The Rise of NGO Activism: Online Appendix

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A. Statistics on Industry Lobbying and NGO Mobilization in the US

This appendix provides some illustrative and suggestive statistics on industry lobbying and NGO mobilization in the US, as well as the relationship between them. We combine two data sources to assemble a panel dataset. This dataset contains, for each year between 2002 and 2014, and each industrial sector, ($\imath$) the number of negative reports by US-based NGOs about US-based companies and ($\imath\imath$) the lobbying expenditures of US-based companies. The next subsection describes our data sources in more details.

Data Description

Industry Lobbying. We use the lobbying expenditures data compiled by the Center for Responsive Politics (CRP).[31] The data comprise the entire federal lobbying activity undertaken in the US and disclosed to the Secretary of the Senate's Office of Public Records (SOPR) as required by the 1995 Lobbying Disclosure Act. We use the CRP's calculation of annual lobbying expenditures from 2002 to 2014, expressed in current dollars, and aggregated by industrial sector: agribusiness; communication and electronics; construction; defense; energy and natural resources; finance, insurance, and real estate; health; miscellaneous business; transportation.

Between 2002 and 2014, the mean value of the above sectors' lobbying expenditures was $268 million per sector per year. Their standard deviation was $157 million. Industrial sectors' total expenditures in lobbying amounted to $2.4 billion per year. Annual total expenditures increased by an average of $106 million per year. Over the period, the "health" and "finance, insurance and real estate" sectors made the highest expenditures around $5.5 billion, followed by "communication and electronics." The "construction" sector made the lowest expenditures, with $600 million.

NGO Negative Reports. To capture NGOs' opposition, we use the number of negative reports that NGOs publish on their websites against firms' projects and practices, as recorded

31. Data on lobbying expenditures from the Senate's Office of Public Records has been previously employed in a few papers. See, for example, Bertrand et al. (2014), and the references therein.

by Covalence Ethical Quote (CEQ). We extract all 5004 negative reports published by US-based NGOs—i.e., 268 NGOs—against US-based companies—i.e., 738 companies.[32]

For example, the data include reports published by Rainforest Action Network in 2004 against Citigroup and by Alternet in 2013 against Starbucks—two conflicts mentioned earlier in the main text. Another entry, for example, shows the mobilization that took place in 2003 against the poor fuel efficiency of Ford cars. It reports a letter written by Rainforest Action Network and Global Exchange calling on Ford CEO to dramatically increase fuel efficiency: "Right now, a patriotic American seeking to embrace energy independence by purchasing a high efficiency hybrid must turn to Japanese automakers. Ford is years behind the curve." "If America is to have good jobs, a cleaner planet and a safer country, Bill Ford Jr. needs to take bold measures to kick the oil habit." This mobilization was successfully followed by Ford's decision in 2007 to develop hybrid vehicles.[33]

Finally, to assemble our panel dataset, we have matched each company targeted by an NGO report with its corresponding sector within the list of sectors used in the lobbying expenditures database: agribusiness; communication and electronics; construction; defense; energy and natural resources; finance, insurance, and real estate; health; miscellaneous business; transportation. Therefore, for each of the 5004 negative reports, the obtained data comprise its year of publication, and the sector of the targeted company.

Between 2002 and 2014, the average number of NGOs' negative reports was 43 per year and per sector. Their standard deviation was more than 38 reports. On average, 385 such reports were published per year. Figure VIII shows the total number of reports by sector over the period 2002-2014. Put aside the "miscellaneous business" sector, the sectors most targeted by NGOs' negative reports were "agribusiness" and "energy and natural resources" with more than 900 reports, followed by "finance, insurance and real estate." The least targeted sectors were "defense" and "construction."

32. Data on NGOs' reports recorded by CEQ have been used in a very small number of papers. See, for example, Couttenier and Hatte (2016).

33. See *Reuters*, July 9, 2007, available at `http://www.reuters.com/article/us-ford-edisonintl-hybrid-idUSN0931005820070709`.

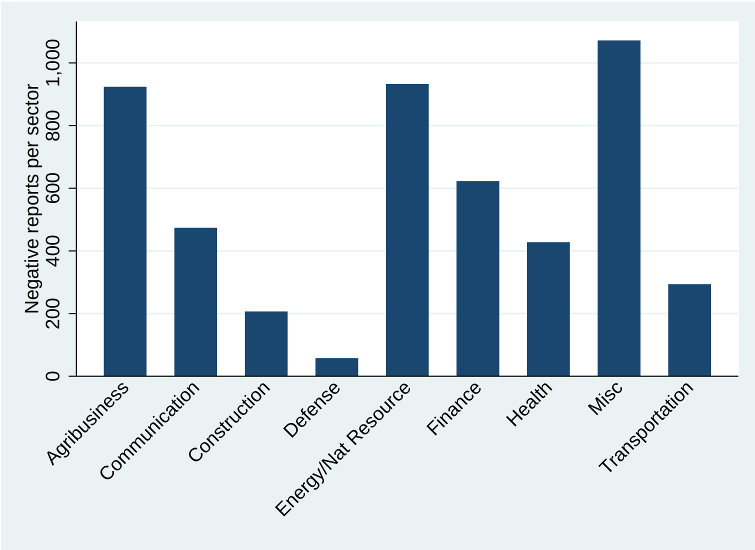

Figure VIII: NGOs' negative reports per sector

Relationship between NGOs' Negative Reports and Changes in Lobbying Expenditures

Our theory rests on the view that NGO opposition is a response to industry lobbying. Indeed, our model predicts that NGO opposition only takes place in contexts in which lobbying is observed.

We examine the statistical relationship between increases in lobbying expenditures and NGOs' negative reports. More precisely, we estimate the following basic linear model:

$$NGOReports_{it} = \kappa + \rho \Delta Lobbying_{it} + \nu \Delta Lobbying_{it-1} + FE_i + FE_t + \epsilon_{it}.$$

The dependent variable $NGOReports_{it}$ is the number of NGOs' negative reports targeting sector i in year t. The independent variable $\Delta Lobbying_{it}$ is the increase in lobbying expenditures made by sector i between years $t-1$ and t; $\Delta Lobbying_{it-1}$ is the independent variable's lagged value. FE_i is a time-invariant sector-specific fixed effect which filters out sectoral characteristics that can affect NGO opposition. Indeed, according to our theory, the relatively low number of reports targeting the "defense" and "health" sectors may be due, for example, to low transparency in those sectors. FE_t is a time fixed effect. We estimate the scalar coefficients κ, ρ and ν by the method of least squares with clustered standard errors.

The result is presented in the following table.

Table I: Relationship between NGOs' Negative Reports and Prior Changes in Lobbying Expenditures

	Reports
$\Delta Lobbying$	0.129^{**}
Lagged $\Delta Lobbying$	0.0492
Constant	48.04^{***}
Number of observations	108

** $p < 0.05$

*** $p < 0.01$

Table I shows that the coefficient ρ is significantly different from zero at the 5 percent level. Increased lobbying expenditures by $100 million are associated with 13 additional negative reports by NGOs. First, note that the relationship established in this subsection involves the increase in, rather than the level of, lobbying expenditures.[34] The role of the increase in lobbying expenditures, therefore, suggests that industry influence exhibits some persistency—an aspect that is absent from our model. This positive association between increases in lobbying expenditures and NGOs' negative reports is compatible with our view, but is only suggestive; clearly, the identification of a causal relationship goes beyond the objective of this appendix.

