Online Appendix

Environmental Concern, Regulations and Board Diversity

A.1 Figures

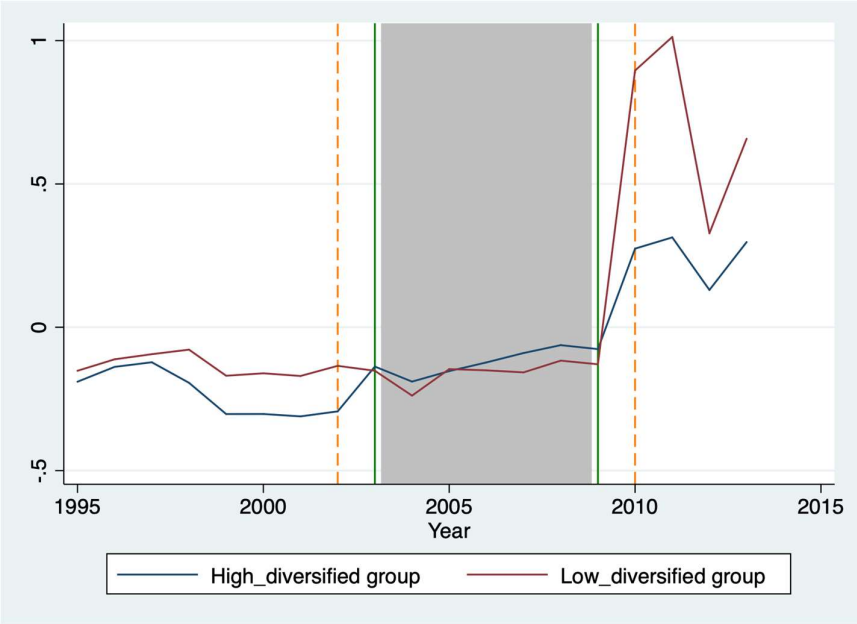
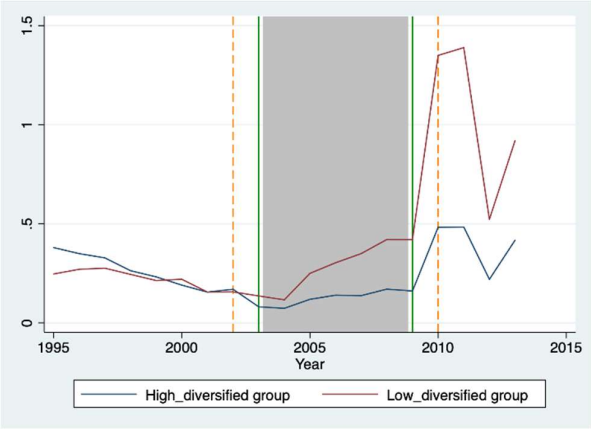
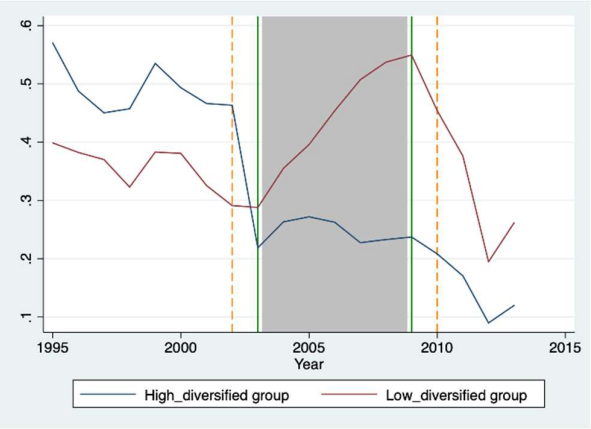


Figure 1: Board diversity and aggregated environmental performance over time





(a) Environmental total strength (TS) score **(b)** Environmental total concern (TC) score

Figure 2: Board diversity and environmental performance (TS-TC breakdown) over time

A.2 Regional Climate Action Plan (RAC)

The climate change policy of the United States (U.S.) has major impacts on global climate change and on global climate mitigation. This is because the United States is the second largest emitter of greenhouse gas (GHG) emissions per person in the world.

