Internet Appendix

Table IA1: KLD CSR qualitative issue areas.

This Appendix provides detailed definitions of KLD strengths and concerns indicators in all seven major KLD CSR/CSR qualitative issue areas. UPS's 2007 scores are used for illustration purposes. KLD assigns a score of one for a particular strength or concern. If a firm does not have a strength or concern in that issue, a score of zero is assigned. A firm's CSR score is the number of strengths minus the number of concerns.

Indicators	**Definitions**	**UPS**
CSR Score		**4**
COMMUNITY		**0**
STRENGTHS		**1**
Charitable Giving	The firm has consistently given over 1.5% of trailing three-year net earnings before taxes to charity, or has otherwise been notably generous in its giving.	0
Innovative Giving	The firm has a notably innovative giving program that supports nonprofit organizations.	0
Non-US Charitable Giving	The firm has made at least 20% of its giving, or have taken notably innovative initiatives in its giving program, outside the U.S.	0
Support for Housing	The firm is a prominent participant in public/private partnerships that support housing initiatives for the economically disadvantaged, e.g., the National Equity Fund or the Enterprise Foundation.	0
Support for Education	The firm has either been notably innovative in its support for primary or secondary school education, particularly for those programs that benefit the economically disadvantaged, or the firm has prominently supported job-training programs for youth.	0
Volunteer Programs	The firm has an exceptionally strong volunteer program.	1
Other Strengths	The firm has either an exceptionally strong in-kind giving program or engages in other notably positive community activities.	0
CONCERNS		**1**
Investment Controversies	The firm is a financial institution whose lending or investment practices have led to controversies, particularly ones related to the Community Reinvestment Act.	0
Negative Economic Impact	The firm's actions have resulted in major controversies concerning its economic impact on the community. These controversies can include issues related to environmental contamination, water rights disputes, plant closings, "put-or-pay" contracts with trash incinerators, or other firm actions that adversely affect the quality of life, tax base, or property values in the community.	0
Tax Disputes	The firm has recently been involved in major tax disputes involving federal, state, local, or non-U.S. government authorities, or is involved in controversies over its tax obligations to the community.	1
Other Concerns	The firm is involved with a controversy that has mobilized community opposition, or is engaged in other noteworthy community controversies.	0
DIVERSITY		**2**
STRENGTHS		**3**
CEO	The firm's chief executive officer is a woman or a member of a minority group.	0

Promotion	The firm has made notable progress in the promotion of women and minorities, particularly to line positions with profit-and-loss responsibilities in the corporation.	1
Board of Directors	Women, minorities, and/or the disabled hold four seats or more (with no double counting) on the board of directors, or one-third or more of the board seats if the board numbers less than 12.	0
Work/Life Benefits	The firm has outstanding employee benefits or other programs addressing work/life concerns, e.g., childcare, elderly care, or flextime.	0
Women & Minority Contracting	The firm does at least 5% of its subcontracting, or otherwise has a demonstrably strong record on purchasing or contracting, with women- and/or minority-owned businesses.	1
Employment of the Disabled	The firm has implemented innovative hiring programs; other innovative human resource programs for the disabled, or otherwise has a superior reputation as an employer of the disabled.	0
Gay & Lesbian Policies	The firm has implemented notably progressive policies toward its gay and lesbian employees. In particular, it provides benefits to the domestic partners of its employees.	1
Employment of Underrepresented Groups	This indicator measures a firm's efforts to promote diversity in its workforce. Factors affecting this evaluation include, but are not limited to, its recruitment efforts to women and minority communities, and its participation in multi-stakeholder diversity initiatives.	0
Other Strengths	The firm has made a notable commitment to diversity that is not covered by other KLD ratings.	0
CONCERNS		**1**
Controversies	The firm has either paid substantial fines or civil penalties as a result of affirmative action controversies, or has otherwise been involved in major controversies related to affirmative action issues.	1
Non-Representation	The firm has no women on its board of directors or among its senior line managers.	0
Board Diversity	This indicator captures firms with no women on their board of directors.	0
Other Concerns	The firm is involved in diversity controversies not covered by other KLD ratings.	0
EMPLOYEE RELATIONS		**1**
STRENGTHS		**3**
Union Relations	The firm has taken exceptional steps to treat its unionized workforce fairly.	1
Cash Profit Sharing	The firm has a cash profit-sharing program through which it has recently made distributions to a majority of its workforce.	0
Employee Involvement	The firm strongly encourages worker involvement and/or ownership through stock options available to a majority of its employees; gain sharing, stock ownership, sharing of financial information, or participation in management decision-making.	0
Retirement Benefits	The firm has a notably strong retirement benefits program.	0
Health and Safety	The firm has strong health and safety programs.	1
Supply Chain Labor Standards	The firm has a program to manage risks of production disruptions and brand value damage due to the sub-standard treatment of workers in the firm's supply chain.	0

