SHAREHOLDER ENGAGEMENT AND CORPORATE BEHAVIOR

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This paper investigates how firms respond to shareholder engagement. The shareholder-sponsored proposals is a governance mechanism that allows shareholders to raise issues with firm management on various environmental or social issues that affect firm stakeholders. Using the data on shareholder-sponsored proposals compiled by RiskMetrics for the S&P 1500 universe, we look at how firms react to the submitted proposals and in particular how their extra-financial performance (as proxied by the KLD ratings) changes following a voted or a withdrawn proposal. The submission process may be affected by endogeneity issues (e.g. firms with worse extra-financial performance may be more likely to be targeted by shareholders in the first place), which is why we adopt the two-stage least squares (2SLS) framework under which we instrument the fact of being targeted by the level of extra-financial performance and lagged targeted data from the previous year.

We find that being targeted on both Environmental and Social topics in the same year is generally associated with improvements in extra-financial performance, both in the short term (at 2 and 3 years) and in the long term (at 5 years). This suggests that shareholder engagement on a broad set of issues is more conducive to changes in the extra-financial performance of firms. Examining the intensity of shareholder pressure, we find that a higher number of voted or withdrawn proposals, as well as a higher proportion of favorable votes in annual general meetings are associated with improvements in the extra-financial performance (in the short term). The findings are strongest relative to decreases in environmental or social concerns, or to increases in net environmental or net social performance. The findings are similar for the aggregate measures of extra-financial performance. For environmental issues, the fitted models suggest that a low number of withdrawn and voted proposals (with average voting support of about 10%) are needed to induce meaningful changes in firms.

1 INTRODUCTION

Socially Responsible Investing (SRI) has been experiencing significant growth throughout the world beginning with the early 1990s. Several factors have underpinned its growth, not least growing social awareness and ethical consumerism, various well-publicized corporate scandals and environmental disasters, as well as a progressively positive regulatory environment. The growing importance of institutional investors in the market (like pension funds or insurance funds, organizations often indirectly accountable to voters) has been accompanied by increasing pressure from governments, non-governmental organizations and the general public on firms to improve their extra-financial performance and to better manage their externalities.

Renneboog et al. (2008) highlight several ways in which SRI manifests itself. The oldest and most basic SRI strategy uses negative screening, the practice of filtering out specific firms or entire industries based on Environmental, Social and Governance (ESG) criteria. The opposite approach, positive screening, effectively relies on investing in firms with superior extra-financial performance. Both approaches can be combined into a more integrated approach of selecting companies based on both negative and positive screens, often termed "sustainable investing" or "triple bottom line". The latest development in socially responsible investing pertains to combining sustainable

investing with shareholder engagement, that is attempts to influence corporate behavior and policies by way of private negotiations with management or voting in Annual General Meetings.

The question remains, however, whether SRI, generally, and shareholder engagement, more specifically, can be effective at inducing changes in corporate behavior. Heinkel et al. (2001) propose a model that focuses on the impact of exclusionary ethical investing (or negative screening) on firm behavior. The authors investigate whether the presence in the market of green investors can induce changes in firms. By refusing to hold shares of polluting firms, green investors reduce the risk-sharing among non-green investors and induce a loss of diversification to polluting firms, which would in turn lead to lower stock prices hence a higher cost of capital for polluting firms. Polluting firms may opt to become more responsible when the increased cost of capital exceeds that of responsible firms. The model implicitly assumes that there are limits to arbitrage in financial markets.

Consistent with such theorizing, Hong and Kacperczyk (2009) find that companies operating in the alcohol, tobacco and gambling industries (the so called "sin" stocks) have historically outperformed the stock market, which would imply a higher cost of capital for these firms. The evidence suggests that social norms can have an effect on financial markets, and that norm-constrained, ethical investors can affect the cost of capital of non-responsible firms.

Gollier and Pouget (2014) investigate how socially responsible investors can affect corporate strategy via shareholder engagement, as an alternative to 'voting with their feet'. The authors show that a large activist investor, with a long-term perspective and a credible pro-social orientation, can generate positive abnormal returns by investing in non-responsible firms and making them responsible via engagement. The activist investor may then benefit by reselling part of their shares at a higher price to other socially responsible investors.

From the literature on shareholder-sponsored proposals, Ertimur et al. (2010) examine the determinants of implementation of shareholder-sponsored Governance proposals that have recorded a majority vote, identifying shareholder pressure (e.g. voting outcome) and the topic of the proposal as key factors. The authors identify negative labor market consequences for outside directors when majority vote proposals are not implemented. Thomas and Cotter (2007) also report that proposals that win a majority vote are increasingly more likely to be implemented. While Renneboog and Szilagyi (2011) find that the implementation of Governance proposals depends on voting success, but is affected by managerial entrenchment and rent-seeking.

Instead of analyzing the voting outcomes, Bauer et al. (2015) look into withdrawn shareholder-sponsored proposals as measures of engagement success. The authors find that proposals by influential investors are more likely to be withdrawn. Moreover, institutional ownership is related to the likelihood of withdrawal when the sponsor is also an institutional shareholder. The authors also find a negative relation between CEO ownership and the likelihood of withdrawal, especially for Governance proposals. Importantly, the authors show that withdrawn proposals on Governance topics can be effective: proposals on executive compensation will have an impact on future corporate pay practices.

While much of the literature mostly focuses on Governance proposals, Dyck et al. (2015) investigate specifically environmental and social performance of firms while controlling for governance levels. Using extra-financial scores from the Thomson Reuters ASSET4 platform, the authors find that institutional ownership is positively associated with environmental and social commitments, and that higher scores are associated with long-term investors like pension funds.

This paper investigates how firms respond to shareholder engagement. The shareholder-sponsored proposals is a governance mechanism that allows

shareholders to raise issues with firm management on various environmental, social or governance issues that affect firm stakeholders.

Using the data on shareholder-sponsored proposals compiled by RiskMetrics for the S&P 1500 universe, we first examine the frequency distributions of shareholder proposals using loglinear models. We find that proposals on Environmental or Social topics are more likely to be withdrawn than to go to a vote, whereas withdrawn proposals are more likely to be on Environmental or Social topics than on Governance topics. While Individual Investors are very unlikely to have their proposals withdrawn, Institutional Investors and Unions, on the other hand, are the most likely. Overall Coordinated Activists seem to be very active on Environmental and Social topics. Individual Investors and Unions, however, focus their efforts mostly on Governance issues, largely ignoring other topics.

When examining the Environmental/Social subset in isolation, we find that proposals sponsored by Coordinated Activists are more likely to be on Environmental than on Social topics. And withdrawn proposals are more likely to have been sponsored by Institutional Investors than by Coordinated Activists. Unions and Individual Investors have a small presence on these topics, so it is hard to draw meaningful conclusions on these two groups.

Using data from the KLD database, we next examine the short-term and long-term changes in extra-financial performance after a voted or withdrawn shareholder-sponsored proposal. The submission process may be affected by endogeneity issues (e.g. firms with worse extra-financial performance may be more likely to be targeted by shareholders in the first place), which is why we adopt the two-stage least squares (2SLS) framework under which we instrument the fact of being targeted by the level of extra-financial performance and the lagged targeted data from the previous year.

We find that being targeted on both Environmental and Social topics in the same year is generally associated with improvements in extra-financial performance, both in the short term (at 2 and 3 years) and in the long term (at 5 years). This suggests that shareholder engagement on a broad set of issues is more conducive to changes in the extra-financial performance of firms. Examining the intensity of shareholder pressure, we find that a higher number of voted or withdrawn proposals, as well as a higher proportion of favorable votes in annual general meetings are associated with improvements in the extra-financial performance (in the short term). The findings are strongest relative to decreases in environmental or social concerns, or to increases in net environmental or net social performance. The findings are similar for the aggregate measures of extra-financial performance. For environmental issues, the fitted models suggest that a low number of withdrawn and voted proposals (with average voting support of about 10%) are needed to induce meaningful changes in firms.

2 METHODOLOGY AND DATA

2.1 *Shareholder-Sponsored Proposals*

For this paper we have collected data from several sources. The data on shareholder-sponsored proposals comes from RiskMetrics. RiskMetrics provides records of all shareholder-proposals on Environmental, Social and Governance (ESG) issues filed at annual meetings in S&P 1500 firms. We have obtained data for years from 1997 to 2011, for a total of 9668 proposals. The database includes information on the identity of the firm that has received a shareholder proposal, the identity of the sponsor, a short description of the proposal, the date of the shareholder's meeting, and the outcome of the vote (or, if there was no vote, an indication whether the proposal was withdrawn or omitted).

When a shareholder has a specific concern with the running of the firm, they will usually approach the management to propose a change in corporate

practices. If management is unwilling to effect such a policy change, the shareholder can signal their discontent by publicly submitting a proposal for vote under the Annual General Meeting (AGM). Thus the mere instance of submitting a proposal represents a public sign of disagreement between the shareholder and firm management. If the proposal is valid (i.e. satisfies the legal requirements for this procedure), it will generally proceed to a vote. However for various reasons managers may not want that all other firm shareholders vote on a given proposal, in which case they may initiate private negotiations with the sponsor of the proposal and offer concessions (e.g. to implement part of the proposal) in exchange for the sponsor withdrawing the original proposal. If the negotiations are successful and a satisfactory compromise has been reached, the sponsor will generally withdraw the proposal. Otherwise, if management refuses to make concessions on the matter and the proposal is not withdrawn, it will still proceed to a vote in the AGM, which would indicate that a disagreement is ever so present. For a comprehensive discussion of the shareholder-sponsored submission process in firms see Bauer et al. (2015).

Thus the status of a proposal can be either voted or withdrawn. In this study we focus exclusively on valid submissions, that is submitted shareholder-sponsored proposals that were *not* omitted on technical grounds (e.g. for failure to satisfy the regulatory requirements set out by the SEC) or discarded for a variety of reasons. In the sections that follow all of the proposals considered were either subject to a vote or withdrawn.

Following Karpoff et al. (1996), Gillan and Starks (2000), Bauer et al. (2015), we categorize the proposals into three broad topics: Governance, Environmental and Social. We also group sponsors into four categories: Individual Investors, Institutional Investors, Coordinated Activists and Unions.

After clean-up and synchronization with KLD (and taking into account missing data for various characteristics like sponsor type or topic), the RiskMetrics database contains about 2/3 Governance proposals and 1/3 Environmental/Social valid proposals submitted (see Table 1).

Panel (1b) shows that of all the submitted proposals, irrespective of their topic, about 70% go to a vote and the rest are withdrawn by the sponsor. In relative terms, there are twice as many withdrawn proposals for Environmental and Social proposals (41%) compared to Governance proposals (23%), considerably above the average of 29%. This would suggest that firm management is more often prepared to negotiate and reach a compromise on Environmental/Social topics, rather than on Governance topics.

In Panel (1c) we notice that while the voted rates broadly follow the submitted rate, the share of withdrawn proposals is remarkably lower for Governance proposals (55%) and higher for Environmental/Social proposals (45%) compared to the submitted rates (68% and 32%, respectively).

We can glimpse a similar story from mosaic and association plots (Friendly, 2000) on the two-way contingency table in Panel (1a). These plots provide an intuitive graphical method for visualizing and exploring contingency tables. *Mosaic plots* display the table frequencies by using rectangular "tiles" whose size is proportional to the cell frequencies. The rectangles can be colored and shaded according to the residuals from a specified loglinear model, by default a model of mutual independence. The stronger the shades, the higher the departure from independence. The legend in this figure will display the magnitude of the Pearson residuals. *Association plots*, like mosaic displays, will similarly indicate deviations from an independence model. Mosaic and association displays complement traditional goodness-of-fit summary statistics, allowing to discern the exact pattern of lack-of-fit present in the data. They allow to present relationships from a given contingency table in a more intuitive manner for the reader.

Figure 1 displays the departures in the data from a model of mutual independence. A χ^2 test for the null hypothesis of independence of all factors is strongly rejected, suggesting the presence of an association. For

Governance proposals there is a remarkably smaller number of withdrawn proposals than it would be expected under independence (i.e. the top-right red tile in the graph). Whereas for Environmental/Social topics, the opposite holds: there is a bigger number of withdrawn proposals than expected (i.e. the bottom-right blue tile).

The association plot in Figure 2 displays the same patterns, all the while clearly highlighting how Environmental/Social proposals are more likely to be withdrawn whereas Governance proposals less likely. Conversely, Governance proposals are more likely to proceed to a vote, whereas Environmental/Social proposals are less likely.

		Status		
		voted	withdrn	All
Governance	n	5089	1515	6604
CSR	n	1812	1252	3064
All	n	6901	2767	9668

(a) Counts

		Status		
		voted	withdrn	All
Governance	RowPct	77	23	100
CSR	RowPct	59	41	100
All	RowPct	71	29	100

(b) Row percentages

		Status		
		voted	withdrn	All
Governance	ColPct	73.7	54.8	68.3
CSR	ColPct	26.3	45.2	31.7
All	ColPct	100.0	100.0	100.0

(c) Column percentages

Table 1: Breakdown of shareholder-submitted proposals by broad topics and status.

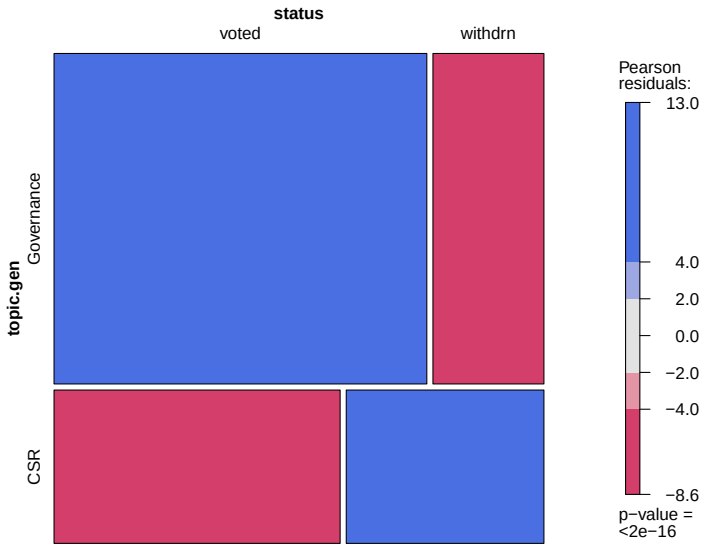

Figure 1: Mosaic display of shareholder-submitted proposals by broad topics and status.