The body of climate change and greenhouse gas (GHG) emission legislation framework, in fact, have long been established in U.S. dating back to 1960s, to name a few, Clean Air Act in 1963, Clean Air Act Extension in 1970, and Clean Air Act Amendments in 1977 and 1990. Besides, many law bills failed to pass committee too, such as the Climate Protection Act and Sustainable Energy Act, proposed February 14, 2013.

Since the meddling time between Goerge H.W. Bush and Bill Clinton administration tenures (in the early 1990s), the U.S. have experienced many turns (often contrasting views) in its concerns and actions regarding climate change policy. Interestingly, each U. S's president marked their impacts on the national climate change regulations. For example, as observing from their different reactions for Kyoto Protocol (Bill Clinton and Goerge W. Bush) and Paris Agreements emission target (Obama and Trump) [34].

On the other hand, municipal and state governments have invested heavily in climate change policies. Rather than that, regional efforts can be more efficient than state-level programmes because they span a larger geographic area, minimise duplication of effort, and establish more uniform regulatory regimes. Several regional efforts have begun establishing mechanisms to minimise carbon dioxide emissions from power plants, improve renewable energy output, track renewable energy credits, and conduct research and set baselines for carbon sequestration during the last several years.

Particularly, in 2001, at the same time when the George W. Bush announced about the Kyoto Protocol withdrawal, six New England states[35] committed to the New England Governors and Eastern Canadian Premiers (NEG-ECP) Climate Action Plan with the goal of reducing GHG emission. In 2002, Powering the Plains Initiative (PPI)[36], a regional effort aims to develop strategies, policies, and demonstration pro jects for alternative energy sources and technology and climate-friendly agricultural development.

There are certain states that are extremely engaged in climate change action policy and frequently serve as the catalyst for adjacent states to join the regional legislative plan.

Connecticut was the first states in the U.S. to pass a number of bills in the early to mid 1990s, on global warming as well as state law to require specific actions for reducing CO2 emission. It then joined Climate Change Action Plan in 2001 with Maine, Vermont, New Hampshire, Massachusetts,

[34] See detail in table A.7.3

[35] Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont

[36] Participating states: Iowa, Minnesota, Wisconsin, North Dakota, South Dakota, Canadian Province of Manitoba

and Rhode Island; and later participated in Regional Greenhouse Gas Initiative.

In 2003, New York state proposed and attained commitments from nine Northeast states to form a cap-and-trade carbon dioxide emissions program for power generators, called Regional Greenhouse Gas Initiative (RGGI). The successful implementation of RGGI model will set the stage for other states to join or form their own regional cap and trade systems and may encourage the program to expand to other GHG and other sectors. RGGI states, along with Pennsylvania, Massachusetts and Rhode Island are also developing a GHG registry called Eastern Climate Registry.

California is another active state with efforts to address global warming, independently of federal government. In July 2002, Governor Gray Davis approved AB 1493, a bill directing the California Air Resources Board to develop standards to achieve the maximum feasible cost-effective reduction of GHG. Later on, September 7th, 2002, California Climate Action Registry was approved. Also, the California Global Warming Solutions Act (commonly known as AB 32) was signed into law in September 2006, mandating a reduction in GHG emissions to 1990 levels by 2020.

In 2006, Arizona and New Mexico states signed an agreement to create the Southwest climate Change Initiative while the West Coast states - Washington, Oregon, and California cooperated on a strategy to reduce GHG emissions, known as the Western Coast Governors' Global Warming initiative. In 2007, these five Western states (Washington, Oregon, California, Arizona, and New Mexico) agreed to combine their efforts to develop regional targets for reducing greenhouse emissions, creating Western Regional Climate Action Initiative.