Other Strengths	The firm has strong employee relations initiatives not covered by other KLD ratings.	1
CONCERNS		**2**
Union Relations	The firm has a history of notably poor union relations.	0
Health and Safety	The firm recently has either paid substantial fines or civil penalties for willful violations of employee health and safety standards, or has been otherwise involved in major health and safety controversies.	1
Workforce Reductions	The firm has made significant reductions in its workforce in recent years.	0
Retirement Benefits	The firm has either a substantially underfunded defined benefit pension plan, or an inadequate retirement benefits program.	0
Supply Chains	The firm has controversies related to a firm's supply chain.	0
Other Concerns	The firm is involved in an employee relations controversy that is not covered by other KLD ratings.	1
ENVIRONMENT		**1**
STRENGTHS		**1**
Beneficial Products and Services	The firm derives substantial revenues from innovative remediation products, environmental services, or products that promote the efficient use of energy, or it has developed innovative products with environmental benefits.	0
Pollution Prevention	The firm has notably strong pollution prevention programs, including both emissions reductions and toxic-use reduction programs.	0
Recycling	The firm either is a substantial user of recycled materials as raw materials in its manufacturing processes, or a major factor in the recycling industry.	0
Clean Energy	The firm has taken significant measures to reduce its impact on climate change and air pollution through the use of renewable energy and clean fuels or through energy efficiency. The firm has demonstrated a commitment to promoting climate-friendly policies and practices outside its own operations.	1
Property, Plant, and Equipment	The firm maintains its property, plant, and equipment with an above average environmental performance for its industry.	0
Management Systems	The firm has demonstrated a superior commitment to management systems through ISO 14001 certification and other voluntary programs.	0
Other Strength s	The firm has demonstrated a superior commitment to management systems, voluntary programs, or other environmentally proactive activities.	0
CONCERNS		**0**
Hazardous Waste	The firm's liabilities for hazardous waste sites exceed $50 million, or the firm has recently paid substantial fines or civil penalties for waste management violations.	0
Regulatory Problems	The firm has recently paid substantial fines or civil penalties for violations of air, water, or other environmental regulations, or it has a pattern of regulatory controversies under the Clean Air Act, Clean Water Act, or other major environmental regulations.	0
Ozone Depleting Chemicals	The firm is among the top manufacturers of ozone depleting chemicals such as HCFCs, methyl chloroform, methylene chloride, or bromines.	0

