When Is Social Responsibility Socially Desirable?*

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Abstract

We study a model in which corporate social responsibility arises as a response to inefficient regulation. In our model, firms, governments, and workers interact. Firms generate profits and in doing so create negative spillovers that can be attenuated through government regulation, which is set endogenously and may or may not be socially optimal. Governments may endogenously choose suboptimal levels of regulation if they face lobbying pressure from companies. Companies can, in turn, hire socially responsible employees who enjoy taking actions to ameliorate the negative spillovers. Because firms can capture part of the rent created by allowing socially responsible employees to correct social ills, in some settings they find it optimal to lobby for inefficient rules and then capture the surplus associated with being "good citizens" in the face of bad regulation.

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1 Introduction

Milton Friedman, in his classic book Capitalism and Society, calls corporate social responsibility (CSR) a "fundamentally subversive doctrine", arguing instead that the sole goal of business should be to maximize profits. In spite of his admonitions, CSR has emerged as a pervasive feature of the modern corporate landscape. Indeed, as the following excerpt from Nike (2012) makes clear, in large multinational corporations, CSR is deeply ingrained into the corporate ethos:

> Over time, we've moved from viewing corporate responsibility as a necessity for managing risk to seeing it as an opportunity to create value for our business... We think this is smart business...

Surely globalization has affected this. On the supply side, it is necessarily difficult for any single government regulatory body to have oversight over a firm's total operations when firms finance, produce, and sell products globally. Indeed, some large multinational corporations operate at a scale that is comparable to that of many small national governments.[1] And on the demand side, globalization connects consumers in the developed world to workers in the developing world to an extent not formerly possible, narrowing the social distance between consumer and producer (Baron, 2010). The demand for CSR is so widespread that many companies argue that it is simply matter of good business practice.[2]

CSR may or may not be good business for the companies that embrace it, but a deeper question is whether it is good for society as a whole. When, and under what

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[1]Consider, for example, the Danish shipping line, Maersk: it employees around 100,000 people globally, while the Danish workforce comprises around 2.8 million people. Maersk global revenues were about 1/2 as large as the Danish national government's budget in 2011.

[2]The empirical evidence linking CSR and firm value is mixed. Cheng, Hong and Shue (2012) find that CSR is motivated by agency problems inside the firm, while Bloom, Genakos, Martin and Sadun (2010) find that better managed companies are more ecologically responsible.

circumstances, is corporate social responsibility socially desirable? This question is the focus of our analysis.

To address this issue, we develop a simple model in which governments, citizens and firms interact. In our model, businesses unavoidably generate negative externalities when they operate. The role of government is to set regulatory thresholds that limit these negative externalities. Governments may act in the best interests of society as a whole, or they may be subject to regulatory capture. Firms are standard profit maximizers, but they can choose to behave in a socially responsible manner if they wish, which in our analysis corresponds to going above and beyond what is required by government, setting production levels below what is mandated so as to further lessen the negative externalities they generate. Even though firms generate lower profits by behaving in a socially responsible fashion, they may be able to capture other economic rents by behaving this way, depending on how regulatory standards are set.

In our baseline analysis, the objective of government is to maximize social welfare. In this version of the model, the fact that firms can behave in a socially responsible manner is neither beneficial nor detrimental to anyone. No one is made better off because the government naturally sets the optimal regulatory threshold. Because the government sets the optimal regulatory threshold, a socially responsible firm cannot improve on the production choice that a purely profit-seeking firm would naturally choose facing the constraints imposed upon it.

The analysis changes substantially when we allow for inefficient regulation. Extending the model in the spirit of Stigler (1971, 1974) and Peltzman (1976), we allow for the government to maximize a combination of social welfare and influence payments. This opens the possibility for firms to lobby governments to choose a regulatory threshold that no longer coincides with the social optimum.

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In this version of the model, access to a socially responsible manager in addition to a self-interested manager makes the firm strictly better off. This is because the firm captures the economic rents associated with CSR. There are two offsetting effects on social welfare. On the one hand, CSR leads to socially superior actions being chosen, but on the other hand CSR leads to more lobbying, imposing deadweight costs on society.