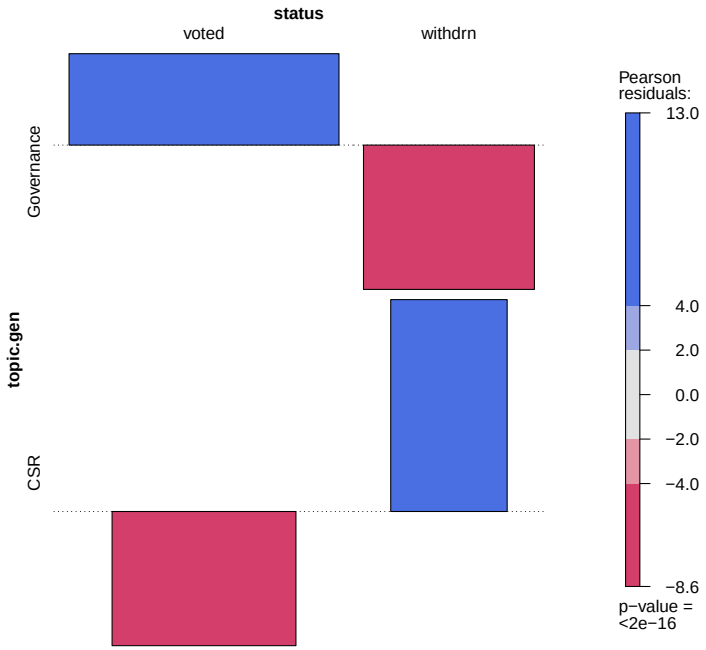

Figure 2: Association plot of shareholder-submitted proposals by broad topics and status.

Examining solely the proposals that proceeded to a vote (Table 2), there are a total of 6901 votes across all the categories, with 3/4 relating to Governance proposals and 1/4 to Environmental/Social proposals. The average voting support for all shareholder-sponsored proposals is 29%. Governance proposals tend to attract more voting support (35% on average) than Environmental/Social proposals (12%).

			vote	
	n	ColPct	mean	median
Governance	5089	73.7	35.4	34.0
CSR	1812	26.3	11.8	8.0
All	6901	100.0	29.2	25.0

Table 2: Voting support in favor of shareholder proposals, by broad topics.

The distribution of the voting support for Environmental/Social proposals is positively skewed, as shown in Figure 3. Interestingly, there are only some 15 instances of voting support at or above 50% for Environmental/Social proposals in our entire sample. For Governance proposals, the distribution of votes is much better behaved. The interquartile range suggests that the spread of votes for Governance proposals is higher than that for Environmental/Social proposals.

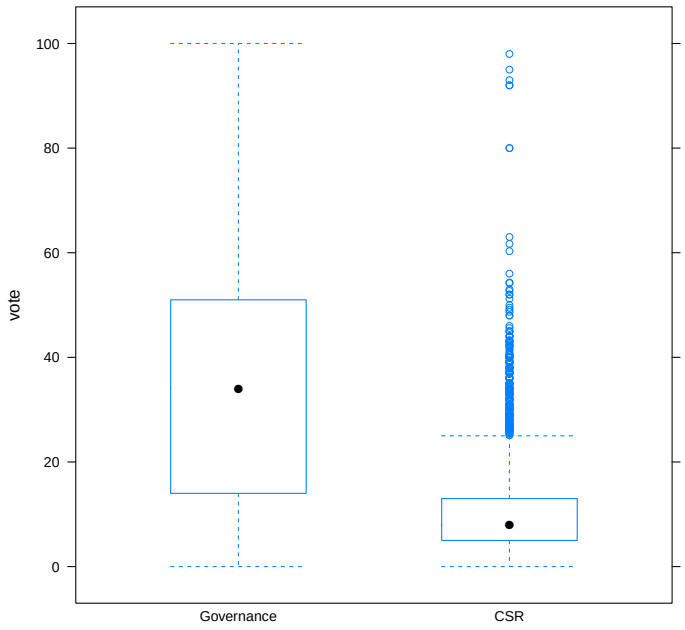

Figure 3: Boxplots of voting support by broad topics.

Investigating the breakdown of Environmental and Social proposals (Panel 3b), we notice that there are twice as many Social proposals (23%) as there are Environmental proposals (9%). However the Environmental and Social proposals exhibit similar trends, and for instance the withdrawn rates are very similar for both of them (Panel 3a).

Figure 4 presents the association plot for Table 3, and broadly confirms these intuitions. We strongly reject the null of independence of all factors, and there is an unexpectedly high number of withdrawn proposals for both Environmental and Social topics.

		Status		
		voted	withdrn	All
Governance	RowPct	77	23	100
Environmental	RowPct	61	39	100
Social	RowPct	58	42	100
All	RowPct	71	29	100

(a) Row percentages

		Status		
		voted	withdrn	All
Governance	ColPct	73.7	54.8	68.3
Environmental	ColPct	7.7	12.3	9.0
Social	ColPct	18.5	32.9	22.7
All	ColPct	100.0	100.0	100.0

(b) Column percentages

Table 3: Breakdown of shareholder-submitted proposals by topic and status.

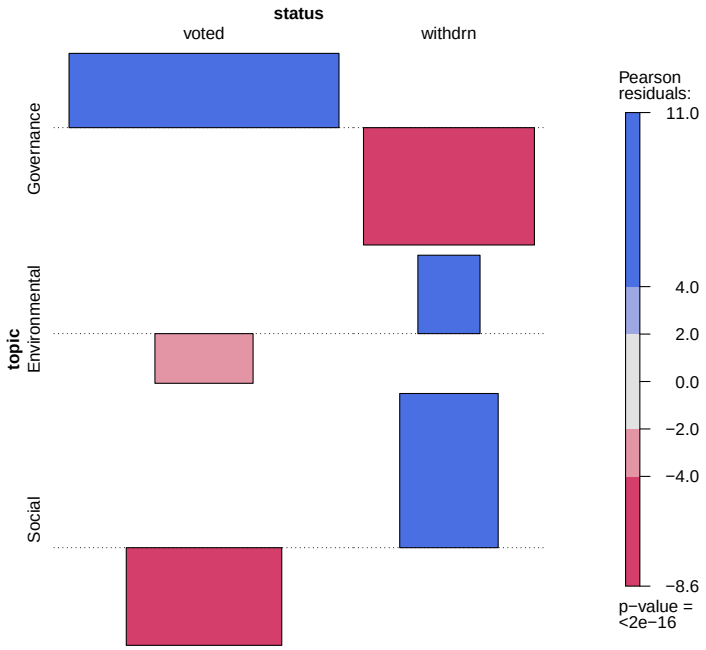

Figure 4: Association plot of shareholder-submitted proposals by topic and status.

The relative proportion of Environmental and Social proposals that are submitted is similar to that of proposals that proceed to a vote (8% and 19%, respectively), as shown in Table 4. The voting support enjoyed by both types of proposals is very similar at around 12% average and 8% median.

			vote	
	n	ColPct	mean	median
Governance	5089	73.7	35.4	34.0
Environmental	532	7.7	11.5	8.0
Social	1280	18.5	11.9	8.0
All	6901	100.0	29.2	25.0

Table 4: Voting support in favor of shareholder proposals, by topic.

In Figure 5 we see that the distribution of voting support for both types of shareholder-sponsored proposals exhibit similar spread and positive skewness. All of these trends suggest that Environmental and Social proposals exhibit similar characteristics and can be studied together in the subsequent sections.

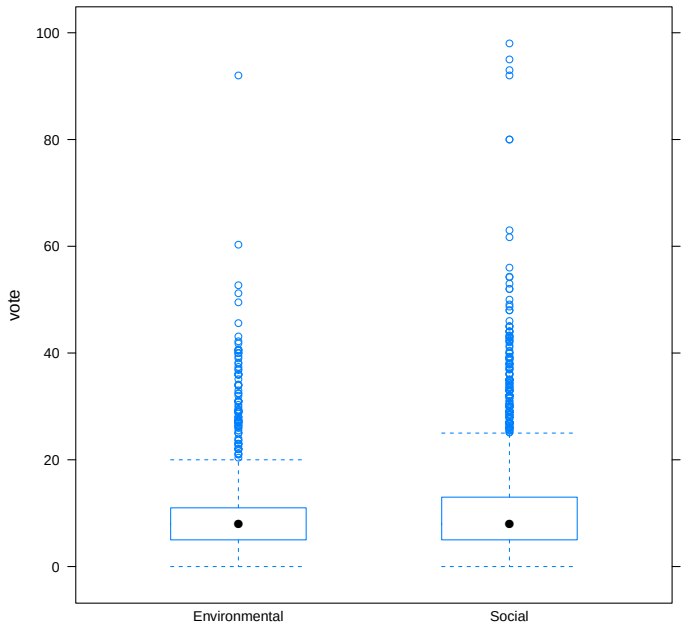

Figure 5: Boxplots of voting support for Environmental and Social proposals.

BY SPONSOR TYPE We can also examine the submission patterns for proposals sponsored by different investors (Table 5). In Panel (5a) one will immediately notice that proposals sponsored by Individual Investors have the lowest rate of all withdrawn proposals (6%). The other types of investors have relatively similar withdrawal rates for the proposals they sponsor, with Institutional Investors having the highest rate at 42%. Individual Investors have the highest proportion of proposals (94%) that go to a vote.

As confirmation of the above, in Panel (5b) we can see that out of all the withdrawn proposals, those sponsored by Individual Investors represent only 7%, even if Individual Investors submit more proposals compared to all other investors (30%).

Figure 6 confirms these intuitions. The null hypothesis for the independence of all factors is once more strongly rejected. Proposals sponsored by Individual Investors are very likely to proceed to a vote, whereas Institutional Investors and Unions have a high likelihood for their proposals to be withdrawn. Proposals by Activist Investors follow more closely the expected frequencies.

		Status		
		voted	withdrn	All
Institutional	RowPct	58.4	41.6	100.0
Activism	RowPct	67.1	32.9	100.0
Individual	RowPct	93.7	6.3	100.0
Unions	RowPct	60.8	39.2	100.0
All	RowPct	71.4	28.6	100.0

(a) Row percentages

		Status		
		voted	withdrn	All
Institutional	ColPct	19.7	34.9	24.0
Activism	ColPct	19.2	23.5	20.4
Individual	ColPct	39.3	6.6	30.0
Unions	ColPct	21.8	35.0	25.6
All	ColPct	100.0	100.0	100.0

(b) Column percentages

Table 5: Breakdown of shareholder-submitted proposals by sponsor type and status.

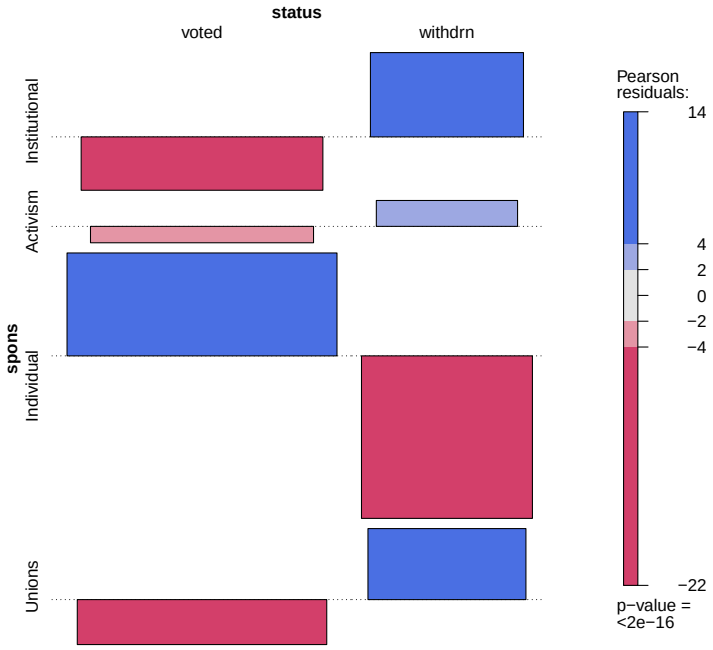

Figure 6: Association plot of shareholder-submitted proposals by sponsor type and status.

If we examine the patterns by sponsor type and topics (Table 6), we notice that Institutional and Activist Investors have much higher withdrawn rates for Environmental/Social proposals (above 50% and 32%, respectively) than for Governance proposals. These rates are also above the average 29% of withdrawn proposals for the entire sample. (Unions have too few data points on Environmental/Social issues to allow us to draw any meaningful conclusions.)

			Status		
			voted	withdrn	All
Institutional	Governance	RowPct	69.8	30.2	100.0
	Environmental	RowPct	44.4	55.6	100.0
	Social	RowPct	49.9	50.1	100.0
	All	RowPct	58.4	41.6	100.0
Activism	Governance	RowPct	76.3	23.7	100.0
	Environmental	RowPct	67.9	32.1	100.0
	Social	RowPct	62.3	37.7	100.0
	All	RowPct	67.1	32.9	100.0
Individual	Governance	RowPct	94.2	5.8	100.0
	Environmental	RowPct	90.0	10.0	100.0
	Social	RowPct	86.8	13.2	100.0
	All	RowPct	93.7	6.3	100.0
Unions	Governance	RowPct	61.1	38.9	100.0
	Environmental	RowPct	15.4	84.6	100.0
	Social	RowPct	60.7	39.3	100.0
	All	RowPct	60.8	39.2	100.0

(a) Row percentages

Table 6: Breakdown of shareholder-submitted proposals by sponsor type, topic and status.

Looking at the Environmental and Social subsets individually (Table 7), it is clear that both Individual Investors and Unions have a very small presence on these topics, collectively representing less than 10% of the submitted proposals. An overwhelming majority of Environmental/Social proposals come from Institutional Investors or Coordinated Activists. (The converse is that Individual Investors and Unions are mostly active on Governance topics.)

Institutional Investors have withdrawn rates bigger than their submitted rates on Environmental/Social topics, reflecting their negotiating power with firm management on these issues. Interestingly, Activist Investors submit two times more Environmental proposals (59%) than Institutional Investors (33%), highlighting the high-profile of Coordinated Activists on this topic. On Social issues, the submissions are spread evenly between Institutional and Activist Investors (each with around 45%).

			Status		
			voted	withdrn	All
Environmental	Institutional	ColPct	23.9	46.6	32.8
	Activism	ColPct	65.6	48.4	58.9
	Individual	ColPct	10.2	1.8	6.9
	Unions	ColPct	0.4	3.2	1.5
	All	ColPct	100.0	100.0	100.0

(a) Column percentages (Environmental subset)

			Status		
			voted	withdrn	All
Social	Institutional	ColPct	37.7	53.0	44.0
	Activism	ColPct	48.6	41.3	45.5
	Individual	ColPct	9.8	2.1	6.6
	Unions	ColPct	4.0	3.6	3.8
	All	ColPct	100.0	100.0	100.0

(b) Column percentages (Social subset)

Table 7: Breakdown of shareholder-submitted proposals by sponsor type and status for the Environmental and Social subsets.