Substantial Emissions	The firm's legal emissions of toxic chemicals (as defined by and reported to the EPA) from individual plants into the air and water are among the highest of the firms followed by KLD.	0
Agricultural Chemicals	The firm is a substantial producer of agricultural chemicals.	0
Climate Change	The firm derives substantial revenues from the sale of coal or oil and its derivative fuel products, or the firm derives substantial revenues indirectly from the combustion of coal or oil and its derivative fuel products.	0
Impact of Products and Services, Land Use & Biodiversity, Operational Waste	The firm has controversies related to the environmental impact of a firm's products and services, use or management of natural resources, or nonhazardous operational waste.	0
Other Concerns	The firm has been involved in an environmental controversy that is not covered by other KLD ratings.	0
HUMAN RIGHTS		**0**
STRENGTHS		**0**
Indigenous Peoples Relations	The firm has established relations with indigenous peoples near its proposed or current operations (either in or outside the U.S.) that respect the sovereignty, land, culture, human rights, and intellectual property of indigenous peoples.	0
Labor Rights	The firm has outstanding transparency on overseas sourcing disclosure and monitoring, or has particularly good union relations outside the U.S., or has undertaken labor rights-related initiatives that KLD considers outstanding or innovative.	0
Other Strengths	The firm has undertaken exceptional human rights initiatives, including outstanding transparency or disclosure on human rights issues, or has otherwise shown industry leadership on human rights issues not covered by other KLD human rights ratings.	0
CONCERNS		**0**
Labor Rights	The firm's operations have had major recent controversies primarily related to labor standards in its supply chain.	0
Indigenous Peoples Relations	The firm has been involved in serious controversies with indigenous peoples (either in or outside the U.S.) that indicate the firm has not respected the sovereignty, land, culture, human rights, and intellectual property of indigenous peoples.	0
Other Concerns	The firm's operations have been the subject of major recent human rights controversies not covered by other KLD ratings.	0
PRODUCT		**0**
STRENGTHS		**0**
Quality	The firm has a long-term, well-developed, firm-wide quality program, or it has a quality program recognized as exceptional in the U.S. industry.	0
R&D/Innovation	The firm is a leader in its industry for research and development (R&D), particularly by bringing notably innovative products to market.	0
Benefits to Economically Disadvantaged	The firm has as part of its basic mission the provision of products or services for the economically disadvantaged.	0
Access to Finance	This indicator evaluates the extent to which a firm is taking advantage of opportunities for growth and strengthening reputation through	0

	providing lending, financing, or products to underrepresented or underbanked communities. Top performing firms will offer products and services to communities with limited or no access to financial products.	
Other Strengths	The firm's products have notable social benefits that are highly unusual or unique for its industry.	0
CONCERNS		**0**
Product Safety	The firm has recently paid substantial fines or civil penalties, or is involved in major recent controversies or regulatory actions, relating to the safety of its products and services.	0
Marketing/Contracting Concern	The firm has recently been involved in major marketing or contracting controversies, or has paid substantial fines or civil penalties relating to advertising practices, consumer fraud, or government contracting.	0
Antitrust	The firm has recently paid substantial fines or civil penalties for antitrust violations such as price fixing, collusion, or predatory pricing, or is involved in recent major controversies or regulatory actions relating to antitrust allegations.	0
Other Concerns	The firm has major controversies with its franchises, is an electric utility with nuclear safety problems, defective product issues, or is involved in other product-related controversies not covered by other KLD ratings.	0

Table IA2: Multivariate difference-in-differences (DiD) tests: Firm FE and the effects prior to implementation of Regulation SHO

This table reports additional results of the multivariate difference-in-differences (DiD) test on how the exogenous shock to short selling costs, Regulation SHO, affects *CSRSCORE*. *CSRSCORE* is the sum of yearly adjusted community activities, diversity, employee relations, human rights, product, and environmental record KLD CSR Scores. Adjusted CSR is estimated by scaling the raw strength and concern scores of each category by the number of items of strength and concerns of that category in the year and then taking the net difference between adjusted strengths and concerns scores for that category. *PILOT* is an indicator variable that equals one for treatment firms (i.e., pilot stocks), and zero for control firms (i.e., non-pilot stocks). *DURING* is an indicator variable that equals one if a firm's fiscal year ends between January 1, 2005 and December 31, 2006, and zero if it ends between January 1, 2002 and December 31, 2003. *PRIOR* is an indicator variable that equals one if a firm's fiscal year ends between July 1, 2004 and December 31, 2004, and zero if it ends between January 1, 2002 and December 31, 2003. All other variables are defined in Appendix A. Robust standard errors clustered by both firm and year are displayed in parentheses. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Firm fixed effect

Dep. Var.	CSRSCORE	
	1	2
PILOT×DURING	0.027*	0.027*
	(0.015)	(0.016)
Controls	No	Yes
Firm FE	Yes	Yes
Industry×Year FE	Yes	Yes
Observations	5,955	5,872
R-squared	0.825	0.828