Relationship between Lobbying Expenditures and Prior NGOs' Negative Reports

Our theory also suggests that NGOs' mobilizations contribute to deter industry lobbying. Indeed, our model predicts that in the presence of NGOs industry lobbying is less likely.

We examine how prior NGOs' negative reports are associated with lobbying expenditures over the period 2002-2014. More precisely, we estimate the following basic linear model:

$$Lobbying_{it} = \lambda + \mu NGOReports_{it} + \varrho NGOReports_{it-1} + FE_i + FE_t + \epsilon_{it}.$$

The dependent variable $Lobbying_{it}$ is the lobbying expenditures made by sector i in year t. The independent variable $NGOReports_{it}$ and its lagged value $NGOReports_{it-1}$ are the number of NGOs' negative reports against sector i in years t and $t-1$ respectively. FE_i is a time-invariant sector-specific fixed effect which filters out sectoral characteristics that can affect

34. The estimation of the model with prior lobbying expenditures instead of their prior increase implies a less significant relationship.

lobbying. According to our theory, for example, the economic size of an industry contributes to explain the occurrence of its lobbying. FE_t is a year fixed effect. We estimate the scalar coefficients λ, μ and ϱ by the method of least squares with clustered standard errors.

The result is presented in the following table.

Table II: Relationship between Lobbying Expenditures and Prior NGOs' Negative Reports

	Lobbying
Reports	-0.349^{**}
Lagged *Reports*	-0.635^{**}
Constant	256.4^{***}
Number of observations	108

** $p < 0.05$

*** $p < 0.01$

Table II shows that the coefficients ϱ is significantly different from zero at the 5 percent level. 50 negative reports by NGOs in a given year are associated with $32 million less lobbying expenditures in the next year. This negative relationship can be illustrated by the following graph (Figure IX) in which, for each year, the lagged number of total NGOs' negative reports is associated with total lobbying expenditures. The corresponding correlation coefficient is 0.92.

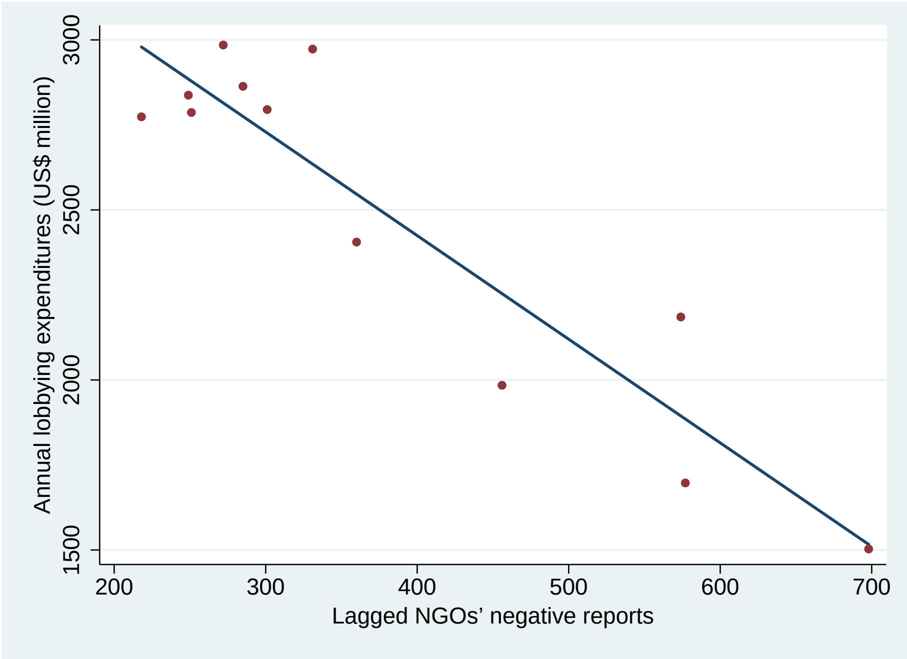

Figure IX: Lagged NGOs' negative reports and lobbying expenditures

This negative relationship between NGOs' negative reports and subsequent lobbying expenditures is compatible with our model's prediction. However, it is only suggestive; again, clearly, the identification of a causal relationship goes beyond the objective of this appendix.

B. Proofs

Proof of Proposition 1

The regulator approves a bad project if and only if $(1 + \alpha(e))\, v \geq c_H$, which is equivalent to $\alpha(e) \geq \bar{\alpha}$ as given in (3).

The influence function (2) gives the minimum expenditures $\bar{e} = i\bar{\alpha}$ that induce the regulator to approve the project when it is bad. The industry is willing to make these expenditures if and only if $i\bar{\alpha}$ is less than the additional expected profit $p_H vq$ due to the approval of the project when it is bad: $p_H vq \geq i\bar{\alpha}$. Substituting (3) in the latter inequality yields (4). ■

Proof of Lemma 1

After a campaign. Assume that the firm has not conceded after a mobilization of intensity m, so that a campaign is launched and generates a potential harm h. When the firm undertakes the project despite the campaign, it makes a net profit $vq - h$. When it concedes to the campaign, it is inflicted persistent damages ωh. Therefore, the firm concedes after a campaign if and only if $vq - h \leq -\omega h$, that is, equivalently, if and only if $h \geq \hat{h}$ as per (9), showing the first point of the lemma. The concession threshold $\hat{h}$ increases with v and with ω: Conceding is relatively less attractive when the project's private value is high, and when campaigns' effects are more persistent. It follows from (8) that (9) is satisfied—and the firm concedes after a campaign—with the probability $\max(1 - \hat{h}/m, 0)$.

Before a campaign, after a mobilization. Let us now turn to the decision of the firm to self-regulate in the face of a mobilization of intensity m, before a campaign has been launched.

When $m > \hat{h}$, the probability that $h \geq \hat{h}$ is strictly positive, so that the firm might ultimately concede if a campaign was launched. Its expected profit if it continued after the mobilization would be

$$\mathbb{E}(\pi) = \frac{1}{m}\left[\int_0^{\hat{h}} (vq - h)\ dh - \int_{\hat{h}}^{m} \omega h\ dh\right] = \frac{1}{2m}\left[\frac{(vq)^2}{1-\omega} - \omega m^2\right], \tag{B.1}$$

and would be zero if it abandoned the project. Therefore, the firm decides to abandon the project immediately after a mobilization if and only if the profit in (B.1) is non positive, which is equivalent to

$$m \geq \hat{m} = \frac{vq}{\sqrt{\omega(1-\omega)}}. \tag{B.2}$$

In that case, we say that the mobilization is "strong." Otherwise, the firm decides to continue the project despite the mobilization, and a campaign takes place, which is successful when $h \geq \hat{h}$.

When $m \leq \hat{h}$, the probability that $h \geq \hat{h}$ is zero, so that, if a campaign was launched, the firm would never concede to it. Therefore, the expected profit that it would obtain if it continued after the mobilization becomes, instead of (B.1),

$$\mathbb{E}(\pi) = \frac{1}{m}\int_0^{m} (vq - h)\ dh = vq - \frac{m}{2}. \tag{B.3}$$

In that case, the mobilization is strong—the firm self-regulates before a campaign is launched—if and only if

$$m \geq 2vq. \tag{B.4}$$

Otherwise, we say that the mobilization is "weak:" The firm decides to continue, and no campaign will ultimately induce it to concede.