As described in a 2007 brief by the PEW Center on global climate change, "States and municipalities often function as policy laboratories, developing initiatives that serve as models for federal actions. This has been especially true with environmental regulation- most federal environmental laws have been based on state models. In addition, state actions can have a significant impact on emissions, because may individual states emit high levels of GHG.

A.3 Complicated variable calculation

A.3.1 Institutional investors (IOC_HHI, ABREADTH, IOR)

Following J. Chen et al., 2002, Sias et al., 2006, Lehavy and Sloan, 2008 and Agarwal et al., 2009, we calculate different measures for institutional investor ownership. Institutional Ownership, Concentration, and Breadth Ratios are usually computed using equity holdings by institutions which file 13F reports. Institutional Ownership (IOR) Level is calculated by adding up all shares for each security for each quarter, and IO Ratio is simply the IO Level divided by Total Shares Outstanding at quarter end.

Institutional Concentration (IOC_HHI) is captured by the Herfindahl-Hirschman Index that uses all institutional holdings of a particular security and conveys information about institutional

ownership distribution.

Institutional Breadth (ABREADTH) simply represents the number of institutions owning the stock during the quarter, and the change in ABREADTH reflects the net increase or decrease in the number of institutions holding this specific security, possibly, because of informational motivations. In the computation of changes in Breadth of Institutional Ownership, we rely on the Lehavy and Sloan, 2008 algorithm:

$$\Delta BREADTH_{i,t} = \frac{No\_\text{institutions}_{i,t} - No\_\text{institutions}_{i,t-1}}{No\_\text{institutions}_{i,t-1}} \qquad (3)$$

A.3.2 Stock price crash risk (NCSKEW)

Number of research publications, centred around the concept of crash risk in the financial market, has increased considerably nowadays.

Following prior literature (J.-B. Kim et al., 2011, Y. Kim et al., 2014, J.-B. Kim and Zhang, 2016), we first estimate a time-series model for each firm and year using weekly stock returns, as shown below,

$$r_{i,t} = a_i + \beta_1 r_{m,t-2} + \beta_2 r_{m,t-1} + \beta_3 r_{m,t} + \beta_4 r_{m,t+1} + \beta_5 r_{m,t+2} + \varepsilon_{i,t} \qquad (4)$$

where $r_{i,t}$ is the return on stock i in week t and $r_{m,t}$ is the value-weighted market return in week t. Next, we calculate the natural log of one plus residue,

$$W_{i,t} = \ln(1 + \varepsilon_{i,t})$$

We then estimate the negative conditional skewness of firm-specific weekly returns over a fiscal year (NCSKEW) via the following equation

$$NCSKEW = \frac{\left[n(n-1)(3/2)\sum W_{j\tau}^3\right]}{\left[(n-1)(n-2)\binom{2}{jt}(3/2)\right]} \qquad (5)$$

A.3.3 Financial distress (FD)

To capture the probability of financial distress, we use Altman's Z-score. Altman Z (Z) Logarithm of one plus Altman Z-score. The Altman Z-score is calculated based on five financial ratios: profitability, leverage, liquidity, solvency and activity to predict whether a company has high probability of being insolvent.

$$\text{AltmanZ - Score} = 1.2A + 1.4B + 3.3C + 0.6D + 1.0E \qquad (6)$$

Where:

- A = working capital / total assets
- B = retained earnings / total assets
- C = earnings before interest and tax / total assets
- D = market value of equity / total liabilities

• E = sales / total assets

A score below 1.8 means it's likely the company is headed for bankruptcy, while companies with scores above 3 are not likely to go bankrupt. Financial distress is a dummy variable, taking value of 1 if Altman Z-score is lower than 1.8, and 0 otherwise.

Common interpretation of Z Score:

• > 3.0 - safe based on these financial figures only;

• 2.7 to 2.99 - On Alert;

• 1.8 to 2.7 - Good chances of going bankrupt within 2 years;

• < 1.80 - Probability of Financial distress is very high.