Examining the voting patterns (Table 8), it is striking that Unions-sponsored Environmental proposals that proceed to a vote run in the single digits. For all investor types the average vote for Governance proposals is well above average voting support for Environmental/Social proposals, mirroring the overall trend. Institutional Investors have the highest voting support among all the investors, irrespective of the proposal topic (41% for Governance and 16% for Environmental/Social proposals).

				vote	
		n	ColPct	mean	median
Institutional	Governance	748	10.84	41.32	39.50
	Environmental	127	1.84	17.00	9.00
	Social	482	6.98	16.15	10.00
	All	1357	19.66	30.11	26.80
Activism	Governance	355	5.14	25.04	17.00
	Environmental	349	5.06	9.90	7.00
	Social	622	9.01	9.72	7.00
	All	1326	19.21	13.87	8.00
Individual	Governance	2535	36.73	34.81	33.00
	Environmental	54	0.78	9.05	7.00
	Social	125	1.81	7.27	6.00
	All	2714	39.33	33.03	30.00
Unions	Governance	1451	21.03	35.87	35.30
	Environmental	2	0.03	8.90	8.90
	Social	51	0.74	10.67	7.50
	All	1504	21.79	34.98	34.90

Table 8: Voting support in favor of shareholder proposals by sponsor type and topic.

Modeling the Dynamics of the Submission Process

In addition to the intuitions glimpsed from the examination of the marginal relationships above, we can rely on loglinear models to more formally model

the dynamics of the submission process and the trends in the outcomes of shareholder-sponsored proposals. Loglinear models are useful for analyzing association patterns in n-way contingency tables. As mentioned in Fox and Weisberg (2011), it is possible to fit loglinear models for contingency tables by using Poisson GLMs, assuming that the cell counts are independent Poisson random variables. The canonical link for the Poisson GLM family is the `log`, and all the subsequent models will be fit using this default link.

In modeling the trends in the submission process we use the three-way contingency table displayed in Table 9.

			Status	
			voted	withdrn
Institutional	Governance	n	748	323
	CSR	n	609	642
Activism	Governance	n	355	110
	CSR	n	971	541
Individual	Governance	n	2535	157
	CSR	n	179	25
Unions	Governance	n	1451	925
	CSR	n	53	44

Table 9: Counts of valid shareholder submissions by sponsor type, broad topics and status.

The mosaic plot in Figure 7 suggests that under the model of mutual independence there is quite a lot of unexplained variability in the data (suggested by the lack of gray tiles). This is confirmed by the large residual deviance (5812), which is the difference in deviance between a saturated model (which fits the observed data perfectly) and the fitted model (here, the mutual independence model). The associated likelihood ratio test of the hypothesis of independence is strongly rejected (the p-value approaches 0), also suggesting that the model of independence fits the data rather poorly.

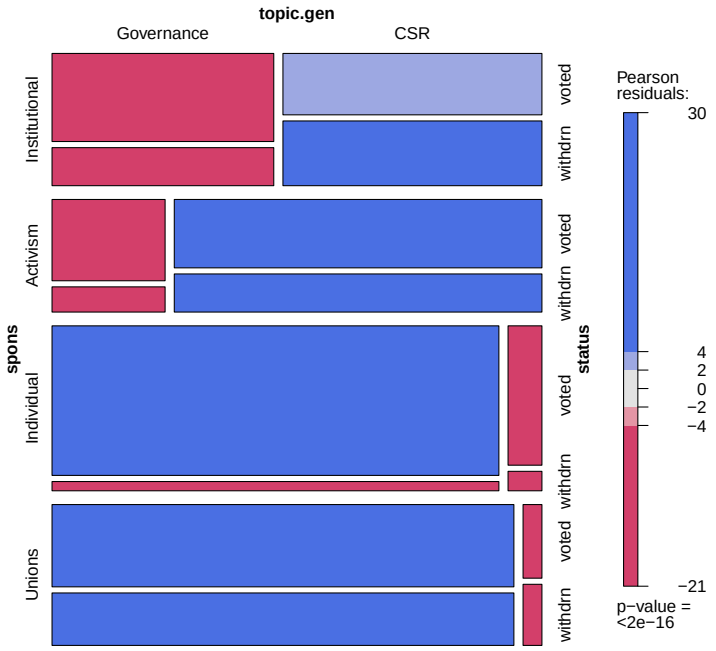

Figure 7: Mosaic plot of shareholder-submitted proposals by sponsor type, broad topics and status, under the independence model.

Having established that some association exists in the data, we can fit a model of homogeneous association, allowing us to test the conditional dependence of all the factors. The Anova Type II tests[1] in Table 10 suggest that all pairwise associations are significant.

	LR Chisq	Df	Pr(>Chisq)
spons	179.74	3	0.0000
topic.gen	1326.83	1	0.0000
status	1825.93	1	0.0000
spons:topic.gen	4235.90	3	0.0000
spons:status	1063.58	3	0.0000
topic.gen:status	134.82	1	0.0000

Table 10: Anova Type II tests for the model of homogeneous association for Table 9

We can now examine the goodness of the fit and the associated coefficients. The residual deviance for this model (10) is relatively small, especially considering the large variability observed in the sample. The mosaic plot in Figure 8 confirms that the model captures most of the sample variability. The gray tiles indicate small departures from expected frequencies under the model of homogeneous association.

1 To determine the overall significance of the individual predictors in regression models, we follow the recommendations in Fox and Weisberg (2011) and rely on the Anova Type II tests. The Type II Anova obeys the principle of marginality, and generally addresses hypotheses of more interest than either Type I or Type III tests. For an extended discussion of the differences between the various types of Anova see Fox (2008).

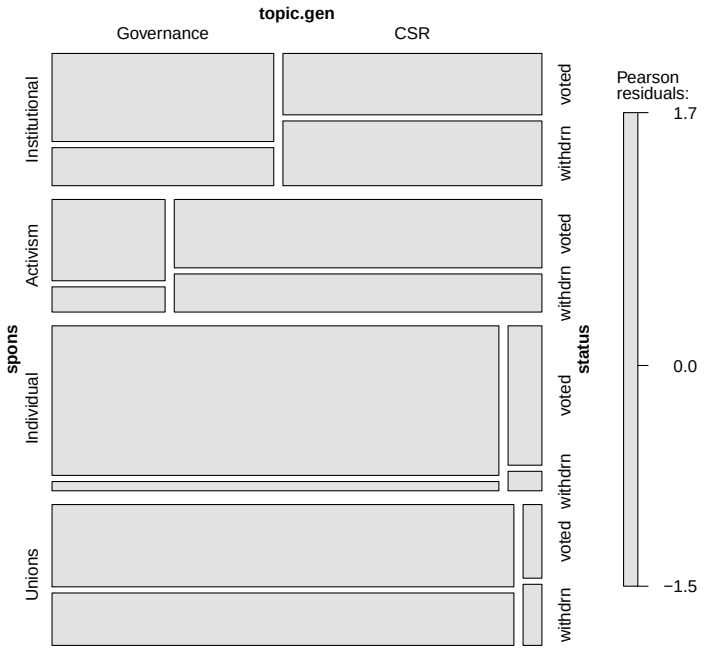

Figure 8: Mosaic plot of shareholder-submitted proposals by sponsor type, broad topics and status, under the homogeneous association model.

Following Agresti (2013), we examine the model lack of fit by computing a dissimilarity index, which attempts to quantify by how much the model fails to fit the observed data. The index ranges between 0 and 1, with 0 indicating a perfect fit (e.g. for the saturated model). The dissimilarity index helps in determining whether the model lack of fit is important in a practical sense; when the estimated index is smaller than 0.03, the observed data tend to follow the model fit quite closely, even though the model may not be perfect. For the homogeneous association model fitted in Table 10 the dissimilarity index is 0.009, which means that moving less than 1% of the data would yield a perfect fit. The model provides thus a good fit.

Moving on to the coefficient estimates, the tests for the main-effect regressors are generally of no interest in loglinear models, hence we will not interpret their coefficients. It is important to note that the "two-way interaction" regressors in loglinear models do not represent interaction in the traditional sense of the term, but rather pertain to the partial association between a pair of variables (see Fox and Weisberg, 2011).

In Table 11 the model estimates that for each type of investor, the odds for a CSR proposal to be withdrawn are twice the odds for it to proceed to a vote. At the same time, withdrawn proposals are twice more likely to be on CSR than on Governance topics.

The odds for a proposal sponsored by an Individual Investor to be withdrawn are very low, 0.13 times the odds of a proposal sponsored by an Institutional Investor. Overall, Individual Investors are least likely to have their proposals withdrawn. Institutional Investors and Unions, on the other hand, are the most likely to have their proposals withdrawn. Lastly, for CSR proposals the odds to be sponsored by a Coordinated Activist is 3 times the odds for the proposal to be sponsored by an Institutional Investor.

	Dependent variable:	
	Freq	
	coef	exp(coef)
	(1)	(2)
sponsActivism	-0.690^{***}	0.502^{***}
	p = 0.000	p = 0.000
sponsIndividual	1.250^{***}	3.480^{***}
	p = 0.000	p = 0.000
sponsUnions	0.697^{***}	2.010^{***}
	p = 0.000	p = 0.000
topic.genCSR	-0.146^{***}	0.864^{***}
	p = 0.004	p = 0.004
statuswithdrn	-0.753^{***}	0.471^{***}
	p = 0.000	p = 0.000
sponsActivism:topic.genCSR	1.110^{***}	3.040^{***}
	p = 0.000	p = 0.000
sponsIndividual:topic.genCSR	-2.500^{***}	0.082^{***}
	p = 0.000	p = 0.000
sponsUnions:topic.genCSR	-3.400^{***}	0.033^{***}
	p = 0.000	p = 0.000
sponsActivism:statuswithdrn	-0.545^{***}	0.580^{***}
	p = 0.000	p = 0.000
sponsIndividual:statuswithdrn	-2.020^{***}	0.133^{***}
	p = 0.000	p = 0.000
sponsUnions:statuswithdrn	0.283^{***}	1.330^{***}
	p = 0.00004	p = 0.00004
topic.genCSR:statuswithdrn	0.742^{***}	2.100^{***}
	p = 0.000	p = 0.000
Constant	6.590^{***}	728.000^{***}
	p = 0.000	p = 0.000
Residual Deviance	10	10
Akaike Inf. Crit.	158.000	158.000
Note:	*p<0.1; **p<0.05; ***p<0.01	

Table 11: Coefficient estimates for the model of homogeneous association. Column (1) displays the estimated conditional *log odds ratios* and Column (2) the corresponding *odds ratios* (or *risk factors*). The dependent variable in the Poisson GLM is the frequency counts from Table 9.

THE ENVIRONMENTAL/SOCIAL SUBSET We can further zoom in on the Environmental/Social subset, to see potential differences in the trends for the two types of proposals. Table 12 displays the three-way contingency table.

			Status	
			voted	withdrn
Institutional	Environmental	n	127	159
	Social	n	482	483
Activism	Environmental	n	349	165
	Social	n	622	376
Individual	Environmental	n	54	6
	Social	n	125	19
Unions	Environmental	n	2	11
	Social	n	51	33

Table 12: Counts of valid shareholder submissions by sponsor type, topic and status for the Environmental/Social subset.

The mosaic plot in Figure 9 shows that there is much less variability within the Environmental/Social subset, since many of the tiles are gray thus indicating only small departures from expected frequencies. Nonetheless, there are clear departures from the model of mutual independence (indicated by the red and blue tiles). This is confirmed by the relatively large residual deviance (226). The associated likelihood ratio test of the hypothesis of independence is strongly rejected as well (the p-value approaches 0), indicating that the model of independence doesn't fit the data very well.

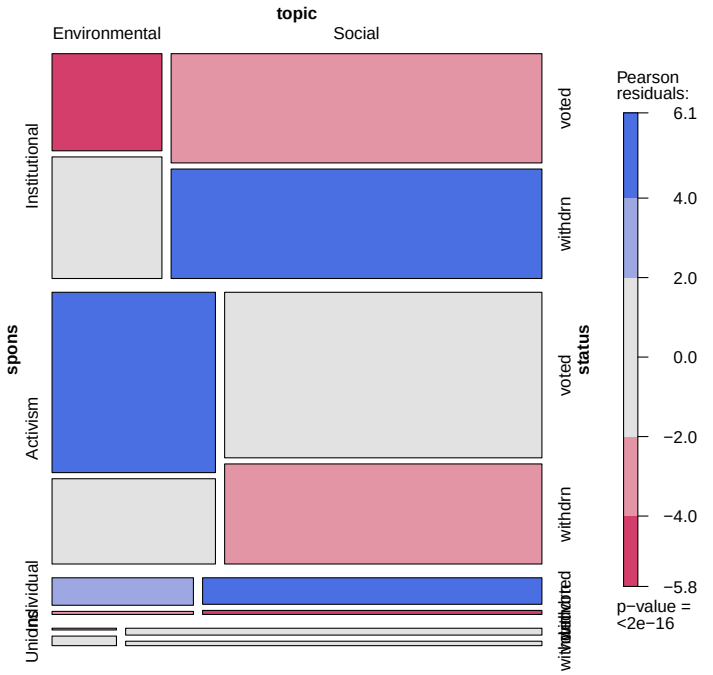

Figure 9: Mosaic plot of shareholder-submitted proposals by sponsor type, topic and status for the Environmental/Social subset, under the independence model.

Having established that some association exists in the data, we can fit a model of homogeneous association, allowing us to test the conditional dependence of all the factors. The Anova Type II tests in Table 13 suggest that most pairwise associations are significant. It is clear however that topic and status are conditionally independent given the identity of the sponsor, so we can ignore this interaction term and refit the Poisson GLM without it.

	LR Chisq	Df	Pr(>Chisq)
spons	2342.91	3	0.0000
topic	585.87	1	0.0000
status	102.93	1	0.0000
spons:topic	53.10	3	0.0000
spons:status	152.23	3	0.0000
topic:status	0.06	1	0.8044

Table 13: Anova Type II tests for the model of homogeneous association for Table 12

We can now examine the the goodness of the fit and the associated coefficients for the refitted model. The residual deviance for this model (18) is relatively small and may be practically insignificant. The mosaic plot in Figure 10 confirms that the model captures most of the sample variability in the the Environmental/Social subset. There is still some unexpected variability concerning Unions, but this departure is very mild. The dissimilarity index associated with this model is 0.025, which is smaller than 0.03. The model provides thus a good fit.

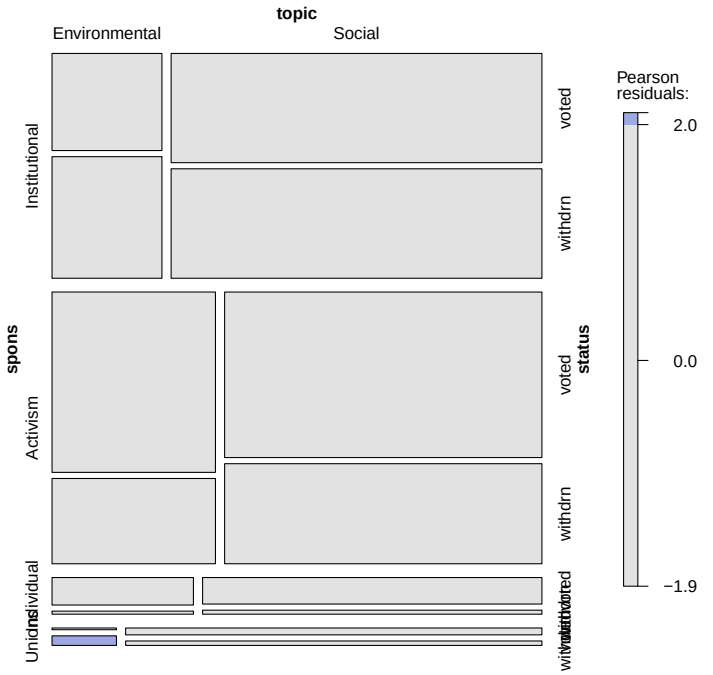

Figure 10: Mosaic plot of shareholder-submitted proposals by sponsor type, topic and status for the Environmental/Social subset, under the homogeneous association model.