Panel B: Prior to implementation of Regulation SHO

Dep. Var.	CSRSCORE					
	1	2	3	4	5	6
PILOT×PRIOR	0.026***	0.022**	0.025***	0.020**	0.025***	0.020**
	(0.003)	(0.005)	(0.003)	(0.004)	(0.003)	(0.004)
PILOT	-0.019	-0.024	-0.021	-0.026	-0.022	-0.027
	(0.016)	(0.016)	(0.015)	(0.015)	(0.015)	(0.015)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	No	No	Yes	Yes	No	No
Year FE	Yes	Yes	Yes	Yes	No	No
Industry×Year FE	No	No	No	No	Yes	Yes
Observations	4,135	4,036	4,135	4,036	4,135	4,036
R-squared	0.029	0.060	0.105	0.129	0.127	0.150

Table IA3: Alternative explanations

Panel A reports the results of the multivariate difference-in-differences (DiD) tests using subsamples partitioned on a firm's agency conflicts. The dependent variable is *CSRSCORE*. We examine subsamples (top and bottom terciles of firm-years) based CEO pay-performance sensitivity (*PPS*), the percentage of board members that are independent (*PCTINDEP*), whether the board has a corporate governance committee (*CGOVCOMM*), and the Entrenchment index (*EINDEX*). Panel B reports the results of the multivariate difference-in-differences (DiD) tests on proxies for liquidity and financial constraint. The dependent variables are relative effective spread (*RES*), *FHT* impact measure, *AMIHUD* illiquidity measure, and *WWINDEX* and *SAINDEX*, respectively. *PILOT* is a dummy variable that equals one for treatment firms (i.e., pilot stocks), and zero for control firms (i.e., non-pilot stocks). *DURING* is an indicator variable that equals one if a firm's fiscal year ends between January 1, 2005 and December 31, 2006, and zero if it ends between January 1, 2002 and December 31, 2003. All models include controls defined in Table 2. Each regression includes a separate intercept, and industry and year fixed effects. Standard errors clustered by both firm and year are displayed in parentheses. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

Panel A. Governance

Dep. Var.	CSRSCORE							
Par. Var.	PPS		PCTINDEP		GOVCOMM		EINDEX	
	High	Low	High	Low	Yes	No	High	Low
	1	2	3	4	5	6	7	8
PILOT×DURING	0.075**	0.021	0.043*	0.018	0.049**	-0.097	-0.052	0.133***
	(0.028)	(0.025)	(0.018)	(0.020)	(0.014)	(0.053)	(0.057)	(0.013)
PILOT	-0.065**	-0.002	0.007	-0.051**	-0.044*	-0.023	0.040	-0.095**
	(0.023)	(0.031)	(0.035)	(0.017)	(0.019)	(0.014)	(0.055)	(0.014)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ind×Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,369	1,324	1,135	1,174	2,926	689	800	1,052
R-squared	0.286	0.223	0.300	0.235	0.240	0.279	0.231	0.286

Panel B. Liquidity

Dep. Var.	RES	FHT	AMIHUD	WWINDEX	SAINDEX
	1	2	3	4	5
PILOT×DURING	0.000	0.000	-0.001	-0.007	-0.001
	(0.000)	(0.000)	(0.017)	(0.006)	(0.006)
PILOT	0.000	-0.000	0.033	0.007	-0.008
	(0.000)	(0.000)	(0.020)	(0.004)	(0.016)
Controls	Yes	Yes	Yes	Yes	Yes
Ind×Year FE	Yes	Yes	Yes	Yes	Yes
Observations	7,508	8,095	8,095	8,067	7,989
R-squared	0.577	0.361	0.140	0.484	0.595

Table IA4: ROA and Tobin's Q in the Regulation SHO setting

This table reports the regression results of ROA and Tobin's Q on CSR signaling in the Regulation SHO setting. The dependent variable is ROA_{t+1} ($TOBINQ_{t+1}$,) which is the return on assets (Tobin's Q) for a firm in the one-year period after Regulation SHO. *CSRSIGNAL* is an indicator variable that equals one if a firm is a pilot stock that increases its CSR after the passage of Regulation SHO, and zero otherwise (i.e., if it is either a non-pilot stock or a pilot stock that does not increase its CSR around Regulation SHO). *AFTER* is an indicator variable that equals one if the fiscal year ending date is between July 1, 2006 and June 30, 2007 (which is the ending date of the pilot program), and zero if the fiscal year ending date is between January 1, 2005 and June 30, 2006. We include the same set of control variables as in the paper. Each regression includes a separate intercept. Standard errors clustered by both firm and year are displayed in parentheses. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