A.3.4 Earning smoothing (DA_Jones)

Discretionary accruals computed through the cross-sectional Jones (1991) model (DA_Jones) through three steps below:

Step 1: Total accruals (TA) as follows:

$$TA_t = \frac{\Delta CA_t - \Delta CL_t - \Delta Ccash_t + \Delta STD_t - Dep_t}{A_{t-1}} \qquad (7)$$

where CA is current assets, CL is current liabilities, STD is the portion of long-term debt in current liabilities, Dep is depreciation and amortization expense, and A is total assets.

Step 2: The Jones Model for non-discretionary accruals NDA_t in the event year is estimated by running the following regression:

$$NDA_t = a_1(1/A_{t-1}) + a_2(\Delta REV_t/A_{t-1}) + a_3(PPE_t/A_{t-1}) + \varepsilon_t \qquad (8)$$

where: NDA_t is non-discretionary accruals in year t scaled by lagged total assets; REV_t is revenues in year t less revenues in year t - 1; PPE_t is gross property plant and equipment at the end of year t; A_{t-1} is total assets at the end of year t - 1; and a_1, a_2, a_3 are firm-specific parameters.

Step 3: The difference between the predicted and actual values of total accruals is the discretionary accruals (DA_t) arising from managers' choice of accounting rules and procedures.

$$DA_t = TA_t - NDA_t \qquad (9)$$

A.4 Female dominated versus male dominated industries

According to Industry Canada (2003), there is below-rate participation by female majority owners in the manufacturing and knowledge-based industries and the agriculture, forestry, and energy sectors in Canada. While survey also show that women are under-presented in the manufacturing, construction, transportation and agricultural sectors in the U.K. (Cumming et al., 2015), similar patterns are found in the U. S[37]. Consistently, we use a dummy variable to categorize two group of

[37] https://www.bls.gov/opub/reports/womens-databook/2020/home.htm (By industry, women accounted for more

sectors, female dominated versus male dominated. We then split the whole sample based on that dummy and report the results for each sub-sample. We present summary statistics for two sub-sample, i.e., those firms in female-dominated industry versus male-dominated industry in Table A.7.4. On average, firms categorized in female industries have higher environmental scores, younger, bigger in size, hold fewer tangible assets, have less cash flow volatile and invest less in R&D comparing with male-dominated peers. The results in Table A.7.5 show that while SOX only affect male dominated sample, RAC have a consistent effect on both groups.

A.5 The impact of SOX/RAC and GHG emission

Table A.7.6 present the implication of RAC enactment and GHG emission. If a business locates in a state with high emissions, especially where there are numerous heavy or dirty factories, or if the business is classified in those sectors, an environmental concern score is a better direction to follow. We find that those local action plans play important role in mitigating the environmental concern score. As such, the coefficients of interaction terms are all negative and significant at least at 10% level.

A.6 The impact on environmental performance following board turnover and diversity change

Additionally, we cross-check (our baseline results) to determine whether the structural changes in board diversity contributed to the improvement in environmental performance following SOX and RAC implementations. Results are demonstrated in Table A.7.7. In general, these results confirm that board structural changes (proxied by director turnover or diversity change) jointly with regulation interventions are driven factors to increase in environmental performance.

than half of all workers within several sectors in 2019: education and health services (74.8 percent), other services (53.9 percent), financial activities (52.6 percent), and leisure and hospitality (51.2 percent). (Other services include repair and maintenance industries, personal and laundry services, membership associations and organizations, and private households.) However, women were substantially underrepresented (relative to their share of total employment) in manufacturing (29.4 percent), agriculture (26.2 percent), transportation and utilities (24.1 percent), mining (15.8 percent), and construction (10.3 percent)). (See Table 14)