We can now proceed to interpret the coefficient estimates in Table 14. Proposals sponsored by Coordinated Activists are more likely to be on Environmental than on Social topics. And withdrawn proposals are more likely to have been sponsored by Institutional Investors than by Coordinated Activists. Unions and Individual Investors have a small presence on these topics, so it is hard to draw meaningful conclusions on these groups.

	Dependent variable:	
	Freq	
	coef	exp(coef)
	(1)	(2)
sponsActivism	0.863^{***}	2.370^{***}
	p = 0.000	p = 0.000
sponsIndividual	-0.973^{***}	0.378^{***}
	p = 0.000	p = 0.000
sponsUnions	-2.980^{***}	0.051^{***}
	p = 0.000	p = 0.000
topicSocial	1.220^{***}	3.370^{***}
	p = 0.000	p = 0.000
statuswithdrn	0.053	1.050
	p = 0.351	p = 0.351
sponsActivism:topicSocial	-0.553^{***}	0.575^{***}
	p = 0.000	p = 0.000
sponsIndividual:topicSocial	-0.341^{**}	0.711^{**}
	p = 0.043	p = 0.043
sponsUnions:topicSocial	0.650^{**}	1.920^{**}
	p = 0.034	p = 0.034
sponsActivism:statuswithdrn	-0.638^{***}	0.529^{***}
	p = 0.000	p = 0.000
sponsIndividual:statuswithdrn	-2.020^{***}	0.132^{***}
	p = 0.000	p = 0.000
sponsUnions:statuswithdrn	−0.239	0.788
	p = 0.260	p = 0.260
Constant	4.940^{***}	139.000^{***}
	p = 0.000	p = 0.000
Residual Deviance	17.7	17.7
Akaike Inf. Crit.	141.000	141.000
Note:	*p<0.1; **p<0.05; ***p<0.01	

Table 14: Coefficient estimates for the model of homogeneous association for the Environmental/Social subset. Column (1) displays the estimated conditional *log odds ratios* and Column (2) the corresponding *odds ratios* (or *risk factors*). The dependent variable in the Poisson GLM is the frequency counts from Table 12.

The data on extra-financial performance comes from the KLD STATS database (which stands for Kinder, Lydenberg, and Domini Statistical Tool for Analyzing Trends in Social and Environmental Performance) provided by KLD Research & Analytics Inc. We have obtained data for years 1997 through 2009. KLD is a rating service that follows a large sample of US firms, including the S&P 1500 constituents, and rates their strengths and concerns on a number of extra-financial performance dimensions reflecting stakeholder concerns. The companies are assessed on multiple indicators within seven "qualitative issue areas", namely: community relations, diversity issues (treatment of women and minorities), employee programs, environmental performance, product characteristics (safety and quality), human rights controversies and corporate governance. On any given qualitative issue area, firms are assessed separately on strengths and concerns. KLD's methodology resides on a binary assessment of strengths/concerns, with 1 indicating the presence of a specific strength (or concern), and 0 indicating its absence.

KLD releases yearly reports on firm extra-financial performance, and bases its findings on both internal sources (e.g. annual surveys or quarterly reports) as well as external sources (e.g. government reports or press articles). While the choice of individual indicators within the qualitative issue areas could be perceived as arbitrary, and their appraisal comes with a certain degree of subjectivity, many scholars in the field favor the KLD database as *"the best-researched and most comprehensive"* (Wood and Jones, 1995) for extra-financial performance research. Some scholars go as far as calling KLD the *"de facto research standard at the moment"* (Waddock, 2003) for measuring extra-financial performance. As pointed out by Goss and Roberts (2011), "while the KLD data are not without their critics, they are widely accepted by practitioners and academics as an objective measure of corporate social responsibility."

One practical difficulty with using the KLD database lies in the changes to the methodology that have happened over the years, KLD electing on various occasions to add (remove) certain indicators to (from) the qualitative issue areas. For example, even though KLD follows firms beginning with 1991, it has introduced the "Health and Safety Strength" indicator in the Employee category only in 2003. Conversely, the "Retirement Benefits Strength" for the same category has been followed only up to 2009, the year it was dropped from KLD's assessment toolbox.

To highlight the severity of the issue, consider the methodological changes that have occurred in 2010.[2] If we focus on the Community Strengths, there were a total of seven different indicators in this category in 2009 (Charitable Giving, Innovative Giving, Support for Housing, Support for Education, Non-US Charitable Giving, Volunteer Programs, Other Strength). However in 2010, four of these indicators were dropped and one new added (Charitable Giving, Innovative Giving, Other Strength, Community Engagement). This means that it is perfectly possible for a company to have scored a total of 7 Community Strengths in 2009 but only 3 in 2010, without there being any substantial change in the firm's social policies. The Community Concerns category paints a very similar picture for 2010, the number of indicators dropping from four (Investment Controversies, Negative Economic Impact, Tax Disputes, Other Concern) to just one (Negative Economic Impact).

To avoid these difficulties, but also to ensure consistency and comparability with other studies, we follow Oikonomou et al. (2012) in defining a set of so-called *omnipresent indicators* for each qualitative issue area, which are reliably followed by KLD during each year of the sample period. The far-reaching methodological changes that occurred in 2010 naturally limit us only to KLD data up to 2009. Thus we end up with the list of indicators shown in Table 15, which will be used to construct the Environment, Social and Aggregate (E/S) Components.

2 KLD became part of MSCI Inc. from June 2010.

	Strengths	Concerns
Environment	Beneficial Products and Services Pollution Prevention Recycling Clean Energy Other Strength	Hazardous Waste Regulatory Problems Ozone Depleting Chemicals Substantial Emissions Agricultural Chemicals Other Concern
Community	Charitable Giving Innovative Giving Support for Housing Other Strength	Investment Controversies Negative Economic Impact Tax Disputes Other Concern
Diversity	CEO Promotion Board of Directors Work/Life Benefits Women & Minority Contracting Employment of the Disabled Other Strength	Controversies Other Concern
Employee Relations	Union Relations Cash Profit Sharing Employee Involvement Retirement Benefits Strength Other Strength	Union Relations Health and Safety Concern Workforce Reductions Other Concern
Product	Quality R&D/Innovation Benefits to Economically Disadvantaged Other Strength	Product Safety Marketing/Contracting Concern Antitrust Other Concern

Table 15: Omnipresent indicators of KLD Issue Areas

We have omitted the Human Rights category entirely for the simple reason that none of its indicators are reliably tracked over the sample period. This is the approach taken by a number of other studies (e.g. Jo and Harjoto 2012). We have also omitted the Corporate Governance category, which until 2002 was known under the name of Other category. KLD's Corporate Governance category doesn't seem to measure *governance* as the notion is traditionally understood in the finance literature (e.g. Gompers et al. 2003). The persistent question marks over these two categories lead us to exclude both of them from the present study.

Another traditional difficulty with KLD data revolves around the question of whether the strengths and concerns should be combined or treated separately. Goss and Roberts (2011) point out that it is important to analyze CSR strengths and concerns separately since concerns are largely exogenous to the firm (i.e. controversial social or environmental events that managers have less control over), whereas investments in areas viewed as strengths are mainly discretionary (i.e. proactive CSR investments). Chatterji et al. (2014) note that while it is common practice to aggregate strengths and concerns for a given CSR category, aggregation might mask important firm-level differences. Since the strengths and concerns from any given issue area appear to be distinct constructs, we keep them separate in our analysis. However, we're additionally investigating the net extra-financial performance by combining the constructs, even if it appears to be a flawed proxy.

We follow Oikonomou et al. (2012) in computing individual components (e.g. for Community Strengths) by adding all the ratings of the indicators for the strengths (or concerns) of a given issue area and then dividing them by the number of associated omnipresent indicators. To compute an individual component for a particular firm in a given year, we do:

$$\text{COMP} = \frac{\sum_{i=1}^{n} R}{n} \tag{1}$$

where n is the number of omnipresent indicators associated with the strengths (or concerns) of the particular issue area (e.g. 4 for Community Strengths), and R represents the omnipresent indicators' respective ratings. This is how we compute the strengths and concerns for the Environment Component (ENV).

For the Social Component, we aggregate the individual components of social activity while preserving the dichotomy between strengths and concerns. We thus add the strengths (or concerns) of the relevant individual components previously constructed (Community, Diversity, Employee Relations, Product) and then divide the obtained sum by the number of components (i.e. four). We follow Hillman and Keim (2001) and give individual components equal weighting, thus implicitly assuming that, for instance, community relations are just as important as product characteristics. The reason for giving equal importance to the KLD categories is that currently there is no theoretical framework for ranking the importance of various stakeholder groups and issues. (A similar reasoning was also used when computing the individual components.)

To compute the strengths (or concerns) of the Social Component for a particular firm in a given year, we do:

$$\text{SOC} = \frac{\text{COM} + \text{DIV} + \text{EMP} + \text{PRO}}{4} \tag{2}$$

For our Aggregate (E/S) Component measure, we apply the same principles as highlighted above and equally weigh the Environment and Social components. To compute the strengths (or concerns) of the Aggregate Component for a particular firm in a given year, we do:

$$\text{AGG} = \frac{\text{ENV} + \text{SOC}}{2} \tag{3}$$

After we obtain the individual and aggregate components, we compute the changes in the KLD ratings in the short term (at 2 and 3 years) and long term (at 5 years). For the Environment Component, we compute the changes for strengths (or concerns) as follows:

$$\Delta \text{ENV}_k = \text{ENV}_{t+k} - \text{ENV}_t \tag{4}$$

where t is the reference year, and k is the number of years at which we compute the changes. We proceed in the same manner for computing ΔSOC_k and ΔAGG_k, for the strengths (or concerns) of the Social Component and the Aggregate Component, respectively.

We consider that changes at two or three years generally relate to the short to medium term. Extra-financial performance is usually constant over time for a given firm and a given environmental or social dimension. Many firms have persistently high or persistently low ratings across time, indicating that these measures are relatively persistent and change only rarely. As such we expect that any changes in social responsibility policies in firms take time to manifest themselves and filter into actual, measurable changes in extra-financial performance.

Moreover, since KLD traditionally releases its reports every year around February (covering the firms' extra-financial performance over the previous year), any given event conductive to a corporate policy change during that past year may take time before it has tangible firm-wide effects and may therefore be missed by KLD analysts. Compounding the problem is that most corporate events are not synced with the KLD reporting practices, and may take place less than a year before KLD releases its findings. As such we believe that allowing two years for KLD to pick up on "immediate" changes within firms, if any, is a sensible choice.

Changes at 5 years are considered to relate to the long term. However, for the changes at five years one practical difficulty is that we have fewer data points given the relatively small sample size.

2.3 *Regression Setting and Methodological Details*

In our main regression setting we attempt to explain the changes in KLD ratings after a vote on a shareholder proposal within a firm. We rely on multiple linear models within the Ordinary Least Squares framework. Some consideration must be given to whether the regressions should be estimated at the proposal level (PL) or firm level (FL). One difficulty with using the PL setting is that we are trying to match one yearly value (i.e. a KLD indicator) with potentially multiple proposal outcomes in a given year.

The FL setting, on the other hand, provides us with yearly aggregated measures (e.g. average voting support for Environmental proposals) which can proxy for typical shareholder support for or interest in a given area of concern. Unlike in the PL setting, the FL yearly measures can be matched $1:1$ with the yearly KLD indicators. And to account for possible heteroscedasticity and dependence in the standard errors, we estimate SEs clustered by firm (Arellano, 1987).

We use the ΔKLD_k variables as the dependent variables throughout our models. One of our independent variables of interest is `vote`, which represents the voting support that a proposal has gathered from the shareholders of the firm.

For each firm-year observation, we compute the average voting support for a given topic. We suspect that voting support might exhibit non-linearities and for this reason we include in the regressions a polynomial of second degree for the `vote` variable. When the coefficients are significant we also compute the inflection point of the fitted curve as the first derivative of $\beta_1 x + \beta_2 x^2$ set equal to 0 (where x and x^2 are the polynomial regressors), thus yielding the inflection point as $-\beta_1/2\beta_2$.

We introduce various controls in the regressions. We control for the number of proposals voted or withdrawn on a given topic (e.g. `Env_voted.nr` or `Env_withdrn.nr`).

We also control for firm characteristics like insider ownership (`insown`), using a polynomial specification as well. When a valid shareholder proposal isn't withdrawn this represents a signal that there is a continuing disagreement between firm management and the shareholder, and that the management is unwilling to effect the requested policy change. Thus it is safe to assume that management with ownership interests will generally vote against shareholder proposals. In this sense, `insown` might be thought of as a raw (if imperfect) measure of governance.

Other firm characteristics include firm size as proxied by the log of Total Assets (`log(AT)`) or industry affiliation. We include year fixed effects and industry effects in all of the regressions. Out of the various classifications proposed by Fama and French (1997) we opt for the Fama-French 12 industry classification, in an attempt to properly control for industry variations but also to reduce uncertainty in parameter estimation (by avoiding a finer classification like the Fama-French 49 industry classification which would necessarily reduce the number of degrees of freedom in the estimation).

In our regression settings we attempt to explain the changes in extra-financial performance by the fact of being targeted in a given year on Environmental or Social topics only (`Env.only` or `Soc.only`), or on both types of issues at the same time (`EnvSoc.both`), which are also variables of interest. We suspect that the 'targeted' variables may be affected by endogeneity concerns: While we expect that the changes in extra-financial performance would depend on the firm being targeted by shareholder-sponsored proposals, we also expect that shareholders would target firms depending on the firms' overall KLD level in that year and on whether the firm has been targeted on a the same topic in the past. To address endogeneity concerns we rely on Instrumental Variables under the two-stage least-squares (2SLS) framework. As instruments we use the level of KLD concerns and strengths on Environmental and Social topics as well as the lagged targeted state (from the previous year, e.g. lagged `Env.only`).

Lastly, since we focus in particular on changes in extra-financial performance, our regression setting is designed such that it uses as a control group those firms that have been targeted only on Governance proposals in a given year. Thus those firms with at least one Environmental or Social proposal are considered as having been 'targeted' in that year. This leads to us having two model specifications: one in which the 'targeted' dummies are the main variables of interest and the other in which we additionally include the number of proposals voted or withdrawn as well as the level voting support.