Our analysis thus echoes the admonitions of Friedman (1961, 1970), who was famous for his opposition to corporate social responsibility. Friedman's views mirror those expressed by Levitt (1958), who famous for his opposition to CSR:

> "Occasionally somebody exhumes the apparently antique notion that the business of business is profits; that virtue lies in the vigorous, undiluted assertion of the corporation's profit-making function. But these people get no embossed invitations to speak at the big, prestigeful, and splashy big business conferences – where social responsibility echoes as a new tyranny of fad and fancy."

As the passages from Levitt and Friedman makes clear, the concern about social responsibility in the 1950s, 60s and 70s was that big businesses were being turned into the pawns of forces that were undermining a free society. This is where our analysis departs from theirs. In our analysis, firms are not pawns. They cleverly orchestrate corporate social responsibility to capture the economic rents associated with it. In our model, the real villain is wasteful lobbying, which leads governments to deviate from the objective of maximizing social welfare.

Our work is related to a number of recent papers exploring corporate social responsibility and related social phenomena such as social entrepreneurship and traditional charity. For excellent recent overviews of this literature, see Benabou and

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Tirole (2010) or Kitzmueller and Shimshack (2012). Graff Zivin and Small (2005) and Baron (2008) explores models in which consumers can donate to private charities or can invest in companies that engage in social mission. They focus on the crowding out of private charity that corporate charity can induce. Nilsson and Robinson (2012) explore the conditions under which corporate social responsibility and/or social entrepreneurship will dominate private donations to "pure charities". In each of these analyses, there is no role for government to coordinate the abatement of negative externalities; charitable contributions are motivated by "warm-glow" considerations in the sense of Andreoni (1996).

The balance of the paper is organized as follows. In Section 2 we lay out the basic setup of the model. In Section 3 we study a version of the model in which government maximizes social welfare. This section illustrates that under efficient government, corporate social responsibility is completely unnecessary. Then in Section 4 we explore a version of the model in which governments maximize a combination of social welfare and lobbying contributions they receive. Section 6 considers some extensions to the model, while Section 7 concludes with a discussion of the empirical implications of our work.

2 Basic Setup

Firms and Managers. At the heart of our model is a firm—the principal—which seeks a manager—the agent—to run the company's operations. Once hired, the manager's main task is to choose action $a \in \mathbb{R}^+$ which is expected to affect the firm's profits.

The firm's expected profits $\pi(a)$ are positive, continuously differentiable over $\mathbb{R}^+$ and strictly concave in a (with $\lim_{a \to 0^+} d\pi/da > 0$); and hence there exists a unique

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$a_\pi > 0$ such that $a_\pi = \arg\max \pi(a)$, such that the firm's expected profits are maximized.

There are two types of managers available in the labor market, a self-interested (si) manager and a socially responsible (sr) manager. Firms can costlessly detect which type of manager they face. Furthermore, we assume that the firm can verify a, and makes a take-it-or-leave-it contractual offer $W(a)$ to the manager she wishes to hire. (We discuss some potential extensions aimed at relaxing these assumptions in Section 6.)

Self-interested and socially responsible managers differ in terms of their preferences. The si manager cares only about his own payoff: If he is hired with compensation $W_{si}(a)$, his utility is $U_{si} = W_{si}(a)$. If he is not hired, his reservation utility $\overline{U}_{si}$ is his reservation wage, which we normalize to zero.

In contrast the socially responsible (sr) manager cares not only about his compensation, but also about social welfare associated with action a, $S(a)$: If he is hired with compensation $W_{sr}(a)$ and chooses action a, his utility is $U_{sr}(a) = W_{sr}(a) + \rho S(a)$, with $\rho \in [0,1)$. If he is not hired, the sr manager's reservation utility is (the sum of his zero reservation wage and) the social welfare associated with action $\overline{a}$ selected in that case (e.g. by the si manager if he is hired): $\overline{U}_{sr} = \rho S(\overline{a})$. Thus, socially responsible managers experience utility that is increasing in social welfare regardless of whether or not they are engaged in the alleviation of negative externalities.