Figure II represents the rising curve $m = \hat{h}$ expressed in (9) and the U-shaped curve $m = \hat{m}$ expressed in (B.2). The intersection of these curves at $\omega = 1/2$ implies two cases of analysis.

The case $\omega \geq 1/2$***.*** As Figure II shows, $\omega \geq 1/2$ implies $\hat{m} \leq \hat{h}$. In that case, when $m < \hat{m}$, we have necessarily $h < \hat{h}$, because $h \leq m < \hat{m} \leq \hat{h}$. A mobilization that induces the firm to continue does not cause the firm to concede after a campaign. Then, it has been established that the mobilization is strong if and only if $m \geq 2vq$ as per (B.4).

The case $\omega < 1/2$**.** By contrast, when $\omega < 1/2$, a mobilization that does not induce the firm to abandon is not necessarily weak. Indeed, in that case, $m < \hat{m}$ does not imply $m < \hat{h}$ since $\hat{h} < \hat{m}$. Then, it has been established that a mobilization is strong if and only of $m \geq \hat{m}$ as per (B.2).

It follows that, whether $\omega < 1/2$ or $\omega \geq 1/2$, the firm always abandons the project immediately after a mobilization if and only if $m \geq \bar{m}$, where $\bar{m}$ is defined by (10): $\bar{m} = \hat{m}$ if $\omega < 1/2$ and $\bar{m} = 2vq$ if $\omega \geq 1/2$. This completes the proof of the lemma. ■

Proof of Proposition 2

When $\omega \geq 1/2$, (B.2) indicates that $\bar{m} = 2vq$. The proposition, in that case, has been shown in the main text preceding Subsection C of Section II.

This appendix, therefore, focuses on the activists' choice of the mobilization intensity when $\omega < 1/2$. In this case, we have $\bar{m} = vq/\sqrt{\omega(1-\omega)}$ as per (B.2).

The NGO seeks to choose its mobilization efforts $m \geq 0$ in such a way as to minimize its objective (11): $\chi = \mathbb{E}^N[\mathcal{C}] + \gamma m$. In absence of NGO mobilization, the approved project is undertaken and the activists' biased cost valuation $\mathbb{E}^N[\chi] = \mathbb{E}^N(c)q$, where $\mathbb{E}^N(c)$ is their assessment of the project's external cost c. Clearly, if the activists' assessment $\mathbb{E}^N(c)$ is negative, no mobilization will improve their objective, so that $m = 0$. Therefore, in the remainder of this proof, we will assume the NGO's benefit from opposing the project is strictly positive:

$$\mathbb{E}^N(c)q > 0. \tag{B.5}$$

Since $\omega < 1/2$ implies $\hat{h} < \bar{m}$, there are three possible cases, as explained in the main text.

($\imath$) $m \leq \hat{h}$: The mobilization is weak in the sense that it does not induce the firm to abandon the project immediately after the mobilization and cannot generate a successful campaign thereafter. In that case, the project is always undertaken despite the fact that the mean harm $m/2$ reduces the expected firm's profit, so that the objective of the NGO is

$$\chi = \mathbb{E}^N(c)q + \gamma m.$$

($\imath\imath$) $m \in (\hat{h}, \bar{m})$: Such intermediate intensities do not induce the firm to abandon immediately after the mobilization, but are able to generate successful campaigns $h \geq \hat{h}$. The project is only undertaken if $h < \hat{h}$, in which case the firm's profit is reduced by h; otherwise, the project is abandoned and the firm bears the cost ωh. Therefore, the objective of the NGO is

$\chi = (1/m)\int_0^{\hat{h}} \mathbb{E}^N(c)q\ dh + \gamma m$, which yields

$$\chi = \frac{\hat{h}}{m}\mathbb{E}^N(c)q + \gamma m, \tag{B.6}$$

where $\hat{h}/m \in (0,1)$ is the probability that the project be undertaken.
(iii) $m \geq \bar{m}$: The mobilization is strong in the sense that its intensity is sufficient to induce the firm to abandon immediately. In that case, the NGO's objective writes

$$\chi = \gamma m.$$

χ is strictly increasing in m on $[0, \hat{h}]$ and $[\bar{m}, +\infty)$. Therefore, χ can only be minimum for $m = 0$, $m = \bar{m}$, and possibly for some level $m \in (\hat{h}, \bar{m})$. It is also easy to see that χ is continuous at $m = \hat{h}$ and exhibits an downward jump at $m = \bar{m}$. Therefore, a minimum of χ over $m \in (\hat{h}, \bar{m})$ that is not interior cannot be a global minimum—see, for example, the curves labelled (a) and (b) in Figure X. A minimum of χ over $m \in (\hat{h}, \bar{m})$ may only be global if it is interior—see the curve labelled (c) in the example of Figure X. In that case, it is uniquely characterized by the first-order condition for the minimization of (B.6): $\hat{h}\mathbb{E}^N(c)q/m^2 = \gamma$. This condition yields

$$\tilde{m} = \sqrt{\frac{\hat{h}\mathbb{E}^N(c)q}{\gamma}}.$$

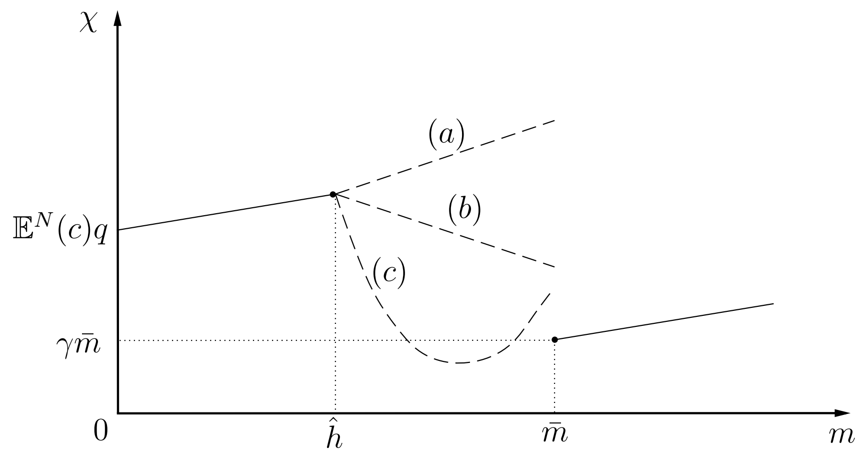

Figure X: Optimality of intermediate mobilization (examples)

To sum up, there are only three possibilities for the value of m that minimizes χ: $m = 0$, $m = \tilde{m} \in (\hat{h}, \bar{m})$, or $m = \bar{m}$, for which the value of χ is, respectively, $\chi = \mathbb{E}^N(c)q$, $\chi = 2\sqrt{\gamma\hat{h}\mathbb{E}^N(c)q}$, and $\chi = \gamma\bar{m}$.