2.4 *Hypotheses Development*

Annual General Meetings are generally perceived as a governance mechanism which facilitates the taking of strategic decisions in firms. Such meetings allow the shareholders to voice their opinion on various issues, thus indicating to management their preferences in their capacity of owners of the firm. In addition to voting on resolutions, shareholders may also submit resolutions to a vote, subject to a number of conditions.

Before submitting a proposal, shareholders will often engage firm management in private on certain issues of concern. If management is responsive and a satisfactory outcome is reached, the shareholder will take no further action. Otherwise, the shareholder may choose to file a proposal.

Grossman and Stiglitz (1980) point out that informed investors will generally convey their private, costly information into market prices by engaging in a trade. When a trade (i.e. exiting) is not a (satisfactory) option for an existing shareholder, they can alternatively signal their private information via the process of shareholder-sponsored proposals, by publicly submitting a

proposal for a vote by all other shareholders during the AGM. Just as prices reflect the information of informed individuals, so too shareholder-sponsored submissions will generally reflect the private information of informed shareholders. The mechanism of proposal submissions becomes thus a means for the shareholders to express their concerns (and preferences) over the running of the company.

In this sense, submissions perform the role of conveying information from the informed to the uninformed shareholders. We expect thus that the instance of targeting of a firm with a proposal on Environmental or Social topics represents a signal of existing concerns as well as an expectation of future deterioration in the extra-financial performance of the firm.

By making their concerns public, the event can also be seen as an instance of heightened pressure from shareholders on firm management. The question remains, of course, whether such pressure can be effective in affecting corporate behavior. We would expect that a broad push on both Environmental and Social topics at the same time would prove more conducive to improvements in extra-financial performance, whereas targeting on a single topic in a given year would generally serve more as a barometer of shareholder concerns. By the same token, a higher number of voted or withdrawn proposals would also represent more intense shareholder pressure on firm management.

When a shareholder-sponsored proposal proceeds to a vote, it becomes a means for other informed shareholders to publicly convey their private information (and preferences) by way of voting on the submitted proposals. Even if the votes are ultimately not binding and the proposals are only advisory in nature, the annual general meetings become a place for shareholders to signal to firm management the aspects of the firm's business activities that is of concern to them. As with the targeting of firms, we expect that shareholders may be effectively using voting in AGMs to signal their expectation of future problems in the firm. Thus a higher voting share may be associated with decreased extra-financial performance in the future. However, once more, would such pressure from shareholders be effective in inducing changes in corporate behavior?

When resolutions receive a majority support from shareholders, this puts pressure on management to actually implement them (see Ertimur et al., 2010). Contrary to Governance proposals where outcomes around and above 50% are common, Environmental and Social proposals tend to get a smaller share of the vote (with only some 15 instances of votes above 50% in our entire sample). When firms react to higher than average votes on Environmental or Social proposals, we expect that it is a means of signaling to shareholders responsiveness to their concerns. Contrary to Governance changes which may often imply clear and immediate changes within the firm (whether financial changes or within its structure), Environmental or Social proposals may require fuzzier outcomes that would manifest themselves in the longer term. So it may prove less onerous for management to signal responsiveness in response to pressure on environmental and social topics rather than on governance issues.

Generally we expect that firm management would be induced to address shareholder concerns on environmental or social issues when there is a broad push by shareholders across different topics in the same year. So if a firm is being targeted only on a single topic in a given year (e.g. on environmental issues), then we do not have a clear prediction on the effect this would have on the firm's behavior. Targeting on a single topic may have little or no force to induce management reaction, so it is possible that the management may react (i.e. positive effect) or not, in effect making the shareholder proposals serve as a barometer of shareholder expectations, a signaling effect of expected worsening extra-financial performance (i.e. negative effect).

The predictions for the effect of targeting on one topic (e.g. Social only) on the performance of the other topic (e.g. Environmental Strengths) are even more ambiguous: We may think that targeting on one topic may induce the firm to disregard the other topic (i.e. negative effect) or that the firm may start paying attention to its extra-financial performance across the board, potentially resulting in tangible results only on the other topic (i.e. positive effect). Firm management may even resort to using the other area of extra-financial performance as a bargaining chip, e.g. achieve improvements in the other domain (perhaps less onerous) to signal responsiveness to shareholder concerns (i.e. positive effect).

However, when there is a broad push on both fronts at the same time, we expect there to be a positive effect on extra-financial performance, i.e. firm management would be induced into addressing shareholder concerns resulting in an improvement in extra-financial performance (either an increase in strengths or a decrease in concerns). We also expect that a higher number of proposals submitted to a vote or being withdrawn would lead to similar improvements, as would a higher voting support. The effect of more proposals or votes on one topic (e.g. Environmental issues) on the *other* area of concern (e.g. Social issues) remains ambiguous.

3.1 *Environmental Proposals*

Environmental Strengths

In Table 16, for Models (1) through (3) we regress the changes in Environmental Strengths (e.g. at two years: `env.str.dlt2y`) on our main variables of interest, namely whether the firm was targeted only on Environmental topics in a given year (`Env.only`), only on Social topics (`Soc.only`) or on both topics at the same time (`EnvSoc.both`). We control for firm size and insider ownership (using a second degree polynomial specification), as well as for year and industry fixed effects. The SEs are clustered by firm. To address potential endogeneity concerns for the main variables of interest, we use the level of KLD in that year and the lagged targeted dummies as instruments.

Looking at Model (2) we see that in the short term (at 3 years) being targeted only on Social issues in a given year seems to be associated with an increase in Environmental Strengths. Our prediction for this effect is however ambiguous. From Model (3), when targeted on both Social and Environmental issues we notice a long-term improvement in Environmental performance (at 5 years) compared to non-targeted firms, suggesting that shareholder activism across the board (i.e. a broad push) is inductive of management reaction to shareholder concerns.

For Models (1)-(3) we can see at the bottom of the table the joint tests for the validity of the instruments. In all instances the p-values are close to zero, leading us to strongly reject the null of weak instruments which in turn suggests good identification.

For Models (4) through (6) in Table 16 we keep the same dependent variables, but we add several variables that help quantify the intensity of shareholder pressure. Namely we include the number of proposals that went to a vote (`Env_voted.nr` and `Soc_voted.nr`) or were withdrawn (`Env_withdrn.nr` and `Env_withdrn.nr`). We additionally control for the average voting support for each topic (`vote_mean.Env` and `vote_mean.Soc`), both under a second degree polynomial specification. All controlling variables remain unchanged. To address potential endogeneity concerns for the 'targeted' dummies, we once again use the level of KLD in that year and the lagged targeted dummies as instruments.

Looking at Model (4) in the short term (at 2 years), we notice that higher numbers of withdrawn proposals on Social topics is associated with an improvement in Environmental performance, for which we do not have a clear prediction. Similarly, a higher proportion of favorable votes on Social topics is associated with an increase in Environmental Strengths. We can see that this effect is positive up to the inflection point of the fitted curve (at about 43%), which represents a majority of the sample and above which the effect levels out.

For Models (4)-(6) we also notice that the instruments provide strong identification.

	Dependent variable:					
	env.str dlt2y (1)	env.str dlt3y (2)	env.str dlt5y (3)	env.str dlt2y (4)	env.str dlt3y (5)	env.str dlt5y (6)
Env.only	0.027	0.018	−0.077	0.172	−0.970	−3.630
	p = 0.257	p = 0.585	p = 0.202	p = 0.437	p = 0.154	p = 0.381
Soc.only	0.019	0.035**	0.029	−0.173**	−0.036	0.599
	p = 0.133	p = 0.028	p = 0.313	p = 0.016	p = 0.840	p = 0.274
EnvSoc.both	0.026	0.057	0.333***	−0.047	−1.470*	−3.190
	p = 0.311	p = 0.103	p = 0.00002	p = 0.890	p = 0.082	p = 0.445
Env_voted.nr				−0.070	0.662	1.750
				p = 0.644	p = 0.126	p = 0.388
Soc_voted.nr				0.048	0.051	−0.121
				p = 0.114	p = 0.334	p = 0.250
Env_withdrn.nr				−0.122	0.945	3.360
				p = 0.570	p = 0.124	p = 0.383
Soc_withdrn.nr				0.110**	0.040	−0.274
				p = 0.014	p = 0.688	p = 0.300
poly(vote_mean.Env, 2)1				−0.007	0.034	0.162
				p = 0.367	p = 0.199	p = 0.401
poly(vote_mean.Env, 2)2				0.0001	−0.0004	−0.002
				p = 0.306	p = 0.191	p = 0.401
poly(vote_mean.Soc, 2)1				0.008***	0.002	−0.031
				p = 0.010	p = 0.848	p = 0.320
poly(vote_mean.Soc, 2)2				−0.0001**	−0.00003	0.0003
				p = 0.013	p = 0.725	p = 0.328
log(AT)	0.005***	0.006**	0.003	0.006***	0.012**	0.023
	p = 0.003	p = 0.022	p = 0.567	p = 0.004	p = 0.026	p = 0.177
poly(insown, 2)1	0.0004	−0.00000	0.0002	0.001	−0.0003	−0.005
	p = 0.547	p = 0.997	p = 0.885	p = 0.120	p = 0.824	p = 0.451
poly(insown, 2)2	−0.00001	0.00000	0.00001	−0.00003	−0.00000	0.0001
	p = 0.360	p = 0.829	p = 0.800	p = 0.130	p = 0.979	p = 0.409
Constant	−0.056***	−0.080***	−0.071	−0.041**	−0.061	−0.125
	p = 0.0002	p = 0.0004	p = 0.122	p = 0.028	p = 0.276	p = 0.349
Industry dummies (FF 12)	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Weak instr. (Env.onlyTRUE)	0	0	0	0	0	0
Weak instr. (Soc.onlyTRUE)	0	0	0	0	0	0
Weak instr. (EnvSoc.bothTRUE)	0	0	0	0	0	0
Inflect. point (vote_mean.Env)				38.94	46.09	48.65
Inflect. point (vote_mean.Soc)				42.61**	23.52*	46.82
Observations	2,679	2,226	1,508	2,679	2,226	1,508

Note: *p<0.1; **p<0.05; ***p<0.01
Firm Level (FL) regressions with time fixed effects.
Standard errors clustered by firm.

Table 16: Changes in Environmental Strengths at 2, 3 and 5 years

Environmental Concerns

In Table 17, for Models (1) through (3) we regress the changes in Environmental Concerns (e.g. at two years: `env.con.dlt2y`) on our main variables of interest. For more details on the parametrization, which is similar across sections, see the description in the Section 3.1 on page 27.

Looking at the Models (1)-(3) we see that both in the short and long term firms targeted only on Environmental topics in a given year are associated with a deteriorating Environmental performance, suggesting that the concerns that shareholders are signaling indeed materialize. However when firms are targeted on both topics at the same time, they appear to experience a decrease in Environmental concerns in the short term.

For these models we can see at the bottom of the table the tests for the validity of the instruments. We strongly reject the null of weak instruments which suggests good identification.

For Models (4) through (6) in Table 17 we keep the same dependent variables, but add several regressors that help quantify the intensity of shareholder pressure. For more details on the parametrization see the Section 3.1 on page 27.

Looking at Models (4) and (5), the improvement in Environmental performance is also experienced (at 2 and 3 years) with higher numbers of voted or withdrawn proposals, as well as with a higher proportion of favorable votes on Environmental topics. For the voting support the improvement is characteristic of the majority of the sample, up to the inflection point at around 45%, above which the effect plateaus.

For Models (4)-(6) we also notice that the instruments provide strong identification.

Inspecting more closely the intensity needed to induce changes in firms, we can see that shareholders need to target firms on both topics and muster about 11% of voting support on at least two voted Environmental proposals (the sample average for Environmental proposals) to induce improvements in Environmental performance at 2 and 3 years. The effect is similar when firms are targeted on both topics and there are two withdrawn Environmental proposals, or there are one withdrawn and one voted Environmental proposals with 11% of voting support. As expected, the effect is bigger in the case of withdrawn proposals.

	Dependent variable:					
	env.con dlt2y (1)	env.con dlt3y (2)	env.con dlt5y (3)	env.con dlt2y (4)	env.con dlt3y (5)	env.con dlt5y (6)
Env.only	0.081***	0.126***	0.155**	1.050**	3.240**	4.080
	p = 0.010	p = 0.007	p = 0.018	p = 0.023	p = 0.042	p = 0.370
Soc.only	0.043***	0.048**	0.058**	−0.174	−0.640	−0.812
	p = 0.007	p = 0.017	p = 0.014	p = 0.230	p = 0.180	p = 0.178
EnvSoc.both	−0.092***	−0.129***	−0.135	1.070	3.010	3.440
	p = 0.004	p = 0.009	p = 0.132	p = 0.113	p = 0.107	p = 0.461
Env_voted.nr				−0.601*	−1.870*	−1.930
				p = 0.068	p = 0.060	p = 0.392
Soc_voted.nr				0.027	0.118	0.164
				p = 0.615	p = 0.446	p = 0.188
Env_withdrn.nr				−0.915**	−2.800*	−3.740
				p = 0.042	p = 0.052	p = 0.380
Soc_withdrn.nr				0.107	0.383	0.415
				p = 0.209	p = 0.155	p = 0.153
poly(vote_mean.Env, 2)1				−0.036**	−0.114*	−0.182
				p = 0.031	p = 0.083	p = 0.393
poly(vote_mean.Env, 2)2				0.0004**	0.001*	0.002
				p = 0.043	p = 0.099	p = 0.400
poly(vote_mean.Soc, 2)1				0.009*	0.030	0.044
				p = 0.092	p = 0.118	p = 0.185
poly(vote_mean.Soc, 2)2				−0.0001	−0.0003	−0.0005
				p = 0.106	p = 0.138	p = 0.187
log(AT)	0.005***	0.008***	0.008*	−0.0001	−0.006	−0.004
	p = 0.010	p = 0.005	p = 0.066	p = 0.980	p = 0.639	p = 0.811
poly(insown, 2)1	−0.001*	−0.001	−0.001	0.001	0.004	0.006
	p = 0.056	p = 0.252	p = 0.377	p = 0.344	p = 0.333	p = 0.390
poly(insown, 2)2	0.00003*	0.00003	0.00003	−0.00001	−0.00002	−0.0001
	p = 0.076	p = 0.168	p = 0.219	p = 0.704	p = 0.793	p = 0.507
Constant	−0.058***	−0.090***	−0.096***	−0.042	−0.044	−0.047
	p = 0.002	p = 0.0004	p = 0.010	p = 0.319	p = 0.734	p = 0.739
Industry dummies (FF 12)	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Weak instr. (Env.onlyTRUE)	0	0	0	0	0	0
Weak instr. (Soc.onlyTRUE)	0	0	0	0	0	0
Weak instr. (EnvSoc.bothTRUE)	0	0	0	0	0	0
Inflect. point (vote_mean.Env)				44.09*	47.75	49.19
Inflect. point (vote_mean.Soc)				43.65	44.42	46.04
EnvSoc.both + 2 Env_voted.nr + 11 poly(vote_mean.Env, 2)1 = 0				-0.53**	-1.98**	-2.42
EnvSoc.both + 2 Env_withdrn.nr = 0				-0.76**	-2.59**	-4.04
EnvSoc.both + Env_voted.nr + Env_withdrn.nr + 11 poly(vote_mean.Env, 2)1 = 0				-0.84***	-2.91**	-4.23
Observations	2,679	2,226	1,508	2,679	2,226	1,508

Note: *p<0.1; **p<0.05; ***p<0.01
Firm Level (FL) regressions with time fixed effects.
Standard errors clustered by firm.