Citizenry. Another key player in our model is the "citizenry". Citizens are negatively affected by the actions taken by the firms. They take no action on their own behalf, but their preferences are important for understanding social welfare.

The citizenry's utility $V(a,q)$ depends on action a and on a vector q of other exogenous factors. For simplicity we assume that $\partial^2 V/\partial a \partial q = 0$ (i.e. the marginal

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utility of a is independent of other factors) and henceforth omit q in our notation. More importantly we posit that action a creates a negative externality on the citizenry, in that it negatively affects the citizenry's utility: $dV/da < 0$. One can think of a as representing a price or a pollution level for example. Clearly, then, the level of a that maximizes $V(a)$ is $a_c = 0$.

In the versions of the model that we study here, we simply assume that the citizenry is disconnected from the firm in question. Although somewhat stark, this framing would be well suited to the case of a citizenry of a country that was home to one piece of a larger global supply chain operated by a multinational corporation.

An alternative framing of the role of citizenry in the model is to have them be shareholders in the firm in question. As will be clear below, this does little to the analysis. It simply pushes the first-best choice and the profit-maximizing choice of the firm closer together, because the citizenry's utility would now include some fraction of profits generated by the company. As long as they are not the sole owners of the corporation, there will generally be a wedge between social welfare and firm profits, which is all that is required for our results.

Social Welfare and First-Best Scenario. Social welfare is the total surplus generated, which includes 1) the citizenry's utility, 2) the firm's profits net of compensation cost, 3) the hired manager's utility, and 4) the other manager's utility: $S(a) = V(a) + (\pi(a) - W_j) + W_j + \rho S(a)$, with $j = si, sr$. Note that $S(a)$ is the same regardless of which manager is hired by the firm; and that it easily simplifies to $S(a) = (V(a) + \pi(a))/(1 - \rho)$. We assume that $S(a)$ is "well-behaved", with $d^2 S(.)/da^2 < 0$ and $dS(0)/da > 0$. Thus there exists a unique first-best action $a^* \in (0, a_\pi)$ such that $a^* = \arg\max (V(a) + \pi(a))/(1 - \rho) = \arg\max V(a) + \pi(a)$. In our model, a^* depends neither on who is hired, nor on parameter ρ.

Social Responsibility. Parameter $\rho \in [0, 1)$ captures the sr manager's degree of social responsibility. If $\rho = 0$, $U_{sr} = W_{sr}$, and the sr manager is in fact purely self-interested. As ρ increases, however, he gradually applies more and more weight on social surplus relative to his personal compensation. Finally, as ρ tends towards 1, the sr manager becomes close to perfectly socially responsible. Indeed one can easily show that the manager's utility converges to social surplus: i.e., that

$$\lim_{\rho \to 1} \frac{U_{sr}}{S} = 1.$$

To see this, note that $\frac{U_{sr}}{S} = \frac{(W + \rho S)}{S}$, which can be expressed as $\frac{U_{sr}}{S} = \frac{[(1-\rho)W + \rho(V + \pi)]}{(V + \pi)}$, using the fact that $S = \frac{(V + \pi)}{(1 - \rho)}$. It then follows directly that $\frac{U_{sr}}{S}$ approaches 1 as ρ tends toward 1.

Government. We assume that transactions costs prevent direct Coasian bargaining between the firm and the citizenry,[3] and that as a result a government emerges that plays an important role as an intermediary between the citizenry and the firm. The government examines both points of view and then affects equilibrium action through regulation.

If the government could perfectly verify action a, it could specify exactly which action to be chosen, and that would be end of the story. To keep the problem interesting - and in our opinion not unrealistically - we assume that the government cannot verify the exact value of a, and therefore cannot specify its value through regulation. What the government can verify, however, is whether a is superior or inferior to some predetermined threshold a_g.[4] Thus the government can regulate by

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[3] For instance, the citizenry's "fragmentation" may imply high coordination costs for the group's members, which may hinder efficient bargaining, and indeed prevent bargaining altogether.