Now, let us examine the conditions under which the intermediate intensity $m = \tilde{m}$ dominates the two other candidates, so that it is optimal for activists to mobilize in such a way that campaigns occur. This is only possible if the two following conditions are satisfied:

$$\hat{h} < \tilde{m} < \bar{m}, \tag{B.7}$$

and

$$2\sqrt{\gamma\hat{h}\mathbb{E}^N(c)q} < \min(\mathbb{E}^N(c)q, \gamma\bar{m}), \tag{B.8}$$

where $\tilde{m} = \sqrt{\hat{h}\mathbb{E}^N(c)q/\gamma}$ and where, from (9) and (B.2), $\bar{m} = \hat{h}\sqrt{(1-\omega)/\omega}$.

Taking squares, (B.7) is equivalent to

$$\mathbb{E}^N(c)q \in \left(\gamma\hat{h}, \hat{h}\gamma\frac{1-\omega}{\omega}\right); \tag{B.9}$$

when $\omega < 1/2$, this interval is non empty.

We now focus on condition (B.8). Taking squares, this condition is equivalent to

$$4\gamma\hat{h}\mathbb{E}^N(c)q < \min\left(\left(\mathbb{E}^N(c)q\right)^2, \gamma^2\bar{m}^2\right),$$

which is also equivalent to

$$4\gamma\hat{h} < \mathbb{E}^N(c)q \tag{B.10}$$

and

$$\frac{4\hat{h}}{\bar{m}^2}\mathbb{E}^N(c)q < \gamma. \tag{B.11}$$

Conditions (B.10) and (B.11) imply

$$4\gamma\hat{h} < \mathbb{E}^N(c)q < \frac{\gamma}{4}\left(\frac{1-\omega}{\omega}\right)\hat{h}, \tag{B.12}$$

where the right-hand inequality has been obtained by using $\bar{m} \equiv \hat{h}\sqrt{(1-\omega)/\omega}$.

The set of parameters satisfying the necessary condition (B.12) is only non empty when $4\gamma < \gamma(1-\omega)/(4\omega)$, i.e., equivalently, $4/(1-\omega) < 1/(4\omega)$. This condition is satisfied if and only if

$$\omega < \frac{1}{17}.$$

To conclude, our model predicts that campaigns can only occur in equilibrium when the persistency of campaign damages is very low ($\omega < 1/17$) and when both (B.8) and (B.9) are satisfied. For example, the latter means that the activists' assessment of the external cost $\mathbb{E}^N(c)$ takes intermediate values

$$\frac{\gamma v}{1-\omega} < \mathbb{E}^N(c) < \frac{\gamma v}{\omega};$$

the inequality has been obtained by using $\hat{h} \equiv vq/(1-\omega)$. In all other cases, the NGO never decides to mobilize with an intermediate intensity that would cause a campaign.

By Assumption 1, for reasons presented in Subsection C of Section II, our analysis focuses on sufficiently persistent campaign damages: $\omega \geq 1/17$. When $1/17 \leq \omega < 1/2$, the NGO chooses either not to mobilize at all ($m = 0$), or to make the cost-effective strong mobilization of intensity $m = \bar{m} = vq/\sqrt{\omega(1-\omega)}$, which completes the proof. ■

Proof of Proposition 3

In a subgame perfect Bayesian equilibrium, the NGO's perception of the regulator's behavior is rational. When the regulator only accepts good projects, activists correctly infer that an accepted project is good: (17) implies that they do not mobilize against it ($m = 0$), regardless of their signal. When the regulator accepts the project irrespective of whether it is good or bad, the activists assess the external cost c by using the probabilities that the project is good ($c = c_L$) or bad ($c = c_H$), conditional on s. By Bayes' rule, these probabilities are

(B.13)
$$P(c = c_j|s) = \frac{p_j f(\frac{s-c_j}{\sigma})}{p_L f(\frac{s-c_L}{\sigma}) + p_H f(\frac{s-c_H}{\sigma})}, \ j = L, H,$$

where $f\left((s-c)/\sigma\right)$ gives the likelihood that the activists' signal will be s, conditional on the project's having an external cost c. Therefore, the NGO mobilizes if and only if

(B.14)
$$\mathbb{E}^N(c) = \mathbb{E}(c|s) = P(c = c_L|s)c_L + P(c = c_H|s)c_H \geq \bar{s}.$$

By the assumption that f is log-concave, the conditional expectation $\mathbb{E}(c|s)$ is strictly increasing with the signal s. It follows that NGO mobilization takes place if and only if the signal s is larger than the effective opposition threshold $\hat{s}$ defined by

(B.15)
$$\mathbb{E}(c|s = \hat{s}) = \bar{s}.$$

The effective opposition threshold $\hat{s}$, which results from the activists' Bayesian inference, differs from its perfect-information counterpart $\bar{s}$ defined in (13). In particular, (B.13) and (B.14) make clear that $\mathbb{E}(c|s)$ and, therefore, $\hat{s}$ depend on σ. We define the latter as the following function:

$$\hat{s} \equiv \hat{s}(\sigma).$$

Figure XI shows the conditional expectation $\mathbb{E}(c|s)$ as a function of s and the resulting opposition threshold $\hat{s}(\sigma)$, for various degrees of opacity σ. When the realization s of the signal equals the average cost $(c_L + c_H)/2$, it is not informative: In that case, it can be verified that $\mathbb{E}\,(c|s)$ takes the value of the prior expected cost $p_L c_L + p_H c_H$, regardless of σ. When σ tends to infinity—i.e., in absence of information—$\mathbb{E}\,(c|s)$ takes the value $p_L c_L + p_H c_H$ irrespective of s. In that case, Assumption 2—that $p_L c_L + p_H c_H < \bar{s}$—implies that $\hat{s}(\sigma)$ does not exist. For finite values of σ, $\mathbb{E}\,(c|s)$ increases and becomes steeper around $(c_L + c_H)/2$ as σ decreases and tends to 0. Assumption 2 implies that $\hat{s}(\sigma)$ is always greater than $(c_L + c_H)/2$ and that it increases with σ.

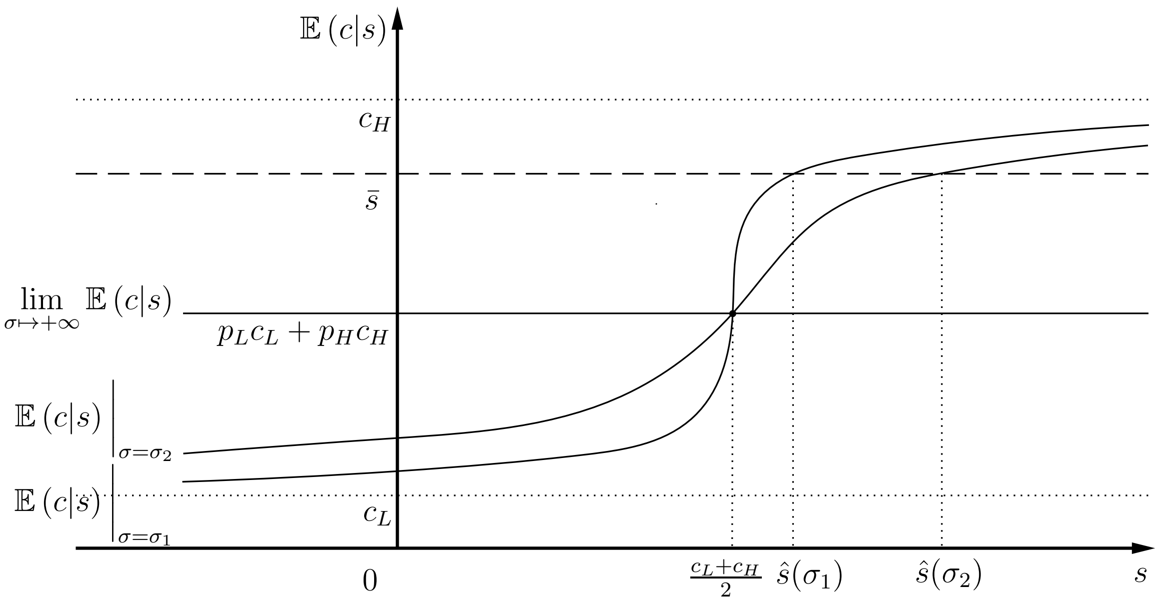

Figure XI: Activists' assessment of the external cost for various degrees of transparency $(0 < \sigma_1 < \sigma_2)$