Table 17: Changes in Environmental Concerns at 2, 3 and 5 years

In Table 18, for Models (1) through (3) we regress the changes in the net Environmental performance (e.g. at two years: `env.diff.dlt2y`), the difference between Environmental Strengths and Concerns, on our main variables of interest. For more details on the parametrization, which is similar across sections, see the description in the Section 3.1 on page 27.

Looking at Models (2) and (3), being targeted on Environmental topics alone is associated with a worsening in net Environmental performance (at 3 as well as 5 years). However, when firms are targeted on both Environmental and Social topics at the same time we notice a net improvement in environmental performance that can be detected both in the short and long term.

For these models we can see at the bottom of the table the tests for the validity of the instruments. We strongly reject the null of weak instruments which suggests good identification.

For Models (4) through (6) in Table 18 we keep the same dependent variables, but add several regressors that help quantify the intensity of shareholder pressure. For more details on the parametrization see the Section 3.1 on page 27.

Looking at Models (4) and (5), the improvement in net Environmental performance is also experienced (at 2 and 3 years) with higher numbers of voted or withdrawn proposals, as well as with a higher proportion of favorable votes on Environmental topics. For voting support the improvement is characteristic of the majority of the sample, up to the inflection point at around 46%, above which the effect plateaus.

For Models (4)-(6) we also notice that the instruments provide strong identification.

To improve for the net environmental performance it seems that more intense pressure from shareholders is necessary. Shareholders need to target firms on both topics and muster an average 11% of voting support on at least four voted Environmental proposals in a given year to induce improvements in net Environmental performance (at 2 and 3 years). The effect is stronger in magnitude in the longer-run, but cannot be precisely estimated at 5 years. The effect is similar when firms are targeted on both topics and there are three withdrawn Environmental proposals, or there are one withdrawn and one voted Environmental proposal with 11% of voting support. Overall, firms seem quite reactive to pressure on environmental issues and the level of intensity required seems to be reasonably low.

	Dependent variable:					
	env.diff dlt2y (1)	env.diff dlt3y (2)	env.diff dlt5y (3)	env.diff dlt2y (4)	env.diff dlt3y (5)	env.diff dlt5y (6)
Env.only	−0.054	−0.109*	−0.233**	−0.875*	−4.210**	−7.700
	p = 0.167	p = 0.054	p = 0.014	p = 0.051	p = 0.041	p = 0.362
Soc.only	−0.025	−0.013	−0.029	0.001	0.604	1.410
	p = 0.192	p = 0.584	p = 0.435	p = 0.995	p = 0.324	p = 0.206
EnvSoc.both	0.118***	0.186***	0.468***	−1.120*	−4.480*	−6.640
	p = 0.005	p = 0.003	p = 0.001	p = 0.086	p = 0.068	p = 0.440
Env_voted.nr				0.531*	2.530*	3.680
				p = 0.095	p = 0.051	p = 0.376
Soc_voted.nr				0.021	−0.067	−0.285
				p = 0.662	p = 0.720	p = 0.202
Env_withdrn.nr				0.793*	3.750**	7.100
				p = 0.066	p = 0.045	p = 0.368
Soc_withdrn.nr				0.003	−0.343	−0.689
				p = 0.974	p = 0.313	p = 0.201
poly(vote_mean.Env, 2)1				0.029*	0.148*	0.344
				p = 0.069	p = 0.083	p = 0.384
poly(vote_mean.Env, 2)2				−0.0003*	−0.002*	−0.004
				p = 0.091	p = 0.095	p = 0.387
poly(vote_mean.Soc, 2)1				−0.001	−0.029	−0.075
				p = 0.801	p = 0.255	p = 0.230
poly(vote_mean.Soc, 2)2				0.00001	0.0003	0.001
				p = 0.835	p = 0.298	p = 0.234
log(AT)	0.0003	−0.002	−0.005	0.006*	0.018	0.028
	p = 0.900	p = 0.613	p = 0.469	p = 0.090	p = 0.267	p = 0.421
poly(insown, 2)1	0.002*	0.001	0.001	0.0001	−0.004	−0.011
	p = 0.070	p = 0.382	p = 0.516	p = 0.915	p = 0.385	p = 0.403
poly(insown, 2)2	−0.00004*	−0.00003	−0.00003	−0.00002	0.00002	0.0002
	p = 0.055	p = 0.349	p = 0.526	p = 0.528	p = 0.822	p = 0.443
Constant	0.002	0.010	0.025	0.001	−0.017	−0.078
	p = 0.935	p = 0.751	p = 0.691	p = 0.985	p = 0.924	p = 0.772
Industry dummies (FF 12)	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Weak instr. (Env.onlyTRUE)	0	0	0	0	0	0
Weak instr. (Soc.onlyTRUE)	0	0	0	0	0	0
Weak instr. (EnvSoc.bothTRUE)	0	0	0	0	0	0
Inflect. point (vote_mean.Env)				45.62	47.36	48.93
Inflect. point (vote_mean.Soc)				50.28	46.61	46.36
EnvSoc.both + 4 Env_voted.nr + 11 poly(vote_mean.Env, 2)1 = 0				1.33*	7.28**	11.87
EnvSoc.both + 3 Env_withdrn.nr = 0				1.26*	6.76**	14.67
EnvSoc.both + Env_voted.nr + Env_withdrn.nr + 11 poly(vote_mean.Env, 2)1 = 0				0.52*	3.43**	7.93
Observations	2,679	2,226	1,508	2,679	2,226	1,508

Note: *p<0.1; **p<0.05; ***p<0.01
Firm Level (FL) regressions with time fixed effects.
Standard errors clustered by firm.

Table 18: Changes in Net Environmental Performance at 2, 3 and 5 years

Social Strengths

In Table 19, for Models (1) through (3) we regress the changes in Social Strengths (e.g. at two years: `soc.str.dlt2y`) on our main variables of interest. For more details on the parametrization, which is similar across sections, see the description in the Section 3.1 on page 27.

Looking at the Models (1) and (2), it seems that for Social Strengths even when targeted on both topics the shareholder-sponsored submissions serve as a barometer of expected worsening in Social performance (at 2 and 3 years). Even a broad shareholder push doesn't seem to have an effect, which would suggest that when pressured by shareholders the firms are more recalcitrant on implementing proactive social investments.

For these models we can see at the bottom of the table the tests for the validity of the instruments. We strongly reject the null of weak instruments which suggests good identification.

For Models (4) through (6) in Table 19 we keep the same dependent variables, but add several regressors that help quantify the intensity of shareholder pressure. For more details on the parametrization see the Section 3.1 on page 27.

Looking at the Models (4) and (5), higher average voting support would seem to indicate expected future worsening in Social Strengths. Once more, stronger shareholder pressure doesn't seem to have an effect on management and simply serves to register their concerns in this area of the firm.

For Models (4)-(6) we also notice that the instruments provide strong identification.

	Dependent variable:					
	soc.str dlt2y (1)	soc.str dlt3y (2)	soc.str dlt5y (3)	soc.str dlt2y (4)	soc.str dlt3y (5)	soc.str dlt5y (6)
Env.only	−0.015	−0.010	−0.030	−0.698**	−0.926*	0.877
	p = 0.279	p = 0.652	p = 0.302	p = 0.045	p = 0.069	p = 0.425
Soc.only	0.006	0.007	−0.010	0.138	0.218	−0.039
	p = 0.434	p = 0.445	p = 0.460	p = 0.152	p = 0.121	p = 0.806
EnvSoc.both	−0.026*	−0.046**	−0.026	−0.910*	−0.988	1.060
	p = 0.077	p = 0.035	p = 0.491	p = 0.082	p = 0.113	p = 0.346
Env_voted.nr				0.454*	0.566*	−0.459
				p = 0.069	p = 0.075	p = 0.403
Soc_voted.nr				−0.003	−0.028	−0.003
				p = 0.927	p = 0.541	p = 0.927
Env_withdrn.nr				0.673**	0.853*	−0.845
				p = 0.050	p = 0.067	p = 0.414
Soc_withdrn.nr				−0.066	−0.116	−0.0003
				p = 0.239	p = 0.144	p = 0.997
poly(vote_mean.Env, 2)1				0.025*	0.034	−0.042
				p = 0.058	p = 0.110	p = 0.417
poly(vote_mean.Env, 2)2				−0.0003*	−0.0004	0.0004
				p = 0.070	p = 0.119	p = 0.418
poly(vote_mean.Soc, 2)1				−0.007*	−0.010*	0.002
				p = 0.072	p = 0.094	p = 0.822
poly(vote_mean.Soc, 2)2				0.0001*	0.0001	−0.00002
				p = 0.083	p = 0.114	p = 0.863
log(AT)	0.003***	0.005***	0.007***	0.005*	0.007*	0.002
	p = 0.002	p = 0.001	p = 0.007	p = 0.068	p = 0.067	p = 0.722
poly(insown, 2)1	−0.0001	−0.0003	0.0002	−0.002*	−0.002	0.001
	p = 0.830	p = 0.655	p = 0.838	p = 0.079	p = 0.176	p = 0.590
poly(insown, 2)2	0.00000	0.00001	0.00001	0.00003	0.00003	−0.00001
	p = 0.794	p = 0.424	p = 0.773	p = 0.194	p = 0.329	p = 0.895
Constant	−0.016*	−0.035**	−0.045**	−0.016	−0.043	−0.047
	p = 0.088	p = 0.012	p = 0.045	p = 0.623	p = 0.320	p = 0.177
Industry dummies (FF 12)	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Weak instr. (Env.onlyTRUE)	0	0	0	0	0	0
Weak instr. (Soc.onlyTRUE)	0	0	0	0	0	0
Weak instr. (EnvSoc.bothTRUE)	0	0	0	0	0	0
Inflect. point (vote_mean.Env)				44.77	46.85	48.94
Inflect. point (vote_mean.Soc)				42.49	44.76	60.52
Observations	2,679	2,226	1,508	2,679	2,226	1,508

Note: *p<0.1; **p<0.05; ***p<0.01
Firm Level (FL) regressions with time fixed effects.
Standard errors clustered by firm.

Table 19: Changes in Social Strengths at 2, 3 and 5 years

Social Concerns

In Table 20, for Models (1) through (3) we regress the changes in Social Concerns (e.g. at two years: `soc.con.dlt2y`) on our main variables of interest. For more details on the parametrization, which is similar across sections, see the description in the Section 3.1 on page 27.

Looking at the Models (1) and (2), firms targeted only on Social topics in a given year are associated with a deteriorating Social performance (i.e. an increase in concerns) at 2 and 3 years, suggesting that absent a broad push the concerns that shareholders are signaling indeed materialize. However when firms are targeted on both topics at the same time, they appear to experience a decrease in Social Concerns at 3 years.

For these models we can see at the bottom of the table the tests for the validity of the instruments. We strongly reject the null of weak instruments which suggests good identification.

For Models (4) through (6) in Table 20 we keep the same dependent variables, but add several regressors that help quantify the intensity of shareholder pressure. For more details on the parametrization see the Section 3.1 on page 27.

Looking at the Models (4) and (5), an improvement in Social performance is also experienced (at 2 and 3 years) with higher numbers of voted or withdrawn proposals, as well as with a higher proportion of favorable votes on Social topics. For voting support the improvement is characteristic of the majority of the sample, up to the inflection point of 43%, above which the effect plateaus.

For Models (4)-(6) we also notice that the instruments provide strong identification.

It would seem that Social topics require more intense pressure from shareholders for tangible changes in firm extra-financial performance. Shareholders need to target firms on both topics and muster about 12% of voting support on at least six voted Social proposals (the sample average for Social proposals) to induce improvements in Social performance in the short term. The effect is similar when firms are targeted on both topics and there are four withdrawn Social proposals, or when there are three withdrawn and four voted Social proposals with 12% of voting support. This would once more suggest that firms are less reactive to shareholder concerns on Social topics, and more recalcitrant to implement changes.

	Dependent variable:					
	soc.con dlt2y (1)	soc.con dlt3y (2)	soc.con dlt5y (3)	soc.con dlt2y (4)	soc.con dlt3y (5)	soc.con dlt5y (6)
Env.only	0.015	0.067**	0.067	−0.010	−0.963	6.220
	p = 0.444	p = 0.026	p = 0.111	p = 0.972	p = 0.159	p = 0.375
Soc.only	0.030**	0.032**	0.013	0.363***	0.538***	−0.423
	p = 0.013	p = 0.046	p = 0.533	p = 0.0001	p = 0.007	p = 0.634
EnvSoc.both	−0.029	−0.085***	−0.065	0.482	−0.649	6.990
	p = 0.173	p = 0.010	p = 0.216	p = 0.256	p = 0.427	p = 0.323
Env_voted.nr				−0.017	0.591	−3.140
				p = 0.928	p = 0.168	p = 0.365
Soc_voted.nr				−0.103**	−0.105	0.015
				p = 0.023	p = 0.140	p = 0.928
Env_withdrn.nr				−0.015	0.879	−5.960
				p = 0.953	p = 0.158	p = 0.362
Soc_withdrn.nr				−0.214***	−0.291**	0.141
				p = 0.001	p = 0.014	p = 0.738
poly(vote_mean.Env, 2)1				−0.0003	0.036	−0.288
				p = 0.972	p = 0.202	p = 0.378
poly(vote_mean.Env, 2)2				0.00001	−0.0004	0.003
				p = 0.933	p = 0.214	p = 0.378
poly(vote_mean.Soc, 2)1				−0.014***	−0.023***	0.026
				p = 0.0003	p = 0.006	p = 0.601
poly(vote_mean.Soc, 2)2				0.0002***	0.0003***	−0.0003
				p = 0.002	p = 0.009	p = 0.632
log(AT)	0.006***	0.011***	0.018***	0.005*	0.013**	−0.009
	p = 0.00003	p = 0.00000	p = 0.00001	p = 0.058	p = 0.021	p = 0.728
poly(insown, 2)1	−0.0001	−0.0004	0.001	−0.001	−0.003	0.008
	p = 0.841	p = 0.693	p = 0.406	p = 0.353	p = 0.177	p = 0.409
poly(insown, 2)2	−0.00002	−0.00001	−0.00004	−0.00000	0.00002	−0.0001
	p = 0.226	p = 0.585	p = 0.271	p = 0.926	p = 0.704	p = 0.402
Constant	−0.041***	−0.086***	−0.090***	−0.073***	−0.126**	−0.117
	p = 0.004	p = 0.00004	p = 0.008	p = 0.004	p = 0.017	p = 0.579
Industry dummies (FF 12)	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Weak instr. (Env.onlyTRUE)	0	0	0	0	0	0
Weak instr. (Soc.onlyTRUE)	0	0	0	0	0	0
Weak instr. (EnvSoc.bothTRUE)	0	0	0	0	0	0
Inflect. point (vote_mean.Env)				19.26	46.97	48.69
Inflect. point (vote_mean.Soc)				43.09***	43.01**	50.61
EnvSoc.both + 6 Soc_voted.nr + 12 poly(vote_mean.Soc, 2)1 = 0				-0.31	-1.56*	7.39
EnvSoc.both + 4 Soc_withdrn.nr = 0				-0.37	-1.81*	7.55
EnvSoc.both + 4 Soc_voted.nr + 3 Soc_withdrn.nr + 12 poly(vote_mean.Soc, 2)1 = 0				-0.74*	-2.22**	7.78
Observations	2,679	2,226	1,508	2,679	2,226	1,508

Note: *p<0.1; **p<0.05; ***p<0.01
Firm Level (FL) regressions with time fixed effects.
Standard errors clustered by firm.