A.7 Variables Definitions

Table A.7.1 Description of variables

Feature	Description	Source
	Panel A: Environment concerns	
ENV_score	The net score of environmental performance from MSCI ESG data, measured as total strength score minus total concern score	KLD
ENV_str_num	Total strength score for environmental performance of firm i in year t	KLD
ENV_con_num	Total concern score for environmental performance of firm i in year t	KLD
CO2 emission	Natural logarithm of total CO2 emissions at state level during year t	S&P_Intelligence
SO2 emission	Natural logarithm of total SO2 emissions at state level during year t	S&P_Intelligence
NOX emission	Natural logarithm of total NOX emissions at state level during year t	S&P_Intelligence
Totaldmg	Natural logarithm of total damage to property and crop in U.S. dollars at state level during year t	SHELDUS
Natural disaster records	Count of the natural disasters at state level during year t	SHELDUS
	Panel B: Board characteristics	
Race diversity index	The race diversity has four categories as identified in the Risk Metrics database: Asian, African American, Hispanic, and White. We use Blau's (1977) formula index of heterogeneity to measure diversity ofboard's racial diversity.	ISS
Gender diversity index	The index of diversity for gender has two categories: male and female.	
Board Diversity	For each firm-year, this index is computed as Race diversity index + Gender diversity index	
Diversity change	Dummy variable that equals 1 if diversity index year t is different from year t-1	
CEO change	Dummy variable that equals 1 if CEO is also the founder	
CEO tenure	The total tenure of CEO serving in a firm	
Nonwhite-CEO	Dummy variable that equals 1 if CEO is not categorized as White in Ethnicity classification	ISS
Female CEO	Dummy variable that equals 1 if CEO is female	Execu & ISS
Busyness	Proportion of busy directors on the board. Busy directors are referred to those who are sitting at least 3boards	BoardEx & ISS
Analyst coverage	The number of analysts following the firm during year t	IBES
Turnover ratio	Turnover ratio is calculated as if any members of board in a year t is different with those in year t-1	
Institutional ownership (IO)	This is calculated taking all institutional shares divided by Total Shares Outstanding. This measure is scaled by 100.	TR-13F
Institutional concentration (IC)	This is captured by the Herfindahl-Hirschman Index that uses all institutional holdings of a particular security and conveys information about institutional ownership distribution. This measure is scaled by 100.	TR-13F
Institutional Breadth (IB)	This simply represents the number of institutions owning the stock during the quarter, and the change in IB reflects the net increase or decrease in the number of institutions. This measure is scaled by 100.	TR-13F
	Panel C: Firm Characteristics	
Board size	Number of directors in a board for a firm in the current year.	Compustat
Firm age	Logarithm of one plus firm age, which is the number of years since the firm's initial public offering (IPO).	Compustat
Firm size	Natural log of book assets.	Compustat
Tangibility	Sum of investments and net Property, Plant, and Equipment (PP&E) divided by book assets.	Compustat
Leverage	Logarithm of one plus the ratio of total long-term debt plus total current liabilities over total assets.	Compustat
CAPEX intensity	Calculated as Capital Expenditure divided by total assets	Compustat
Cash Holdings	Cash and short-term equivalents divided by book assets.	Compustat
Dividend	Logarithm of one plus total dividend in a current year.	Compustat
R&D	Ratio of research and development expense to book value of assets	Compustat
Stock return volatility	Total stock return volatility in the last 24 months, which is square root of 24 multiplied by the standard deviation of monthly excess stock returns. Excess return is defined using a CAPM market model estimated over the prior year.	Compustat
Altman Z (Z)	Logarithm of one plus Altman Z-score. The Altman Z-score is calculated based on five financial ratios: profitability, leverage, liquidity, solvency and activity to predict whether a company has high probability of being insolvent. A score below 1.8 means it's likely the company is headed for bankruptcy, while companies with scores above 3 are not likely to go bankrupt.	Compustat
Financial distress	To capture the probability of financial distress, we use Altman's Z-score. Financial distress is a dummy varaible, taking value of 1 if Altman Z-score is lower than 1.8, and 0 otherwise. Common interpretation of Z Score:> 3.0 - safe based on these financial figures only;2.7 to 2.99 - On Alert; 1.8 to 2.7 - Good chances of going bankrupt within 2 years; < 1.80 - Probability of Financial distress is very high.	Compustat
Advertising Expense	Natural log of total advertising expense reported in year t	Compustat
NCSKEW	The negative coefficient of skewness of firm-specific daily returns over the fiscal year. See more details in the Complicated variable calculation section.	Compustat
Cash flow volatility	The rolling standard deviation of cash flow item over last three financial years. Cash flow = (Income Before Extraordinary Items (Cash Flow) + Depreciations)/Total Assets	Compustat
Earning smoothing	Discretionary accruals computed through the cross-sectional Jones (1991) model	Compustat