In this context, it follows that the NGO opposes bad projects with probability

$$\Phi_H(\sigma) \equiv 1 - F\left(\frac{\hat{s}(\sigma) - c_H}{\sigma}\right) = F\left(\frac{c_H - \hat{s}(\sigma)}{\sigma}\right),$$

as given in (18), and good ones with probability

$$\Phi_L(\sigma) \equiv 1 - F\left(\frac{\hat{s}(\sigma) - c_L}{\sigma}\right) = F\left(\frac{c_L - \hat{s}(\sigma)}{\sigma}\right),$$

as given in (19), where $c_L < c_H$ implies that, for all σ,

(B.16) $$0 \leq \Phi_L(\sigma) < \Phi_H(\sigma).$$

The NGO is less likely to oppose a project when it is good than when it is bad. In this representation of NGO opposition, the probability $1-\Phi_H(\sigma)$ that the NGO does not oppose a bad project and the probability $\Phi_L(\sigma)$ that it opposes a good one correspond, respectively, to type-I and type-II errors in statistical hypothesis testing. The first two points of the proposition have been established.

We now examine $\Phi_L(\sigma)$ and $\Phi_H(\sigma)$. Consider the latter first. Its definition in (18) implies that $\Phi'_H(\sigma) < 0$ if and only if

$$\hat{s}'(\sigma) + \frac{c_H - \hat{s}(\sigma)}{\sigma} > 0. \tag{B.17}$$

Thus, we analyze $\hat{s}'(\sigma)$. Rewriting (B.15) with (B.13) and (B.14), and rearranging, we easily obtain

$$\frac{f\left(\frac{c_L-\hat{s}}{\sigma}\right)}{f\left(\frac{c_H-\hat{s}}{\sigma}\right)} = \frac{p_H(c_H-\bar{s})}{p_L(\bar{s}-c_L)}, \tag{B.18}$$

which implicitly defines the function $\hat{s}(\sigma)$. In (B.18), the right-hand side does not depend on σ. Taking the logarithm and the total derivative of both sides with respect to $\hat{s}$ and σ jointly, and rearranging, we obtain

$$\hat{s}'(\sigma) \equiv \frac{d\hat{s}(\sigma)}{d\sigma} = -\frac{\left(\frac{c_L-\hat{s}(\sigma)}{\sigma}\right)\frac{f'\left(\frac{c_L-\hat{s}(\sigma)}{\sigma}\right)}{f\left(\frac{c_L-\hat{s}(\sigma)}{\sigma}\right)} - \left(\frac{c_H-\hat{s}(\sigma)}{\sigma}\right)\frac{f'\left(\frac{c_H-\hat{s}(\sigma)}{\sigma}\right)}{f\left(\frac{c_H-\hat{s}(\sigma)}{\sigma}\right)}}{\frac{f'\left(\frac{c_L-\hat{s}(\sigma)}{\sigma}\right)}{f\left(\frac{c_L-\hat{s}(\sigma)}{\sigma}\right)} - \frac{f'\left(\frac{c_H-\hat{s}(\sigma)}{\sigma}\right)}{f\left(\frac{c_H-\hat{s}(\sigma)}{\sigma}\right)}}. \tag{B.19}$$

Note that the function $\hat{s}(\sigma)$ is differentiable everywhere.

Replacing $c_L - \hat{s}(\sigma)$ by $-(c_H - c_L) + c_H - \hat{s}(\sigma)$ in (B.19) and rearranging, the equality becomes

$$\hat{s}'(\sigma) + \frac{c_H - \hat{s}(\sigma)}{\sigma} = \left(\frac{c_H - c_L}{\sigma}\right)\frac{\frac{f'\left(\frac{c_L-\hat{s}(\sigma)}{\sigma}\right)}{f\left(\frac{c_L-\hat{s}(\sigma)}{\sigma}\right)}}{\frac{f'\left(\frac{c_L-\hat{s}(\sigma)}{\sigma}\right)}{f\left(\frac{c_L-\hat{s}(\sigma)}{\sigma}\right)} - \frac{f'\left(\frac{c_H-\hat{s}(\sigma)}{\sigma}\right)}{f\left(\frac{c_H-\hat{s}(\sigma)}{\sigma}\right)}}.$$

In this equality, $c_H > c_L$ implies that the first term on the right-hand side is strictly positive. It also implies, by the assumption that f is strictly log-concave, that the denominator is strictly positive. Finally, we have noted in the text preceding Figure XI that, for all σ, $\hat{s}(\sigma) > (c_L + c_H)/2$, so that $\hat{s}(\sigma) > c_L$. This inequality, together with the single-peakedness property of f, implies that $f'\left((c_L - \hat{s}(\sigma))/\sigma\right) > 0$. It follows that (B.17) is verified for all σ, so that the function Φ_H is strictly decreasing.

Consider now $\Phi_L(\sigma)$. Its definition in (19) implies that $\Phi'_L(\sigma) > 0$ if and only if

$$\hat{s}'(\sigma) + \frac{c_L - \hat{s}(\sigma)}{\sigma} < 0. \tag{B.20}$$

Examine $\hat{s}'(\sigma)$ again. Replacing now $c_H - \hat{s}(\sigma)$ by $(c_H - c_L) + c_L - \hat{s}(\sigma)$ in (B.19) and rearranging, we obtain

$$\hat{s}'(\sigma) + \frac{c_L - \hat{s}(\sigma)}{\sigma} = \left(\frac{c_H - c_L}{\sigma}\right) \frac{\frac{f'\left(\frac{c_H - \hat{s}(\sigma)}{\sigma}\right)}{f\left(\frac{c_H - \hat{s}(\sigma)}{\sigma}\right)}}{\frac{f'\left(\frac{c_L - \hat{s}(\sigma)}{\sigma}\right)}{f\left(\frac{c_L - \hat{s}(\sigma)}{\sigma}\right)} - \frac{f'\left(\frac{c_H - \hat{s}(\sigma)}{\sigma}\right)}{f\left(\frac{c_H - \hat{s}(\sigma)}{\sigma}\right)}}.$$

In this equality, the first term and the denominator on the right-hand side are both strictly positive. Therefore, $\hat{s}'(\sigma) + (c_L - \hat{s}(\sigma))/\sigma$ has the same sign as $f'\left((c_H - \hat{s}(\sigma))/\sigma\right)$, which, by the single-peakedness property of f, has the same sign as $\hat{s}(\sigma) - c_H$.

