0.07)	(0.06)	(0.06)	(0.13)	(0.08)	(0.08)	(0.06)	(0.14)
Total	0.029***	-0.007	0.020**	0.055***	0.022*	0.004	0.031***	0.044***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
ILLIQ	0.039	-0.007	-0.092	0.045	0.170	0.026	0.027	0.006
	(0.05)	(0.03)	(0.20)	(0.14)	(0.16)	(0.03)	(0.08)	(0.15)
Constant	1.615***	0.331	-0.519	0.503	2.697***	-1.178	-0.759	2.509**
	(0.60)	(0.62)	(0.54)	(0.94)	(0.69)	(0.80)	(0.60)	(1.12)
R-squared	0.038	0.002	0.008	0.015	0.044	0.002	0.010	0.014
N	3836	3836	3836	3836	3508	3508	3508	3508

Table 13: Robustness Check: other corporate governance factors and CSR short-term performance

Estimates of the coefficient β_1 and standard error (in parentheses) in a panel regression where β_1 captures the effect of board independence on corporate social responsibility by the affected firms.

$$CSR_{i,t+1} = \beta_0 + \beta_1 \cdot \text{ independentboard}_{it} + \gamma \cdot Z_{it} + \theta_t + \alpha_i + \epsilon_{it} \tag{13}$$

$Z_{i,t}$ is a vector of firm characteristics, such as SIZE, Book to Market, ILLIQ, Total. θ_t is the year fixed effects. α_i is the firm fixed effects that control for any un-observable firm heterogeneity that is time-invariant. Standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
	PRO	ENV	COM	EMP
	b/se	b/se	b/se	b/se
board	-0.317***	0.023	0.034	-0.226**
	(0.09)	(0.07)	(0.07)	(0.10)
SIZE	-0.100**	-0.044	0.040	-0.007
	(0.04)	(0.04)	(0.03)	(0.06)
BEME	0.032	0.155**	0.184***	-0.007
	(0.08)	(0.08)	(0.07)	(0.14)
Total	0.037***	-0.014	0.025**	0.065***
	(0.01)	(0.02)	(0.01)	(0.02)
ILLIQ	0.106	-0.024	-0.302	-0.304
	(0.09)	(0.05)	(0.24)	(0.22)
Classified Board	0.385***	-0.198	0.050	0.009
	(0.14)	(0.13)	(0.12)	(0.19)
Anti-greenmail	0.497***	-0.265**	0.043	0.487*
	(0.16)	(0.13)	(0.09)	(0.27)
Poison Pill	-0.010	-0.035	0.071	0.030
	(0.07)	(0.09)	(0.10)	(0.14)
Cumulative Voting	-0.269	0.443	0.177	-0.459
	(0.17)	(0.44)	(0.19)	(0.30)
Governance Index	-0.014	0.020	-0.028	-0.093**
	(0.03)	(0.03)	(0.02)	(0.04)
Constant	1.554*	0.911	-0.844	0.567
	(0.88)	(0.98)	(0.80)	(1.45)
R-squared	0.056	0.010	0.013	0.020
N	1743	1743	1743	1743

Table 14: Robustness check: Instrumental variable

In this robustness check, I use a two-stage instrumental variables model as in Knyazeva et al. (2013). In the first stage, I use variation in local director pools and other controls to predict the percentage of board members that are independent board members. Then in the second-stage regressions, I examine the effects of board independence on corporate social responsibility score. Standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
	EMP	PRO	EMP	PRO
	n=1	n=1	n=3	n=3
	b/se	b/se	b/se	b/se
board˙ratio	-1.243***	-2.509***	-1.553***	-2.105***
	(0.41)	(0.27)	(0.47)	(0.29)
SIZE	0.018	-0.018	-0.014	-0.060**
	(0.03)	(0.02)	(0.04)	(0.02)
BEME	-0.194**	0.120**	-0.076	-0.045
	(0.09)	(0.06)	(0.10)	(0.06)
Total	0.031**	0.015*	0.024*	0.015*
	(0.01)	(0.01)	(0.01)	(0.01)
ILLIQ	-0.035	0.036	-0.100	0.210
	(0.24)	(0.16)	(0.26)	(0.16)
Constant	0.357	1.686***	1.223	2.338***
	(0.69)	(0.46)	(0.78)	(0.49)
N	2979	2979	2731	2731