Dep. Var.	ROA_{t+1}	$TOBINQ_{t+1}$
	1	2
CSRSIGNAL ×AFTER	0.000	0.048*
	(0.002)	(0.017)
CSRSIGNAL	-0.002	-0.006
	(0.002)	(0.018)
Controls	Yes	Yes
Industry×Year FE	Yes	Yes
Observations	3,923	3,922
R-squared	0.781	0.679

Table IA5: Summary statistics of the mutual fund sample

This table reports the summary statistics of the observations in the mutual fund sample between 1991 and 2015. All variables are defined in Appendix A.

Variable	Mean	P25	Median	P75	S.D.	N
CSRSCORE	-0.124	-0.367	-0.090	0.100	0.456	32,056
PRESSURE	0.094	-0.036	0.014	0.117	0.332	32,056
ASSETS($B)	5.046	0.395	1.183	3.788	12.104	32,056
ROA	0.115	0.079	0.129	0.182	0.142	32,056
LEVERAGE	0.194	0.008	0.160	0.300	0.193	32,056
TOBINQ	2.113	1.223	1.636	2.423	1.437	32,056
CASHFLOW	0.365	0.109	0.327	0.804	2.851	32,056
CASHRATIO	0.186	0.033	0.105	0.265	0.206	32,056
R&DASSETS	0.042	0.000	0.004	0.052	0.080	32,056
CAPEXASSETS	0.054	0.019	0.037	0.068	0.057	32,056
ADVASSETS	0.014	0.000	0.000	0.010	0.033	32,056
INSTOWN	0.692	0.556	0.738	0.879	0.237	32,056
FHT	0.002	0.000	0.001	0.002	0.003	32,056
WWINDEX	-0.238	-0.386	-0.310	-0.226	0.370	32,056

Table IA6: Entropy balancing in the mutual fund setting

This table reports the regression results of mutual fund outflow-driven negative price pressure on CSR using entropy balancing. Panel A reports the summary statistics of the sample. Panel B reports the regression results after reweighting the sample. The dependent variable is *CSRSCORE*. *NEGPRESSURE* is an indicator variable that equals one if the annual mutual fund outflow-driven pressure is in the bottom tercile of the entire sample, and zero otherwise. All variables are defined in Appendix A. Each regression includes a separate intercept, and different combinations of fixed effects. Standard errors clustered by firm are displayed in parentheses. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

Panel A. Summary statistics before and after entropy balancing

| | Before entropy balancing | | | | After entropy balancing | | | |
| | Treatment | | Control | | Treatment | | Control | |
	mean	variance	mean	variance	mean	variance	mean	variance
lnASSETS	7.274	2.721	7.116	2.543	7.274	2.721	7.274	2.721
ROA	0.120	0.017	0.113	0.022	0.120	0.017	0.120	0.017
LEVERAGE	0.195	0.038	0.194	0.037	0.195	0.038	0.195	0.038
TOBINQ	2.026	1.792	2.154	2.183	2.026	1.792	2.026	1.792
CASHFLOW	0.540	7.295	0.279	8.465	0.540	7.295	0.540	7.296
CASHRATIO	0.184	0.038	0.187	0.045	0.184	0.038	0.184	0.038
R&DASSETS	0.041	0.006	0.043	0.007	0.041	0.006	0.041	0.006
CAPEXASSETS	0.051	0.003	0.056	0.003	0.051	0.003	0.051	0.003
ADVASSETS	0.014	0.001	0.014	0.001	0.014	0.001	0.014	0.001
INSTOWN	0.737	0.053	0.668	0.056	0.737	0.053	0.737	0.053
FHT	0.001	0.000	0.002	0.000	0.001	0.000	0.001	0.000
WWINDEX	-0.255	0.132	-0.231	0.139	-0.255	0.132	-0.255	0.132