Thus, we now compare $\hat{s}(\sigma)$ with c_H. Remember that $\mathbb{E}(c|s)$ is increasing in s in the definition (B.15) of $\hat{s}$. Therefore, $\hat{s}(\sigma) < c_H$ is equivalent to $\bar{s} < \mathbb{E}(c|s = c_H)$, which, using (B.13) and (B.14), rewrites

$$\frac{f\left(\frac{c_H - c_L}{\sigma}\right)}{f(0)} < \frac{p_H(c_H - \bar{s})}{p_L(\bar{s} - c_L)}. \tag{B.21}$$

On the one hand, the right-hand side of this inequality is independent of σ. Assumption 2 further implies that $0 < p_H(c_H - \bar{s})/\left(p_L(\bar{s} - c_L)\right) < 1$. On the other hand, the single-peakedness property of f implies that the left-hand side is continuously increasing in σ, with $\lim_{\sigma \mapsto 0} f\left((c_H - c_L)/\sigma\right)/f(0) = 0$ and $\lim_{\sigma \mapsto +\infty} f\left((c_H - c_L)/\sigma\right)/f(0) = 1$. It follows that there exists a unique $\tilde{\sigma} > 0$ such that (B.21) is satisfied if and only if $\sigma < \tilde{\sigma}$. In turn, for all $\sigma < \tilde{\sigma}$, $\hat{s}(\sigma) < c_H$ is observed, (B.20) is satisfied, and $\Phi'_L(\sigma) > 0$. Similarly, for all $\sigma > \tilde{\sigma}$, one can show that $\Phi'_L(\sigma) < 0$. This concludes the proof of the third point.

Note, moreover, that the Φ_L and Φ_H functions are differentiable everywhere. ■

Proof of Proposition 4

In the presence of an NGO, the regulator approves a bad project if and only if $(1 - \Phi_H(\sigma))\left((1 + \alpha(e))\, v - c_H\right) \geq 0$. Since $\Phi_H(\sigma) < 1$, this is equivalent to $\alpha(e) \geq \bar{\alpha}$, where $\bar{\alpha}$ is given in (3)—as in the absence of NGO. The industry is willing to bear the minimum effective lobbying expenditure $\bar{e} = i\bar{\alpha}$ if and only if it is covered by the additional expected profit $(1 - \Phi_H(\sigma))\, p_H v q$ due to the approval of a bad project: $(1 - \Phi_H(\sigma)) p_H v q \geq i\bar{\alpha}$. Substituting $\bar{\alpha}$ from (3) and rearranging, the condition becomes

$$\Phi_H(\sigma) \leq 1 - \left(\frac{i}{q}\right) \frac{c_H - v}{p_H v^2}, \tag{B.22}$$

where $\Phi_H(\sigma)$ is a decreasing bijective function which takes values in $(0,1)$. Furthermore, $\Phi_H(\sigma)$ is independent of i/q.[35] It follows that (B.22) is equivalent to the condition expressed in (20). It can be verified that the function σ^{RN} is continuously increasing and takes values from $\lim_{i/q \mapsto 0} \sigma^{RN}(i/q) = 0$ to $\lim_{i/q \mapsto (i/q)^R} \sigma^{RN}(i/q) = +\infty$, where $(i/q)^R$ is defined in (4). For $i/q \geq (i/q)^R$, $\sigma^{RN}(i/q)$ does not exist. ■

Proof of Corollary 1

The corollary immediately results from Proposition 1 (without an NGO) and its counterpart Proposition 4 in the presence of an NGO. Its formulation highlights that there are only three possible situations. This is because, as already explained in Section III, for $i/q \geq (i/q)^R$, $\sigma^{RN}(i/q)$ does not exist. ■

Proof of Proposition 5

Two parts of the result have been shown in the main text that precedes the proposition. First, the NGO does not enter when industry lobbying never takes place; according to Corollary 1, this is the case when $i/q > (i/q)^R$. Second, the NGO enters when industry lobbying takes place in the absence of the NGO and does not take place otherwise; according to Corollary 1, this is the case when $i/q \leq (i/q)^R$ and $\sigma < \sigma^{RN}(i/q)$.

It remains to be shown that the NGO enters when industry lobbying takes place irrespective of the presence of the NGO—i.e., when $i/q \leq (i/q)^R$ and $\sigma \geq \sigma^{RN}(i/q)$. In that case, expressions (25) and (26) yield

$$\text{(B.23)} \qquad \chi_{LH}^R - \chi_{LH}^{RN} = p_L \Phi_L(\sigma)\left[c_L - \bar{s}\right] q + p_H \Phi_H(\sigma)\left[c_H - \bar{s}\right] q,$$

where Assumption 2 and Proposition 3 imply that the first term is negative and single peaked while the second term is positive and decreasing.

Using (18) and (19), we obtain the derivative of (B.23) with respect to σ:

$$\text{(B.24)} \qquad \begin{aligned} \frac{d\left(\chi_{LH}^R - \chi_{LH}^{RN}\right)}{d\sigma} &= p_L\left(\frac{\bar{s}-c_L}{\sigma}\right) f\left(\frac{c_L-\hat{s}(\sigma)}{\sigma}\right)\left[\hat{s}'(\sigma) + \left(\frac{c_L-\hat{s}(\sigma)}{\sigma}\right)\right] \\ &- p_H\left(\frac{c_H-\bar{s}}{\sigma}\right) f\left(\frac{c_H-\hat{s}(\sigma)}{\sigma}\right)\left[\hat{s}'(\sigma) + \left(\frac{c_H-\hat{s}(\sigma)}{\sigma}\right)\right]. \end{aligned}$$

Now, rewriting (B.15) with (B.13) and (B.14), and rearranging, we obtain the equality $p_L\left((\bar{s}-c_L)/\sigma\right) f\left((c_L-\hat{s}(\sigma))/\sigma\right) = p_H\left((c_H-\bar{s})/\sigma\right) f\left((c_H-\hat{s}(\sigma))/\sigma\right)$. With this equality, one

35. Since both revenues and costs are proportional to the size of a project, the relative cost of influence i/q affects neither the influence threshold $\bar{\alpha}$ that induces the regulator to accept bad projects nor the opposition probability functions Φ_L and Φ_H.

can factorize (B.24), and simplify it to

$$\text{(B.25)} \qquad \frac{d\left(\chi_{LH}^{R}-\chi_{LH}^{RN}\right)}{d\sigma}=-p_L\left(\frac{\bar{s}-c_L}{\sigma}\right)f\left(\frac{c_L-\hat{s}(\sigma)}{\sigma}\right)\left(\frac{c_H-c_L}{\sigma}\right),$$

which is strictly negative because $c_H > c_L$ and because $\bar{s} > c_L$ by Assumption 2.