Panel D: Other variables	
Treated (T)	Dummy variable indicating those firms owned a relatively high level of board diversity (RHD) before 2003 than control firms (C)
SOX	Dummy variable that equals 1 since Sarbanes Oxley Act was released
RAC	Dummy variable that equals 1 since Regional Climate Action Plan was enacted

Table A.7.2: State adoption of Regional Climate Action Plan

State	Regional Climate Action Plan	Timeline
Connecticut	First state global warming law to require specific actions for reducing CO2	1990
Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont	Climate Change Action Plan (NEG_ECP), including short and long-term GHG emission reduction goals.	2001
North Dakota, South Dakota, Iowa, Wisconsin, Minnesota	Powering the Plains Initiative (PPI)	2002
California	AB 1493 and SB 812	2002
Delaware, Maine, New Hampshire, New Jersey, New York and Vermont	Regional Greenhouse Gas Inititative (RGGI)	2003
Arizona and New Mexico	Southwest Climate Change Initiative	2006
Washington, Oregon, Maryland	Western Coast Governors' Global Warming Initiative	2006
Amazon, New Mexico, Washington, Oregon, Maryland	Western Regional Climate Action Initiative	2007
Pennsylvania, Rhode Island, Massachusetts + RGGI states	Eastern Climate Registry	2008

Notes: This table presents the dates that Regional Climate Action Plan(RAC) was adopted. In 2001, at the same year when the George W. Bush administration announced about the Kyoto Protocol withdrawal, six New England states (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont) committed to the New England Governors and Eastern Canadian Premiers (NEG-ECP) Climate Action Plan with the goal of reducing GHG emission. In 2002, Powering the Plains Initiative (PPI) (Participating states: Iowa, Minnesota, Wisconsin, North Dakota, South Dakota, Canadian Province of Manitoba), a regional effort aims to develop strategies, policies, and demonstration projects for alternative energy sources and technology and climate-friendly agricultural development. In 2003, New York proposed and attained commitments from 9 Northeast states (Participating states: Maine, New Hampshire, Vermont, Connecticut, New York, New Jersey, Delaware, Massachusetts, Maryland, Rhode Island. Observer states and regions: Pennsylvania, District of Columbia, Quebec, New Brunswick, Ontario) to form the Regional Greenhouse Gas Initiative (RGGI), a cap-and-trade carbon dioxide emissions program for power generators. It is believed that the state-level program will apply pressure on the federal government to support Kyoto Protocol. Since February 2007, seven U.S. states and and four Canadian provinces have joined to create the Western Climate Initiatives (WCI), a regional greenhouse gas emissions trading system. The initiative was created when the West Coast Global Warming Initiative (California, Oregon, Washington) and the Southwest Climate Change Initiative (Arizona and New Mexico) joined efforts with Utah and Montana, along with British Columbia, Manitoba, Ontario, and Quebec.