Panel B. Entropy balancing results after reweighting the sample

| Dep. Var. | CSRSCORE | | | | | |
	1	2	3	4	5	6
NEGPRESSURE	0.035***	0.028***	0.028***	0.021***	0.031***	0.023***
	(0.008)	(0.007)	(0.008)	(0.007)	(0.008)	(0.007)
Controls	No	Yes	No	Yes	No	Yes
Industry FE	No	No	Yes	Yes	No	No
Year FE	Yes	Yes	Yes	Yes	No	No
Industry×Year FE	No	No	No	No	Yes	Yes
Observations	32,056	32,056	32,056	32,056	32,056	32,056
R-squared	0.077	0.137	0.119	0.180	0.173	0.236

Table IA7: Signaling mechanism in the mutual fund setting

This table tests the signaling mechanism in the mutual fund setting. In Panel A, the dependent variables are *CSR STRENGTHs* in column 1, *CSRCONCERNS* in column 2, and *ENVCSRSCORE* in column 3, using data from KLD. *CSRSTRENGTHS* is the sum of yearly adjusted community activities, diversity, employee relations, human rights, product, and environmental record KLD STATS CSR Strengths Scores. *CSRCONCERNS* is the sum of yearly adjusted community activities, diversity, employee relations, human rights, product, and environmental record KLD STATS CSR Concerns Scores. *ENVCSRSCORE* is calculated by scaling the raw environmental strengths and concerns scores by the number of items of environmental strengths and concerns in the year and then taking the net difference between adjusted strengths and concerns. In Panel B, the dependent variables are *CSRSCORE* and *ENVRD* using data from ASSET4. The ASSET4 summary *CSRSCORE* includes resource use score, emissions score, environmental innovation score, workforce score, human rights score, community score, and product responsibility score in each year. *EnvRD* is an indicator variable equal to one if the firm engages in training employees on environmental issues or develops clean technology, and zero otherwise. *NEGPRESSURE* is an indicator variable that equals one if the annual mutual fund outflow-driven pressure is in the bottom tercile of the entire sample, and zero otherwise. All variables are defined in Appendix A. Standard errors clustered by both firm and year are displayed in parentheses. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

Panel A. CSR strengths, concerns, and environmental dimension using data from KLD

Dep. Var.	CSRSTRENGTHS	CSRCONCERNS	ENVCSRSCORE
	1	2	3
NEGPRESSURE	0.032***	0.007	0.016***
	(0.005)	(0.005)	(0.004)
Controls	Yes	Yes	Yes
Industry×Year FE	Yes	Yes	Yes
Observations	32,056	32,056	7,716
R-squared	0.395	0.332	0.167

Panel B. CSRSCORE and environmental R&D using data from ASSET4

Dep. Var.	CSRSCORE	ENVRD
	1	2
NEGPRESSURE	3.650***	0.029*
	(1.107)	(0.015)
Controls	Yes	Yes
Industry×Year FE	Yes	Yes
Observations	7,442	6,342
R-squared	0.525	0.342

Table IA8: Implied cost of equity capital and institutional holding after CSR signaling in the mutual fund setting

In Panel A, the dependent variable is ICC_{t+1}, which is the implied cost of equity capital for a firm in the next year (i.e., year $t+1$) following Gordon and Gordon (1997) and Hou et al. (2011).[1] CSRSIGNAL is an indicator variable that equals one if a firm's annual mutual fund outflow-driven pressure is at the bottom tercile of the entire sample and the firm increases its CSR from the previous year to the current year, and zero otherwise (i.e., if it either does not have mutual fund outflow-driven pressure or does not increase its CSR). Panel B reports the results in the mutual fund setting. For each institutional investor, we analyze its average dollar holding or average fractional ownership of the sample firms over the next year. ln$HOLD is the natural logarithm of an institution's average dollar holding (in millions) of a sample firm, defined as the mean of the 4 quarterly holdings of an institution in a given firm in the next year. %HOLD is similarly defined, except that we analyze the institution's average percentage ownership (in percentage points) of a sample firm. CSRSIGNAL is a dummy variable that equals one if a firm's annual mutual fund outflow-driven pressure is at the bottom tercile of the entire sample and the firm increases its CSR from the previous year to the current year, and zero otherwise (i.e., if it either does not have mutual fund outflow-driven pressure or does not increase its CSR). SRI is a dummy variable that equals one if an institution is a socially responsible institution following the definition of Hwang et al. (2021). Specifically, we first calculate, for each institution-quarter, the (market