[4] While it may prohibitively costly to prove in a court of law that the true value of a is indeed a, it may be significantly less costly to prove that it is above or below a specific number.

imposing a ceiling a_g for action a.[5]

Timing of the Game. At date 0, the government examines the citizenry and the firm's points of view, and imposes ceiling a_g on action a. At date 1, the firm makes a take-it-or-leave-it contractual offer to the manager. At date 2, the manager selects action a. At date 3, profits and utilities are realized and contracts are honoured.

3 Social Responsibility with Efficient Government

To set the baseline for our analysis, we begin by considering first a government whose objective is to maximize social welfare

$$S(a) = \frac{V(a) + \pi(a)}{1 - \rho}. \tag{1}$$

First we consider the case when only a self-interested manager is available, then we examine the case when the firm can choose between hiring a self-interested or a socially responsible manager. The main result in this section is essentially an irrelevance result: under a government that maximizes social welfare, the presence of socially responsible firms is of no consequence. Their social responsibility is completely redundant.

3.1 Equilibrium with Self-Interested Managers Only

We first examine the case where only the self-interested (si) manager is available for hire; and determine the subgame-perfect Nash equilibrium by backward induction. As is well known, since the manager faces no direct cost associated with a, he selects

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[5]As will become clear below, it is never optimal for the government to set a_g as a floor.

the firm's preferred action as long as he receives compensation $W_{si} \geq 0$. Thus in equilibrium the firm pays the manager $W_{si} = 0$, and can choose the action a_{si} to be selected by the manager. Clearly, the action that maximizes the firm's payoff $P_{si} = \pi(a) - W_{si} = \pi(a)$ is the profit maximizing action $a_\pi > a^*$. The difference between a_π and the first-best action a^* captures the externality at work here: The firm does not internalize the negative impact of a higher action choice on the citizenry, and hence selects an action level that is too high from a social point of view.

Here, however, the firm's choice of action may be constrained by government regulation. Suppose that at date 0 the government has imposed ceiling a_g for action. Then, taking a_g as given, at date 1 the firm requests the following action from the manager:

$$
a_{si} = \left\{
\begin{array}{ll}
a_\pi & \text{if} \quad a_g \geq a_\pi \\
a_g & \text{if} \quad a_g < a_\pi
\end{array}
\right\}.
\tag{2}
$$

If the action ceiling is not binding, the firm chooses her preferred action a_π; if the ceiling is binding, then the best the firm can do while remaining within the law is to request action a_{si} exactly equal to the ceiling from the manager. Accordingly, the firm's equilibrium payoff P_{si}, can be expressed simply as:

$$
P_{si}(a_g) = \left\{
\begin{array}{ll}
\pi(a_\pi) & \text{if} \quad a_g \geq a_\pi \\
\pi(a_g) & \text{if} \quad a_g < a_\pi
\end{array}
\right\}.
\tag{3}
$$

Moving back one period, the welfare maximizing government chooses ceiling a_g to solve the following program:

$$
\max_{a_g} \quad S(a_{si}) = \max_{a_g} \quad (V(a_{si}) + \pi(a_{si})) / (1 - \rho),
\tag{4}
$$

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subject to condition (2). The optimal regularity ceiling is $a_g = a^*$. Since $a^* \in (0, a_\pi)$, this forces the firm to request action $a_{si} = a^*$ from the manager at date 1. Indeed, the equilibrium can be described as follows:

Lemma 1 *Under efficient government, and with a profit maximizing firm and a self-interested manager: At date 0, the government sets regulatory ceiling $a_g = a^*$. At date 1, the firm hires the si manager, and requests action $a_{si} = a^*$. At date 2, the si manager takes action a^* and receives compensation $W_{si} = 0$; and the firm obtains payoff $\pi(a^*)$.*

Note that since the action taken at date is a^*, the first-best social welfare is achieved in equilibrium. Thus:

Proposition 1 *Even with a profit maximizing firm and a self-interested manager, an efficient government can circumvent problems associated with externalities through regulation, and can achieve first-best social welfare.*

3.2 Self-Interested and Socially Responsible Managers

Suppose now that at date 1, the firm has a choice between hiring a *si* manager and hiring a socially responsible (*sr*) manager who cares about social welfare. If the firm makes an offer to the *si* manager, the remainder of the game is as described in section 3.1: For a given ceiling a_g, the requested action a_{si} is defined as in (2), and the firm's payoff P_{si} is defined as in (3).