Table A.7.3: U.S President's attitude regarding climate change action (only author viewpoint)

President with tenure	(+)/(-)	Proof.
Bush (1989-1993)	(+)	Declared that the US fully intends to be the world's pre-eminent leader in protecting the global environment; Renewable energy production tax credit added to 1992 Energy Policy Act.
Clinton (1993 - 2001)	(+)	Climate Change Action Plan announced (1993); British Thermal Tax proposed (1993); Kyoto Protocol negotiated to sign in 1997; Clean Air Partnership Fund; Climate Change Technology Initiative
Bush (2001-2009)	(-)	Declared that U.S. won't implement Kyoto Protocol; Alternative plan for Kyoto Protocol; Suppressed discussion of global warming and pressured to under-report global warming; Consolidated Appropriation Act signed into law in 2007; several lawsuit filed over global warming, i.e, Massachusetts v. Environmental Protection Agency (EPA); California v. General Motors.
Obama (2009-2017)	(+)	Cap-and-trade legislation pass the House; US House of Representatives passed the American Clean Energy and Security Act of 2009 (but failed to pass the Senate); Climate Change Science Program; Clean Energy Standard (CES); Renewable Portfolio Standards (RPS); Congress passed National Flood Insurance Program Extension Act; Sunnylands summit (2013)
Trump (2017- 2021)	(-)	Announced withdrawal from Paris climate agreement; Ordered the EPA to remove references to climate change from its website, suppressed government publication of scientific reports showing the threat of climate change and the effectiveness of renewable energy and politicized decisions made at the EPA[20].
Biden (2021-now)	(+)	Since taking office, the Biden Administration has paused construction of the Keystone XL Pipeline (considered as very dangerous for climate) in addition to other actions on climate change, such as creating a National Climate Task Force and pausing oil and gas leases on public land.

[20]Sabine Center for Climate Change Law, Columbia Law School, Columbia University Earth Initiative, "DOE Reports Cancelled", "Release of Solar Energy Studies Blocked by DOE", "Scientific Research Subject to Political Interference at EPA", "EPA Science Advisors Excluded from Decision-Making"

Table A.7.4: T-test statistics

	Female-dominated industries N = 7157				Male-dominated industries N= 10835				Difference	
	mean	sd	min	max	mean	sd	min	max	(t-test)	
ENV_score	0.085	0.625	-4	5	0.161	1.059	-5	5	0.101***	(7.47)
Gender diversity	0.194	0.134	0	0.497	0.179	0.137	0	0.500	0.0155***	(6.25)
Racial diversity	0.144	0.149	0	0.667	0.135	0.144	0	0.722	0.00841**	(3.16)
Diversity	0.336	0.228	0.000	1.086	0.312	0.217	0.000	1.037	0.0239***	(6.00)
Ln(Firm age)	2.910	0.587	1.386	4.174	3.270	0.643	1.386	4.159	-0.370***	(-35.37)
Tangibility	0.247	0.220	0.006	0.878	0.204	0.136	0.003	0.788	-0.134***	(-39.08)
R&D intensity	0.032	0.054	0.000	0.58813	0.053	0.057	0.00	0.680	-0.0223***	(-15.27)
Firm size	7.514	1.588	4.016	13.590	7.689	1.548	4.231	12.757	0.314***	(11.75)
Financial distress	0.428	0.495	0.000	1.000	0.332	0.471	0.000	1.000	0.0964***	(13.17)
Cash flow volatility	0.027	0.060	0.000	1.502	0.039	0.063	0.000	0.996	-0.0114***	(-10.34)

Notes: This table presents t-test statistics for two sub-samples, i.e, female dominated industries versus male-dominated industries. For the definitions of all the control variables and the details of their construction, see Appendix. The corresponding robust standard errors are reported in parentheses. Significance levels are indicated by + , *, ** and *** and correspond to the 10%, 5%, 1% and 0.1% significance levels, respectively.