Table 20: Changes in Social Concerns at 2, 3 and 5 years

In Table 21, for Models (1) through (3) we regress the changes in the net Social performance (e.g. at two years: `soc.diff.dlt2y`), the difference between Social Strengths and Concerns, on our main variables of interest. For more details on the parametrization, which is similar across sections, see the description in the Section 3.1 on page 27.

Looking at Model (1), we can see that being targeted on Social topics alone is associated with a decrease in net Social performance in the short term (at 2 years). When firms are targeted on both Environmental and Social topics at the same time we do not notice any net improvement.

For these models we can see at the bottom of the table the tests for the validity of the instruments. We strongly reject the null of weak instruments which suggests good identification.

For Models (4) through (6) in Table 21 we keep the same dependent variables, but add several regressors that help quantify the intensity of shareholder pressure. For more details on the parametrization see the Section 3.1 on page 27.

Looking at the Models (4) and (5), however, improvement in the net Social performance is experienced (at 2 and 3 years) with higher numbers of voted or withdrawn proposals, as well as with a higher proportion of favorable votes on Social topics. This is again suggestive of stronger shareholder pressure being needed to spur changes in firm policies on social topics. For voting support the improvement is characteristic of the majority of the sample, up to the inflection point at around 42%, above which the effect plateaus.

For Models (4)-(6) we also notice that the instruments provide strong identification.

Overall it would seem that (very) intense pressure is required from shareholders for tangible results on social topics. For instance, an improvement in net Social performance would be associated on average with eight withdrawn Social proposals and seven voted proposals with an average voting support of 35% (which is above the 90th percentile in the sample). Firms seem to be recalcitrant when it comes to shareholder pressure on Social topics.

	Dependent variable:					
	soc.diff dlt2y (1)	soc.diff dlt3y (2)	soc.diff dlt5y (3)	soc.diff dlt2y (4)	soc.diff dlt3y (5)	soc.diff dlt5y (6)
Env.only	−0.030	−0.076**	−0.096*	−0.688	0.037	−5.350
	p = 0.226	p = 0.049	p = 0.060	p = 0.136	p = 0.945	p = 0.383
Soc.only	−0.024*	−0.025	−0.023	−0.225*	−0.320***	0.384
	p = 0.062	p = 0.144	p = 0.329	p = 0.087	p = 0.008	p = 0.617
EnvSoc.both	0.003	0.039	0.039	−1.390**	−0.339	−5.930
	p = 0.901	p = 0.253	p = 0.557	p = 0.049	p = 0.585	p = 0.338
Env_voted.nr				0.471	−0.025	2.680
				p = 0.145	p = 0.940	p = 0.377
Soc_voted.nr				0.100*	0.078*	−0.018
				p = 0.067	p = 0.060	p = 0.900
Env_withdrn.nr				0.688	−0.026	5.110
				p = 0.124	p = 0.956	p = 0.371
Soc_withdrn.nr				0.149*	0.174**	−0.141
				p = 0.066	p = 0.015	p = 0.699
poly(vote_mean.Env, 2)1				0.025	−0.001	0.247
				p = 0.131	p = 0.951	p = 0.388
poly(vote_mean.Env, 2)2				−0.0003	0.00001	−0.003
				p = 0.131	p = 0.954	p = 0.388
poly(vote_mean.Soc, 2)1				0.007	0.013***	−0.024
				p = 0.176	p = 0.010	p = 0.577
poly(vote_mean.Soc, 2)2				−0.0001	−0.0002**	0.0002
				p = 0.245	p = 0.012	p = 0.605
log(AT)	−0.003*	−0.006**	−0.011**	0.00001	−0.005	0.011
	p = 0.051	p = 0.011	p = 0.016	p = 0.998	p = 0.108	p = 0.641
poly(insown, 2)1	0.00003	0.0001	−0.001	−0.0004	0.001	−0.007
	p = 0.968	p = 0.953	p = 0.447	p = 0.754	p = 0.428	p = 0.411
poly(insown, 2)2	0.00002	0.00003	0.00005	0.00003	0.00001	0.0001
	p = 0.186	p = 0.292	p = 0.154	p = 0.304	p = 0.852	p = 0.353
Constant	0.025	0.051**	0.046	0.057	0.083***	0.070
	p = 0.104	p = 0.027	p = 0.232	p = 0.159	p = 0.007	p = 0.704
Industry dummies (FF 12)	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Weak instr. (Env.onlyTRUE)	0	0	0	0	0	0
Weak instr. (Soc.onlyTRUE)	0	0	0	0	0	0
Weak instr. (EnvSoc.bothTRUE)	0	0	0	0	0	0
Inflect. point (vote_mean.Env)				43.99	50.83	48.65
Inflect. point (vote_mean.Soc)				43.68	41.79**	49.96
EnvSoc.both + 8 Soc_voted.nr + 35 poly(vote_mean.Soc, 2)1 = 0				-0.34	0.75	-6.92
EnvSoc.both + 8 Soc_withdrn.nr = 0				-0.2	1.06	-7.06
EnvSoc.both + 7 Soc_voted.nr + 8 Soc_withdrn.nr + 35 poly(vote_mean.Soc, 2)1 = 0				0.75	2.07*	-8.03
Observations	2,679	2,226	1,508	2,679	2,226	1,508

Note: *p<0.1; **p<0.05; ***p<0.01
Firm Level (FL) regressions with time fixed effects.
Standard errors clustered by firm.

Table 21: Changes in Net Social Performance at 2, 3 and 5 years

Aggregate Strengths

Lastly we consider the Aggregate (E/S) Strengths, which equally weigh the KLD Environmental and Social indexes: Environment (50%) and Community, Diversity, Employee Relations and Product Quality (all together, 50%).

In Table 22, for Models (1) through (3) we regress the changes in Aggregate Strengths (e.g. at two years: `es.str.dlt2y`) on our main variables of interest. For more details on the parametrization, which is similar across sections, see the description in the Section 3.1 on page 27.

Looking at the Models (1) and (2), in the short term being targeted only on Social issues in a given year seems to be associated with an increase in Aggregate Strengths. When targeted on both Social and Environmental issues in the same year we notice a long-term improvement in aggregate performance (at 5 years).

For these models we can see at the bottom of the table the tests for the validity of the instruments. We strongly reject the null of weak instruments which suggests good identification.

For Models (4) through (6) in Table 22 we keep the same dependent variables, but add several regressors that help quantify the intensity of shareholder pressure. For more details on the parametrization see the Section 3.1 on page 27.

Looking at the Model (5), the improvement in Aggregate Strengths is also experienced (at 3 years) with higher numbers of voted or withdrawn Environmental proposals. For voting support the estimated coefficients are insufficiently precise. Overall it seems that improvements in aggregate extra-financial performance is driven by shareholder pressure on environmental topics.

For Models (4)-(6) we also notice that the instruments provide strong identification.

Inspecting more closely the intensity needed for inducing changes in firms, we can see that shareholders need to target firms on both topics and muster about 11% of voting support on at least three voted Environmental proposals to induce improvements in Aggregate Strengths in the short term. The effect is similar when firms are targeted on both topics and there are three withdrawn Environmental proposals, or when there are one withdrawn and two voted Environmental proposals with an average of 11% voting support.

	Dependent variable:					
	es.str dlt2y (1)	es.str dlt3y (2)	es.str dlt5y (3)	es.str dlt2y (4)	es.str dlt3y (5)	es.str dlt5y (6)
Env.only	0.006	0.004	−0.053	−0.263	−0.948*	−1.370
	p = 0.681	p = 0.841	p = 0.144	p = 0.148	p = 0.077	p = 0.424
Soc.only	0.012*	0.021**	0.009	−0.018	0.091	0.280
	p = 0.084	p = 0.019	p = 0.560	p = 0.736	p = 0.531	p = 0.221
EnvSoc.both	−0.00005	0.006	0.154***	−0.479*	−1.230*	−1.070
	p = 0.998	p = 0.793	p = 0.001	p = 0.082	p = 0.065	p = 0.542
Env_voted.nr				0.192	0.614*	0.646
				p = 0.135	p = 0.070	p = 0.444
Soc_voted.nr				0.022	0.012	−0.062
				p = 0.242	p = 0.784	p = 0.169
Env_withdrn.nr				0.275	0.899*	1.260
				p = 0.118	p = 0.065	p = 0.433
Soc_withdrn.nr				0.022	−0.038	−0.137
				p = 0.474	p = 0.635	p = 0.217
poly(vote_mean.Env, 2)1				0.009	0.034	0.060
				p = 0.179	p = 0.122	p = 0.451
poly(vote_mean.Env, 2)2				−0.0001	−0.0004	−0.001
				p = 0.217	p = 0.124	p = 0.450
poly(vote_mean.Soc, 2)1				0.0004	−0.004	−0.014
				p = 0.839	p = 0.502	p = 0.264
poly(vote_mean.Soc, 2)2				−0.00001	0.00004	0.0002
				p = 0.853	p = 0.590	p = 0.266
log(AT)	0.004***	0.005***	0.005*	0.005***	0.010**	0.012*
	p = 0.00005	p = 0.0004	p = 0.089	p = 0.0005	p = 0.024	p = 0.096
poly(insown, 2)1	0.0001	−0.0002	0.0002	−0.0001	−0.001	−0.002
	p = 0.707	p = 0.757	p = 0.801	p = 0.824	p = 0.350	p = 0.501
poly(insown, 2)2	−0.00001	0.00001	0.00001	−0.00000	0.00001	0.00004
	p = 0.552	p = 0.493	p = 0.676	p = 0.894	p = 0.535	p = 0.367
Constant	−0.036***	−0.057***	−0.058**	−0.029	−0.052	−0.086
	p = 0.00005	p = 0.00004	p = 0.027	p = 0.103	p = 0.266	p = 0.122
Industry dummies (FF 12)	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Weak instr. (Env.onlyTRUE)	0	0	0	0	0	0
Weak instr. (Soc.onlyTRUE)	0	0	0	0	0	0
Weak instr. (EnvSoc.bothTRUE)	0	0	0	0	0	0
Inflect. point (vote_mean.Env)				47.72	46.47	48.55
Inflect. point (vote_mean.Soc)				43.52	53.52	46.13
EnvSoc.both + 3 Env_voted.nr + 11 poly(vote_mean.Env, 2)1 = 0				0.2	0.99*	1.53
EnvSoc.both + 3 Env_withdrn.nr = 0				0.35	1.47*	2.7
EnvSoc.both + 2 Env_voted.nr + Env_withdrn.nr + 11 poly(vote_mean.Env, 2)1 = 0				0.28	1.28*	2.14
Observations	2,679	2,226	1,508	2,679	2,226	1,508

Note: *p<0.1; **p<0.05; ***p<0.01
Firm Level (FL) regressions with time fixed effects.
Standard errors clustered by firm.

Table 22: Changes in Aggregate Strengths at 2, 3 and 5 years

Aggregate Concerns

In Table 23, for Models (1) through (3) we regress the changes in Aggregate Concerns (e.g. at two years: `es.con.dlt2y`) on our main variables of interest. For more details on the parametrization, which is similar across sections, see the description in the Section 3.1 on page 27.

Looking at the Models (1) through (3), we see that in the short and long term being targeted only on Environmental or only on Social issues is associated with an increase in Aggregate Concerns. It seems that narrow targeting of firms serves as a barometer of shareholder concerns over the firm's extra-financial performance. When targeted on both Environmental and Social issues in the same year, however, we notice a short- and long-term decrease in Aggregate Concerns, suggesting that shareholder activism across the board (i.e. a broad push) is inductive of management reaction to shareholder concerns.

For these models we can see at the bottom of the table the tests for the validity of the instruments. We strongly reject the null of weak instruments which suggests good identification.

For Models (4) through (6) in Table 23 we keep the same dependent variables, but add several regressors that help quantify the intensity of shareholder pressure. For more details on the parametrization see the Section 3.1 on page 27.

Looking at the Models (4) and (5), the improvement in extra-financial performance is also experienced (at 2 and 3 years) with higher numbers of voted or withdrawn Environmental proposals, as well as with a higher proportion of favorable votes on Environmental topics. For voting support the improvement is characteristic of the majority of the sample, up to the inflection point at around 44%, above which the effect plateaus.

For Models (4)-(6) we also notice that the instruments provide strong identification.

Inspecting more closely the intensity needed to induce changes in firms, we can see that shareholders need to target firms on both topics and muster about 11% of voting support on at least four voted Environmental proposals to induce a decrease in Aggregate Concerns in the short term. The effect is similar when firms are targeted on both topics and there are four withdrawn Environmental proposals, or when there are two withdrawn and one voted Environmental proposals with 11% of voting support in the same year. As expected, the effect is bigger in magnitude in the case of withdrawn proposals.