Now suppose the firm makes a contractual offer $W_{sr}(a)$ to the *sr* manager. As discussed above, if the manager accepts the offer and chooses action a, his utility is $U_{sr}(a) = W_{sr}(a) + \rho S(a)$. If he is not hired, the *sr* manager's reservation utility depends on the action $\bar{a}$ chosen in that case: $\overline{U}_{sr} = \rho S(\bar{a})$. We assume that if the *sr*

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manager turns down the offer, the firm hires the si manager (since this gives her a positive payoff P_{si}) who selects $\bar{a} = a_{si}$, and this in turn implies that $\overline{U}_{sr} = \rho S(a_{si})$.

The optimal contract offered to the sr manager is:

$$W_{sr}(a) = \left\{ \begin{array}{cc} w_{sr} + b_{sr} & \text{if} \quad a = a_{sr}^e \\ w_{sr} & \text{if} \quad a \neq a_{sr}^e \end{array} \right\}, \tag{5}$$

where the firm chooses the base salary w_{sr}, the bonus b_{sr}, and action a_{sr}^e to maximize her payoff, $\pi(a_{sr}^e) - (w_{sr} + b_{sr})$, subject to the incentive compatibility (IC) constraint:[6]

$$b_{sr} + \rho S(a_{sr}^e) \geq \rho S(a^*), \tag{6}$$

and to the individual rationality constraint:

$$w_{sr} + b_{sr} + \rho S(a_{sr}^e) \geq \rho S(a_{si}). \tag{7}$$

One can easily verify that in equilibrium $b_{sr}(a_{sr}^e)$ and $w_{sr}(a_{sr}^e)$ are chosen as solutions to binding IC and IR constraints, respectively; and that the firm's program simplifies to:

$$\max_{a_{sr}^e} \quad \pi(a_{sr}^e) + \rho[S(a_{sr}^e) - S(a_{si})]. \tag{8}$$

The intuition is simple: the firm chooses the action a_{sr}^e that maximizes the joint firm-manager surplus; ensures that the manager has an incentive to select this action through the appropriate choice of b_{sr} satisfying (6); and extracts all rents from the manager by choosing the base salary w_{sr} such that (7) is binding.

Given the strict concavity of the $\pi(.)$ and $S(.)$, there exists a unique $a_{sr}^e \in (a^*, a_\pi)$

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[6]Conditional on not choosing a_{sr}, the manager anticipates he will receive a payoff of $w_{sr} + \rho S(a)$. And the action that maximizes this payoff is a^*.

that maximizes (8); and indeed, if the firm hires the sr manager, the equilibrium action chosen as a function of the previously determined regulatory ceiling a_g can be expressed as follows:

$$a_{sr} = \left\{ \begin{array}{ll} a_g & \text{if} \quad a_g < a_{sr}^e \\ a_{sr}^e & \text{if} \quad a_g \geq a_{sr}^e \end{array} \right\}. \tag{9}$$

Thus, using (2) and (9), we can express the firm's equilibrium payoff if she hires the sr manager, P_{sr}, as follows:

$$P_{sr}(a_g) = \left\{ \begin{array}{ll} \pi(a_g) + \rho[S(a_g) - S(a_{si})] = \pi(a_g) & \text{if} \quad a_g < a_{sr}^e \\ \pi(a_{sr}^e) + \rho[S(a_{sr}^e) - S(a_g)] & \text{if} \quad a_{sr}^e \leq a_g < a_\pi \\ \pi(a_{sr}^e) + \rho[S(a_{sr}^e) - S(a_\pi)] & \text{if} \quad a_g \geq a_\pi \end{array} \right\}. \tag{10}$$

Comparing the firmial payoffs defined in (3) and (10), we can now determine the firm's optimal choice of manager, for a given regulatory ceiling a_g.