It follows that the difference $\chi_{LH}^{R}-\chi_{LH}^{RN}$ is strictly decreasing with σ. Moreover, its limit is zero when σ tends to infinity because $\lim_{\sigma\mapsto+\infty}\Phi_L(\sigma)=\lim_{\sigma\mapsto+\infty}\Phi_H(\sigma)=0$ by Assumption 2. It follows that $\chi_{LH}^{R}-\chi_{LH}^{RN}>0$ for all $\sigma>0$, which concludes the proof. ■

Proof of Corollary 2

The corollary immediately results from the combination of Corollary 1 and Proposition 5. ■

Proof of Proposition 6

The first point is shown in the main text that precedes the proposition. The second point remains to be shown. It concerns the situation in which industry lobbying takes place regardless of whether there is an NGO or not. In that case, the comparison of (6) with (22) yields

$$\text{(B.26)} \qquad \mathcal{W}_{LH}^{RN}-\mathcal{W}_{LH}^{R}=p_L\Phi_L(\sigma)\left[c_L-(1+\gamma\eta(\omega))v\right]q+p_H\Phi_H(\sigma)\left[c_H-(1+\gamma\eta(\omega))v\right]q.$$

Since lobbying expenditures are identical in $\mathcal{W}_{LH}^{RN}$ and $\mathcal{W}_{LH}^{R}$, they cancel out in (B.26). Therefore, $\mathcal{W}_{LH}^{RN}-\mathcal{W}_{LH}^{R}$ differs from the change in activists' cost valuation $\chi_{LH}^{R}-\chi_{LH}^{RN}$ only because the NGO does not internalize the private value π generated by the project. The comparison of $\mathcal{W}_{LH}^{RN}-\mathcal{W}_{LH}^{R}$ with (B.23), where $\bar{s}=\gamma\eta(\omega)$, shows

$$\mathcal{W}_{LH}^{RN}-\mathcal{W}_{LH}^{R}<\chi_{LH}^{R}-\chi_{LH}^{RN},$$

which means that the NGO's entry is not necessarily optimal. However, since the Φ_L and Φ_H functions do not depend on γ, as per (18) and (19)—and in the light of (B.13), (B.14) and (B.15)—$\mathcal{W}_{LH}^{RN}-\mathcal{W}_{LH}^{R}$ is strictly decreasing in γ.

In (B.26), the first term is negative as a consequence of Assumption 2. As far as the second term is concerned, there are two possibilities. Assume first that $\gamma \geq \frac{c_H-v}{2v}$, which implies that the second term in (B.26) is nonpositive. In that case, $\mathcal{W}_{LH}^{RN}-\mathcal{W}_{LH}^{R}<0$ for all values of σ. The NGO's entry cannot be optimal in that case.

Assume now that $\gamma < \frac{c_H-v}{2v}$, implying that the second term in (B.26) is strictly positive. The NGO's entry may be optimal in that case. Assumption 2 implies that when σ tends to zero, $\Phi_L(\sigma)$ tends to zero and $\Phi_H(\sigma)$ tends to one, so that the first negative term in (B.26) vanishes. By continuity of the Φ_L and Φ_H functions, therefore, $\mathcal{W}_{LH}^{RN}-\mathcal{W}_{LH}^{R}$ is strictly positive if σ is sufficiently small. Formally, there exists $\sigma^* > 0$ such $\mathcal{W}_{LH}^{RN} - \mathcal{W}_{LH}^{R} > 0$ for all $\sigma < \sigma^*$. Since, furthermore, $\mathcal{W}_{LH}^{RN} - \mathcal{W}_{LH}^{R}$ is strictly decreasing in γ, the threshold σ^* is a decreasing function of γ: $\sigma^* = \sigma^*(\gamma)$. ■

C. Corporate Influence and the Failure of Regulators

The recent performance of public regulators has been mixed. Evidence shows that recent catastrophes are partly attributable to regulatory agencies' inadequate monitoring of industrial activities. For instance, the explosion of the Deepwater Horizon oil-drilling rig in 2010—and the largest oil spill in history that followed, with serious environmental consequences—would have probably been avoided if the US Mineral Management Service (MMS) had effectively monitored offshore drilling activities (see Carpenter [2015] for details). Similarly, the Fukushima Daiichi catastrophe in 2011—the largest nuclear accident since the Chernobyl disaster—is due to an inappropriate monitoring on the part of the Nuclear and Industrial Safety Agency (NISA) Japan's nuclear regulatory body (see Wang and Chen [2012] for a detailed review).

These examples suggest that regulators have sometimes failed to impose adequate standards on the industries they were supposed to monitor. Furthermore, they indicate a reason for this failure: Industries can influence their regulators. Indeed, the above catastrophes revealed cases of industry influence—specifically, the now-dissolved US MMS and the NISA prior to the Fukushima catastrophe.

Goldberg and Maggi (1999) show that industries do influence public policies and regulations in their favor. This influence has mostly been documented for the banking sector in the empirical literature that emerged following the global financial crisis. Using disaggregated data, this literature shows that lobbying expenditures have effectively helped banks distort voting by representatives so as to obtain laxer regulations and more public support. This, in turn, has allowed them to take more risks and has, ultimately, led to bigger losses (e.g., Mian, Sufi, and Trebbi [2010]; Igan, Mishra, and Tressel [2011]; Duchin and Sosyura [2012]). In addition, lobbying efforts by individual firms are complementary and are coordinated at the industry level (e.g., Godwin, Ainsworth, and Godwin [2013]). Collective influence also plays an important role, through industry associations such as the US Financial Services Roundtable.

In fact, there are two different views of the corporate lobbying process, with opposite implications about its social usefulness. On the one hand, a large part of the theoretical literature assumes that lobbyists are experts who produce and transmit information to uninformed policymakers—see, among others, the influential models of Dewatripont and Tirole (1999) and Grossman and Helpman (2001). On the other hand, many believe that lobbyists seek to influence rather than inform.[36]

36. According to Bennedsen and Feldmann (2006), these two views are not complementary: The

Anecdotal evidence suggests—see, e.g., McGrath's (2006) interviews—and a recent empirical study confirms (Bertrand, Bombardini, and Trebbi [2014]) that the success of a lobbyist is more a matter of connections than expertise.[37] Moreover, our paper does not deal with legislators but with regulators, who are appointed for their expertise. For these two reasons, we have adopted the second view on lobbying, namely that it is about influence rather than information.

The naive view that expert regulators benignly supervise an industry on behalf of an uninformed and defenseless public has clearly been disproved by the facts. Consequently, the notion of regulatory capture (Stigler [1971]; Buchanan, Tollison, and Tullock [1980]; Laffont and Tirole [1993]) is returning to center stage and is receiving renewed attention in all social sciences (e.g., Carpenter and Moss [2014]).

Public regulators have certainly experienced a golden age. Glaeser and Shleifer (2003) describe and explain the rise of public regulation at the end of the nineteenth and the beginning of the twentieth centuries. This golden age lasted until at least the end of the Progressive Era (Hofstadter [1955]), a period during which "the average American tended more and more to rely on government regulation, to seek in governmental actions a counterpoise to the power of private business" (p. 233).

Since then, regulators have, to a large extent, lost public trust, as argued by Aghion et al. (2010). Trust barometers further reveal that the public believes that industries are inadequately regulated, and trusts NGOs significantly more than public authorities. According to the 2015 Edelman Trust Barometer, 65 percent of people surveyed in the US trust NGOs, whereas only 41 percent trust the federal government.

Accordingly, we suggest that the recent rise of NGO activism is a response to the failure of public regulation. Indeed, over the period 2002-2014 in the US, for example, NGOs' criticisms against companies have been positively associated with prior increases in companies' lobbying expenditures (see the details in Appendix A).