Table A.7.5: The impact of SOX/RAC by female-dominated versus male-dominated industries

	Female dominated industries		Male-dominated industries	
	(1)	(2)	(3)	(4)
Treated × PostSOX	0.119		0.352***	
	(0.91)		(3.48)	
Treated × PostSOX × RAC		0.454***		0.458***
		(3.27)		(3.82)
Intercept	0.855	0.586	3.706***	3.766***
	(0.83)	(0.60)	(4.02)	(4.03)
Control variables	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes
Firm Fixed Effect	Yes	Yes	Yes	Yes
Observations	2081	2081	4523	4523
adj. R-squared	0.159	0.179	0.256	0.261

Notes: This table illustrates the results from the difference-in-difference and triple difference regressions estimating the effect of regulations on environmental performance for high-diversified boards from 1997 to 2013. The dependent variable is ENV_Score. PostSOX is an indicator variable set to one for 2002 and later, and zero otherwise. RAC is an indicator variable set to one for Regional Climate Action Plan adoption, and zero otherwise. Treated is an indicator variable set to one if that firm had relatively low diversified board before SOX, and zero otherwise. For the definitions of all the control variables and the details of their construction, see Appendix. The corresponding robust standard errors are reported in parentheses. Significance levels are indicated by + , *, ** and *** and correspond to the 10%, 5%, 1% and 0.1% significance levels, respectively.

Table A.7.6: The impact of SOX/RAC on environmental concerns with greenhouse emission

	Dependent variable: Environmental Concern Score (ENV_con_num)		
	(1)	(2)	(3)
Treated × PostSOX × RAC × CO2_emission	-0.0114*		
	(-1.97)		
CO2_emission	0.0680+		
	(1.75)		
Treated × PostSOX × RAC × SO2_emission		-0.00628+	
		(-1.66)	
SO2_emission		0.0286+	
		(1.88)	
Treated × PostSOX × RAC × NOX_emission			-0.00663+
			(-1.89)
NOX_emission			0.0637*
			(2.18)
Intercept	-1.244*	-1.116**	-1.742**
	(-2.49)	(-2.59)	(-2.84)
Control variables	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes
Firm Fixed Effect	Yes	Yes	Yes
Observations	6472	6472	6472
adj. R-squared	0.063	0.063	0.064

Notes: This table presents the baseline results from the OLS regressions relating environmental performance score with director turnover, diversity change and SOX/RAC implementation for U.S firms reporting to KLD from 1997 to 2013. The dependent variableis ENV_Score. PostSOX is an indicator variable set to one for 2002 and later, and zero otherwise. RAC is an indicator variable setto one for Regional Climate Action Plan adoption, and zero otherwise. For the definitions of all the control variables and the detailsof their construction, see Appendix. The corresponding robust standard errors are reported in parentheses. Significance levels are indicated by + , *, ** and *** and correspond to the 10%, 5%, 1% and 0.1% significance levels, respectively.

Table A.7.7: Director turnover, SOX/RAC and environmental performance

	Dependent variable: Environmental Performance Score (ENV_score)					
	(1)	(2)	(3)	(4)	(5)	(6)
Turnover_ratio × PostSOX	0.102*					
	(2.35)					
Diversity_change × PostSOX		0.0810**				
		(3.01)				
Diversity_change × Turnover_ratio × PostSOX			0.153*			
			(2.52)			
Turnover_ratio × RAC				0.205***		
				(3.77)		
Diversity_change × RAC					0.176***	
					(5.58)	
Diversity_change × Turnover_ratio × RAC						0.230**
						(3.10)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6596	5704	5703	6596	5704	5703
adj. R-squared	0.147	0.154	0.153	0.148	0.157	0.154

Notes: This table presents the baseline results from the OLS regressions relating environmental performance score with director turnover, diversity change and SOX/RAC implementation for U.S firms reporting to KLD from 1997 to 2013. The dependent variableis ENV_Score. PostSOX is an indicator variable set to one for 2002 and later, and zero otherwise. RAC is an indicator variable set toone for Regional Climate Action Plan adoption, and zero otherwise. The variable turnover ratio is calculated as if any members ofboard in a year t is different with those in year t 1. Diversity change is an indicator variable set to one if diversity index year $t$is different from year t 1. For the definitions of all the control variables and the details of their construction, see Appendix. The corresponding robust standard errors are reported in parentheses. Significance levels are indicated by + , *, ** and *** and correspondto the 10%, 5%, 1% and 0.1% significance levels, respectively.