	Dependent variable:					
	es.con dlt2y	es.con dlt3y	es.con dlt5y	es.con dlt2y	es.con dlt3y	es.con dlt5y
	(1)	(2)	(3)	(4)	(5)	(6)
Env.only	0.048***	0.097***	0.111***	0.519**	1.140**	5.150
	p = 0.007	p = 0.001	p = 0.005	p = 0.044	p = 0.049	p = 0.354
Soc.only	0.037***	0.040***	0.035**	0.094	−0.051	−0.617
	p = 0.001	p = 0.004	p = 0.027	p = 0.262	p = 0.759	p = 0.381
EnvSoc.both	−0.060***	−0.107***	−0.100*	0.777**	1.180*	5.220
	p = 0.004	p = 0.003	p = 0.094	p = 0.045	p = 0.077	p = 0.355
Env_voted.nr				−0.309*	−0.639*	−2.540
				p = 0.092	p = 0.074	p = 0.356
Soc_voted.nr				−0.038	0.006	0.089
				p = 0.217	p = 0.900	p = 0.498
Env_withdrn.nr				−0.465*	−0.961*	−4.850
				p = 0.062	p = 0.065	p = 0.349
Soc_withdrn.nr				−0.054	0.046	0.278
				p = 0.285	p = 0.621	p = 0.407
poly(vote_mean.Env, 2)1				−0.018**	−0.039*	−0.235
				p = 0.046	p = 0.087	p = 0.365
poly(vote_mean.Env, 2)2				0.0002*	0.0004	0.002
				p = 0.052	p = 0.104	p = 0.368
poly(vote_mean.Soc, 2)1				−0.002	0.004	0.035
				p = 0.446	p = 0.603	p = 0.375
poly(vote_mean.Soc, 2)2				0.00003	−0.00004	−0.0004
				p = 0.474	p = 0.657	p = 0.389
log(AT)	0.005***	0.009***	0.013***	0.002	0.003	−0.007
	p = 0.00001	p = 0.00001	p = 0.00005	p = 0.223	p = 0.378	p = 0.750
poly(insown, 2)1	−0.001	−0.001	0.0002	0.00002	0.0004	0.007
	p = 0.165	p = 0.286	p = 0.871	p = 0.975	p = 0.779	p = 0.378
poly(insown, 2)2	0.00000	0.00001	−0.00000	−0.00001	−0.00000	−0.0001
	p = 0.697	p = 0.534	p = 0.879	p = 0.620	p = 0.966	p = 0.420
Constant	−0.049***	−0.088***	−0.093***	−0.058**	−0.085*	−0.082
	p = 0.00004	p = 0.00001	p = 0.0004	p = 0.015	p = 0.060	p = 0.632
Industry dummies (FF 12)	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Weak instr. (Env.onlyTRUE)	0	0	0	0	0	0
Weak instr. (Soc.onlyTRUE)	0	0	0	0	0	0
Weak instr. (EnvSoc.bothTRUE)	0	0	0	0	0	0
Inflect. point (vote_mean.Env)				43.56	48.12	48.88
Inflect. point (vote_mean.Soc)				42.09	49.8	47.63
EnvSoc.both + 4 Env_voted.nr + 11 poly(vote_mean.Env, 2)1 = 0				-0.66	-1.81*	-7.52
EnvSoc.both + 4 Env_withdrn.nr = 0				-1.08*	-2.66*	-14.19
EnvSoc.both + Env_voted.nr + 2 Env_withdrn.nr + 11 poly(vote_mean.Env, 2)1 = 0				-0.66*	-1.81*	-9.61
Observations	2,679	2,226	1,508	2,679	2,226	1,508

Note: *p<0.1; **p<0.05; ***p<0.01
Firm Level (FL) regressions with time fixed effects.
Standard errors clustered by firm.

Table 23: Changes in Aggregate Concerns at 2, 3 and 5 years

Net Aggregate Performance

In Table 24, for Models (1) through (3) we regress the changes in the net Aggregate performance (e.g. at two years: `es.diff.dlt2y`), the difference between Aggregate Strengths and Concerns, on our main variables of interest. For more details on the parametrization, which is similar across sections, see the description in the Section 3.1 on page 27.

Looking at the Models (1) through (3), we see that in the short and long term being targeted only on Environmental or only on Social issues in a given year is associated with a worsening in net Aggregate performance. Once more, it seems that isolated targeting of firms serves as a barometer of shareholder concerns over the firm's overall extra-financial performance. When targeted on both Environmental and Social issues in the same year, however, we notice a short- and long-term improvement in Aggregate performance, suggesting that shareholder activism across the board is inductive of management reaction to shareholder concerns.

For these models we can see at the bottom of the table the tests for the validity of the instruments. We strongly reject the null of weak instruments which suggests good identification.

For Models (4) through (6) in Table 24 we keep the same dependent variables, but add several regressors that help quantify the intensity of shareholder pressure. For more details on the parametrization see the Section 3.1 on page 27.

Looking at the Models (4) and (5), the improvement in net Aggregate performance is also experienced (at 2 and 3 years) with higher numbers of voted or withdrawn Environmental proposals, as well as with a higher proportion of favorable votes on Environmental topics. For voting support the improvement is characteristic of the majority of the sample, up to the inflection point at around 45%, above which the effect plateaus.

For Models (4)-(6) we also notice that the instruments provide strong identification.

Inspecting more closely the intensity needed for inducing changes in firms, we can see that shareholders need to target firms on both topics and muster about 11% of voting support on at least four voted Environmental proposals to induce an improvement in the firm's extra-financial performance in the short term. The effect is similar when firms are targeted on both topics and there are four withdrawn Environmental proposals, or when there are two withdrawn and two voted Environmental proposals with an average 11% of voting support. The effect is bigger in magnitude in the case of withdrawn proposals.

	Dependent variable:					
	es.diff dlt2y (1)	es.diff dlt3y (2)	es.diff dlt5y (3)	es.diff dlt2y (4)	es.diff dlt3y (5)	es.diff dlt5y (6)
Env.only	−0.042*	−0.093***	−0.164***	−0.782*	−2.080**	−6.520
	p = 0.063	p = 0.007	p = 0.002	p = 0.054	p = 0.043	p = 0.357
Soc.only	−0.024**	−0.019	−0.026	−0.112	0.142	0.898
	p = 0.038	p = 0.205	p = 0.241	p = 0.373	p = 0.632	p = 0.320
EnvSoc.both	0.060**	0.113***	0.254***	−1.260**	−2.410*	−6.290
	p = 0.021	p = 0.005	p = 0.003	p = 0.042	p = 0.052	p = 0.382
Env_voted.nr				0.501*	1.250*	3.180
				p = 0.085	p = 0.053	p = 0.363
Soc_voted.nr				0.060	0.005	−0.151
				p = 0.198	p = 0.952	p = 0.375
Env_withdrn.nr				0.741*	1.860**	6.110
				p = 0.061	p = 0.047	p = 0.355
Soc_withdrn.nr				0.076	−0.084	−0.415
				p = 0.307	p = 0.606	p = 0.337
poly(vote_mean.Env, 2)1				0.027*	0.073*	0.295
				p = 0.064	p = 0.084	p = 0.372
poly(vote_mean.Env, 2)2				−0.0003*	−0.001*	−0.003
				p = 0.076	p = 0.094	p = 0.374
poly(vote_mean.Soc, 2)1				0.003	−0.008	−0.049
				p = 0.552	p = 0.527	p = 0.331
poly(vote_mean.Soc, 2)2				−0.00003	0.0001	0.001
				p = 0.584	p = 0.601	p = 0.342
log(AT)	−0.002	−0.004*	−0.008*	0.003	0.006	0.019
	p = 0.295	p = 0.091	p = 0.075	p = 0.343	p = 0.427	p = 0.489
poly(insown, 2)1	0.001	0.001	0.0001	−0.0001	−0.001	−0.009
	p = 0.139	p = 0.458	p = 0.960	p = 0.892	p = 0.519	p = 0.390
poly(insown, 2)2	−0.00001	−0.00000	0.00001	0.00001	0.00001	0.0002
	p = 0.447	p = 0.972	p = 0.663	p = 0.772	p = 0.732	p = 0.389
Constant	0.013	0.031	0.036	0.029	0.033	−0.004
	p = 0.315	p = 0.147	p = 0.343	p = 0.452	p = 0.709	p = 0.987
Industry dummies (FF 12)	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Weak instr. (Env.onlyTRUE)	0	0	0	0	0	0
Weak instr. (Soc.onlyTRUE)	0	0	0	0	0	0
Weak instr. (EnvSoc.bothTRUE)	0	0	0	0	0	0
Inflect. point (vote_mean.Env)				44.84	47.33	48.82
Inflect. point (vote_mean.Soc)				42.31	51.76	47.18
EnvSoc.both + 4 Env_voted.nr + 11 poly(vote_mean.Env, 2)1 = 0				1.05	3.41*	9.69
EnvSoc.both + 4 Env_withdrn.nr = 0				1.71*	5.03**	18.15
EnvSoc.both + 2 Env_voted.nr + 2 Env_withdrn.nr + 11 poly(vote_mean.Env, 2)1 = 0				1.53*	4.63**	15.55
Observations	2,679	2,226	1,508	2,679	2,226	1,508

Note: *p<0.1; **p<0.05; ***p<0.01
Firm Level (FL) regressions with time fixed effects.
Standard errors clustered by firm.

Table 24: Changes in Net Aggregate Performance at 2, 3 and 5 years

This paper investigates how firms respond to shareholder engagement. The shareholder-sponsored proposals is a governance mechanism that allows shareholders to raise issues with firm management on various ESG issues that affect firm stakeholders.

From examining the frequency distributions of shareholder proposals using loglinear models, we find that proposals on Environmental or Social topics are more likely to be withdrawn than to go to a vote, and that withdrawn proposals are more likely to be on Environmental or Social topics than on Governance topics. Individual Investors are very unlikely to have their proposals withdrawn, whereas Institutional Investors and Unions are the most likely. Overall Coordinated Activists seem to be very active on Environmental and Social topics. Individual Investors and Unions, however, focus their efforts mostly on Governance issues, largely ignoring other topics.

We also investigate the short-term and long-term changes in extra-financial performance after a voted or withdrawn shareholder-sponsored proposal. Since the submission process may be affected by endogeneity issues, we adopt the two-stage least squares (2SLS) framework under which we instrument the fact of being targeted by the level of extra-financial performance and the lagged targeted data from the previous year.

Our results suggest that being targeted on both Environmental and Social topics in the same year is generally associated with improvements in extra-financial performance, both in the short term and in the long term. This would seem to indicate that shareholder engagement on a broad set of issues is more conducive to changes in the extra-financial performance of firms. Examining the intensity of shareholder pressure, we find that a higher number of voted or withdrawn proposals, as well as a higher proportion of favorable votes in AGMs are associated with improvements in extra-financial performance (in the short term). The findings are similar for the aggregate measures of extra-financial performance. For environmental issues, the fitted models suggest that a low number of withdrawn and voted proposals (with average voting support of about 10%) are needed to induce meaningful changes in firms.

The present study could be improved in several ways. It would be important to include in the regression setting controls for institutional ownership, and to investigate the presence of institutional owners (or even blockholders) and its impact on the effectiveness of the shareholder submission process. Governance levels is another important factor that should be controlled for and investigated, as well as including additional firm-level controls such as past financial performance or leverage.

A. Agresti. *Categorical Data Analysis*. Wiley Series in Probability and Statistics. Wiley, 2013. ISBN 9781118710944.

Manuel Arellano. Computing Robust Standard Errors for Within-groups Estimators. *Oxford bulletin of Economics and Statistics*, 49(4):431–434, 1987.

Rob Bauer, Frank Moers, and Michael Viehs. Who withdraws shareholder proposals and does it matter? An analysis of sponsor identity and pay practices. *Corporate Governance: An International Review*, 23(6):472–488, 2015.

Aaron K Chatterji, David I Levine, and Michael W Toffel. Do Corporate Social Responsibility Ratings Predict Corporate Social Performance? *Innovation*, 2014.

IJ Dyck, Karl V Lins, Lukas Roth, and Hannes F Wagner. Do Institutional Investors Drive Corporate Social Responsibility? International Evidence. *Do Institutional Investors Drive Corporate Social Responsibility*, 2015.

Yonca Ertimur, Fabrizio Ferri, and Stephen R Stubben. Board of directors' responsiveness to shareholders: Evidence from shareholder proposals. *Journal of Corporate Finance*, 16(1):53–72, 2010.

Eugene F Fama and Kenneth R French. Industry costs of equity. *Journal of financial economics*, 43(2):153–193, 1997.

John Fox. *Applied regression analysis and generalized linear models*. Sage Publications, 2008.

John Fox and Sanford Weisberg. *An R companion to applied regression*. Sage, 2011.

M. Friendly. *Visualizing Categorical Data*. SAS Institute, 2000. ISBN 9781590474976.

Stuart L Gillan and Laura T Starks. Corporate governance proposals and shareholder activism: The role of institutional investors. *Journal of financial Economics*, 57(2):275–305, 2000.

Christian Gollier and Sébastien Pouget. The 'Washing Machine': Investment Strategies and Corporate Behavior with Socially Responsible Investors. *Working Paper*, 2014.

Paul Gompers, Joy Ishii, and Andrew Metrick. Corporate governance and equity prices. *The Quarterly Journal of Economics*, 118(1):107–156, 2003.

Allen Goss and Gordon S Roberts. The impact of corporate social responsibility on the cost of bank loans. *Journal of Banking & Finance*, 35(7):1794–1810, 2011.

Sanford J Grossman and Joseph E Stiglitz. On the impossibility of informationally efficient markets. *The American economic review*, 70(3):393–408, 1980.

R. Heinkel, A. Kraus, and J. Zechner. The effect of green investment on corporate behavior. *Journal of Financial and Quantitative Analysis*, 36(4): 431–449, 2001.

Amy J Hillman and Gerald D Keim. Shareholder value, stakeholder management, and social issues: What's the bottom line? *Strategic management journal*, 22(2):125–139, 2001.

Harrison Hong and Marcin Kacperczyk. The price of sin: The effects of social norms on markets. *Journal of Financial Economics*, 93(1):15–36, 2009.

Hoje Jo and Maretno A Harjoto. The causal effect of corporate governance on corporate social responsibility. *Journal of business ethics*, 106(1):53–72, 2012.

Jonathan M Karpoff, Paul H Malatesta, and Ralph A Walkling. Corporate governance and shareholder initiatives: Empirical evidence. *Journal of Financial Economics*, 42(3):365–395, 1996.

Ioannis Oikonomou, Chris Brooks, and Stephen Pavelin. The impact of corporate social performance on financial risk and utility: A longitudinal analysis. *Financial Management*, 41(2):483–515, 2012.

Luc Renneboog and Peter G Szilagyi. The role of shareholder proposals in corporate governance. *Journal of Corporate Finance*, 17(1):167–188, 2011.

Luc Renneboog, Jenke Ter Horst, and Chendi Zhang. Socially responsible investments: Institutional aspects, performance, and investor behavior. *Journal of Banking & Finance*, 32(9):1723–1742, 2008.

Randall S Thomas and James F Cotter. Shareholder proposals in the new millennium: Shareholder support, board response, and market reaction. *Journal of Corporate Finance*, 13(2):368–391, 2007.

Sandra Waddock. Myths and realities of social investing. *Organization and Environment*, 16(3):369–380, 2003.

Donna J Wood and Raymond E Jones. Stakeholder mismatching: A theoretical problem in empirical research on corporate social performance. *The International Journal of Organizational Analysis*, 3(3):229–267, 1995.