Our view of NGO activism is reminiscent of Galbraith's (1952) notion of "countervailing power" that operates in the public interest, in the face of too-powerful industries: We depart from the outdated description of a society in which public regulation alone resolves market failures. Our analysis of NGO activists is also reminiscent of Kofman and Lawarrée's (1993) and Acemoglu and Gietzmann's (1997) analyses of how external auditors could be used by the

possibility of influencing policymakers reduces the incentives to inform them.

37. Bertrand et al. (2014) show that lobbying is about "whom you know" rather than "what you know." They summarize their findings as follows (p. 3885):

> In support of the connections view, we show that lobbyists follow politicians they were initially connected to when those politicians switch to new committee assignments. In support of the expertise view, we show that there is a group of experts that even politicians of opposite political affiliation listen to. However, we find a more consistent monetary premium for connections than expertise.

shareholders of a firm to limit managers' influence on internal auditors. In contrast to the dual-auditor optimal-contracting problem, however, NGO activists cannot be controlled by society through contractual relationships.

D. Extensions to More Complex Environments

This section briefly discusses two aspects that are absent from the framework presented above. First, we show that our analysis carries over unchanged to the apparently more complex case in which the firm is able to make lobbying efforts that are specific to the project's type. Second, we explain how the analysis accommodates situations in which the regulator is directly affected by NGO opposition.

Project-specific Lobbying

Our analysis assumes that the firm does not observe the project's type. In this context, it makes lobbying efforts without knowing whether its project will turn out to be good or bad. Admittedly, in some cases, the industry may be aware of the external costs that its projects would inflict to the rest of society if they were undertaken. Assume, unlike the main analysis, that the firm is perfectly informed about the project's type at the moment of influencing its regulatory approval. We will demonstrate that this alternative assumption does not modify the analysis in any manner. Indeed, lobbying efforts being observable by activists,[38] a Bayesian equilibrium cannot be separating: Lobbying expenditures must not differ according to whether the project is good or bad.

Assume, instead, that lobbying expenditures e be contingent on the project's type: $e_L \neq e_H$. For example, the firm does not lobby at all when its project is good as it will be accepted by the regulator, but only makes efforts when its project is bad and its approval requires that the regulator be influenced. In any such separating equilibria, irrespective of lobbying expenditures, a Bayesian NGO would perfectly infer from them whether the project is good or bad. Consequently, it would successfully oppose a bad project and would do nothing in front of a good one. That means that costly lobbying efforts by the firm would be useless: Anticipating the activists' reaction, the firm would make zero lobbying expenditures for both types of projects, which contradicts the initial assumption that those expenditures would differ.

The demonstration implies that the Bayesian equilibrium of the game is necessarily pooling, regardless of whether the firm lobbies ex ante or ex post. In either case, lobbying expenditures

38. In the US, for example, expenditures in federal lobbying activities are publicly disclosed by the Secretary of the SOPR, as required by the 1995 Lobbying Disclosure Act. These data are described in more details in Appendix A, where they are used for our empirical analysis.

must be the same for both types of projects, so that the equilibrium is formally equivalent to the equilibrium examined in the main text, and leads to the same conclusions.

To sum up, the analysis presented in the main text remains the same whether or not the firm knows the type of its project at the moment of choosing its lobbying expenditures.

Regulator's Sensitiveness to NGO Opposition

For simplicity, we have hitherto assumed that the regulator is solely concerned with the surplus generated by the project. Therefore, according to (1), its objective is independent of the intensity of NGO mobilization:

$$\mathcal{V} = \mathbb{E}\left[\big(1+\alpha(e)\big)\mathcal{T} - \mathcal{C}\right].$$

We now consider that regulators are sensitive to NGO opposition, both because mobilizations entail a deadweight loss and because NGO opposition may deteriorate regulators' reputation.

We assume from now on that the regulator's objective is

$$\mathcal{V} = \mathbb{E}\left[\big(1+\alpha(e)\big)\mathcal{T} - \mathcal{C} - \theta m\right],$$

where the parameter $\theta > 0$ reflects the regulator's sensitiveness to the mobilization intensity m—for example, when the regulator simply internalizes the deadweight loss caused by mobilizations, $\theta = \gamma$. The introduction of θ modifies the occurrence of lobbying in the presence of an NGO in the following manner, with no qualitative consequence on the rest of the analysis. In that case, the regulator takes into account that a mobilization of intensity $\bar{m} = \eta(\omega)vq$ may take place with probability $0 < \Phi_H(\sigma) < 1$, causing the project to be abandoned. Therefore, it approves a bad project if and only if $(1-\Phi_H(\sigma))\left((1+\alpha(e))\,v - c_H\right) - \Phi_H(\sigma)\theta\eta(\omega)v \geq 0$, which is equivalent to

$$\alpha(e) \geq \bar{\alpha}^{RN} \equiv \frac{c_H - v}{v} + \frac{\Phi_H(\sigma)}{1-\Phi_H(\sigma)}\theta\eta(\omega),$$

where the influence threshold $\bar{\alpha}^{RN}$ is strictly higher than its counterpart $\bar{\alpha}$ in (3), obtained when $\theta = 0$.

The industry is willing to bear an increased minimum influence expenditure $\bar{e}^{RN} = i\bar{\alpha}^{RN} > i\bar{\alpha}$ if and only if it is covered by the additional expected profit $(1-\Phi_H(\sigma))p_H vq$ due to the approval of a bad project:

$$\text{(D.1)} \qquad (1-\Phi_H(\sigma))\,p_H vq \geq i\bar{\alpha}^{RN} = i\left[\frac{c_H - v}{v} + \frac{\Phi_H(\sigma)}{1-\Phi_H(\sigma)}\theta\eta(\omega)\right].$$

Since $\bar{\alpha}^{RN} > \bar{\alpha}$, it is straightforward that condition (D.1) is more restrictive than its counterpart in the proof of Proposition 4 (Appendix B).

Therefore, the result that the NGO presence contributes to deter lobbying is reinforced. When the regulator is insensitive to NGO opposition, as explained in the main text, lobbying is less likely with an NGO because the probability of opposition $\Phi_H(\sigma) > 0$ to bad projects reduces the stakes of lobbying. When the regulator is sensitive to the eventuality of NGO opposition, lobbying is even less likely: Such a regulator is less inclined to approve a bad project, and effective lobbying becomes more expensive for the industry.

The analysis with $\theta > 0$ is less immediate than with $\theta = 0$. However, one can easily show that condition (D.1) for the occurrence of lobbying takes a form similar to condition (20): Lobbying takes place in the presence of an NGO if and only if

$$\sigma \geq \sigma^{RN}\left(\frac{i}{q}\right),$$

where the threshold σ^{RN} must be adjusted, but retains its main properties: It is still increasing in the relative cost of influence i/q and takes values from $\lim_{i/q \mapsto 0} \sigma^{RN}(i/q) = 0$ to $\lim_{i/q \mapsto (i/q)^R} \sigma^{RN}(i/q) = +\infty$, where $(i/q)^R$ is still defined by (4).

To conclude, the analysis presented in the main text remains qualitatively the same under the assumption that the regulator is directly affected by NGO opposition to a project that it approved. The extension, nevertheless, highlights that the regulator's sensitiveness to NGO mobilization reinforces the result that the NGO presence can deter industry lobbying.