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[1] Hou et al. (2012) show that earnings forecasts generated by the cross-sectional model are superior to analysts' forecasts in terms of coverage and forecast bias, which in turn make the model-based implied cost of capital more reliable. Following their methodology, we first calculate a firm's one-year-ahead forecasted earnings by running a pooled cross-sectional regression using the past 10 years of data. Specifically, for each given year in our sample, we run the following model using the panel of firm-years in the past ten years:

$$E_{i,t+1}=\alpha_0 + \alpha_1 A_{i,t} + \alpha_2 D_{i,t} + \alpha_3 DD_{i,t} + \alpha_4 E_{i,t} + \alpha_5 NEGE_{i,t} + \alpha_6 AC_{i,t} + \varepsilon_{i,t+1}$$

where $E_{i,t+1}$ denotes the earnings (IB) of firm i for year $t+1$, $A_{i,t}$ is its total assets (AT), $D_{i,t}$ is the amount of dividend payments (DVC), $DD_{i,t}$ is an indicator variable that equals one if the firm pays dividends in year t and zero otherwise, $NEGE_{i,t}$ is an indicator variable that equals one if the firm has negative earnings in year t and zero otherwise, and $AC_{i,t}$ is its accruals, the difference between earnings and cash flows from operations (IB - (OANCF - XIDOC)). Then we apply the estimated regression coefficients from the above model to the values of the independent variables at the given year to predict the earnings at the next year. We repeat the above procedures for all years in our sample period to obtain all firms' predicted earnings for next year. A firm's annual implied cost of equity capital (ICC) is then estimated numerically by solving the following equation:

$$M_{i,t} = \frac{E_{i,t}[E_{i,t+1}]}{ICC_{i,t}},$$

where $M_{i,t}$ is the market value of equity for firm i in year t, $E_{i,t}[]$ denotes the market expectation based on the information of firm i available in year t, and $E_{i,t+1}$ is its earnings in year $t+1$. Our approach is a special case of the finite-horizon version of the Gordon growth model.

capital) weighted average size-adjusted CSR strengths of the firms that the institution holds in its portfolio. Then we take the average of the four quarterly values over the current year and rank the institutions. Finally, we take the top tercile group of institutions and define them to be socially responsible (i.e., SRI is equal to one). Standard errorsclustered by firm are displayed in parentheses. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

Panel A. Implied cost of equity capital

Dep. Var.	ICC_{t+1}		
	1	2	3
CSRSIGNAL	-0.029**	-0.029**	-0.033**
	(0.013)	(0.013)	(0.015)
Controls	Yes	Yes	Yes
Industry FE	No	Yes	No
Year FE	Yes	Yes	No
Industry×Year FE	No	No	Yes
Observations	20,183	20,183	20,183
R-squared	0.010	0.016	0.080

Panel B. Institutional Holding

Dep. Var	ln$HOLD	%HOLD	ln$HOLD	%HOLD	ln$HOLD	%HOLD
	1	2	3	4	5	6
CSRSIGNAL×SRI	0.042***	0.022***	0.044***	0.023***	0.034***	0.019***
	(0.013)	(0.003)	(0.013)	(0.003)	(0.012)	(0.003)
CSRSIGNAL	-0.024***	-0.007***	-0.017**	-0.008***	-0.023***	-0.007***
	(0.006)	(0.002)	(0.007)	(0.002)	(0.006)	(0.002)
SRI	-0.080***	-0.016*	-0.079***	-0.016*		
	(0.020)	(0.009)	(0.020)	(0.009)		
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Institution FE	Yes	Yes	Yes	Yes	No	No
Firm FE	Yes	Yes	No	No	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	No	No
Institution-year FE	No	No	No	No	Yes	Yes
Observations	4,842,633	4,842,633	4,842,633	4,842,633	4,842,633	4,842,633
R-squared	0.515	0.517	0.501	0.510	0.584	0.590