For all $a_g \in [0, a_{sr}^e)$, with $a_{sr}^e \in (a^*, a_\pi)$, the regulatory ceiling is binding. We have $a_{sr} = a_{si} = a_g$; and this implies $P_{sr}(a_g) = P_{si}(a_g)$: the firm is indifferent between the two types of managers. Since they both choose the same action a_g, the sr manager does not derive additional utility from selecting a more socially responsible action, and therefore there is no additional utility to be extracted by the firm.

For all $a_g \in [a_{sr}^e, +\infty)$, the regulatory ceiling is not binding, and we have $a_{sr} = a_{sr}^e$ and $a_{si} = \min(a_g, a_\pi)$. Note that in that case, the firm could choose to elicit action a_{si} from the sr manager, in which case the payoff would be the same from either manager. Yet the firm chooses to elicit $a_{sr}^e \neq a_{si}$ from the sr manager, which implies that the payoff from doing so is strictly superior to the payoff from eliciting a_{si}. And this in turn implies that $P_{sr}(a_g) > P_{si}(a_g)$: the firm is strictly better off by hiring a sr manager over a si manager. Intuitively, the sr manager enjoys an additional

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social responsibility utility, which can be extracted from him by the firm when the regulatory ceiling a_g is not too restrictive.

This logic is depicted graphically in Figures 1 and 2. Figure 1 plots the threshold a_g along the horizontal axis and the equilibrium action choice for both types of agents along the vertical axis. The critical value a_{sr} is the value at which the equilibrium behavior of self-interested and socially responsible managers will depart. To the left of a_{sr}, firms are completely indifferent between managerial types. (Notice that this is strictly to the right of a_{pi}.) To the right of a_{sr}, socially responsible managers would prefer to make a lower action choice. Of course, to the right of a_π the equilibrium action is simply to request a_{pi}.

Figure 2 illustrates the firm's profit (if hiring a self-interested manager) or quasi-profit (if hiring a socially responsible manager) for different levels of a_g. The fact that the socially responsible manager's preference for lower levels of a can be captured through contractual means by the firm manifests in a social responsibility wedge for values above a_{sr}.

Anticipating all this, at date 0 the government understands that without a regulatory ceiling a_g, the actions that will be undertaken at date 2 will be suboptimal from a social point of view, since $a_{sr}^e, a_{si} > a^*$. The optimal strategy for the government is therefore to set regulatory ceiling $a_g = a^*$. There are two implications from the efficient government's strategy: 1) it ensures that the first-best action is chosen in equilibrium; and 2) it makes the firm perfectly indifferent between hiring either manager.

We capture this intuition in the following lemma:

Lemma 2 *Under efficient government, when the firm can choose between a self-interested manager and a socially responsible manager: At date 0, the government*

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sets regulatory ceiling $a_g = a^*$. At date 1, the firm hires either the si manager or the sr manager, requesting the same action a^* either way. At date 2, the hired manager takes action a^* and receives compensation $W_{si} = W_{sr} = 0$; and the firm obtains payoff $\pi(a^*)$.

Note that again the first-best social welfare $S(a^*) = \frac{(V(a^*) + \pi(a^*))}{(1-\rho)}$ is achieved in equilibrium. We summarize the results of the foregoing discussion simply as follows:

Proposition 2 *Under efficient government, having access to a socially responsible manager in addition to a self-interested manager 1) does not make the firm better off; and 2) has no impact on social welfare.*

Qualitatively, this irrelevance result is altogether different than those explored in Graff Zivin and Small (2005) or Baron (2007). In their analysis, no government exists, but consumers have preferences over direct or delegated philanthropy. In these models, the irrelevance result stems from the fact that corporate social responsibility can crowd out individual philanthropy. In our model, the direct philanthropy channel is suppressed, and the irrelevance stems from the fact that a well functioning government is a perfect substitute for corporate social responsibility. Of course, this results hinges critically on the fact that the government maximizes social welfare. As the next section illustrates, the analysis changes considerably when we allow for governments to be susceptible to inefficient lobbying pressure.

4   CSR with Inefficient Government

We now consider a model of political support à la Stigler-Peltzman (see also Hillman, 1982) whereby an incumbent government seeks to maximize its political support function M, which depends primarily on two factors: votes and financial contributions.

For simplicity, we assume that the number of votes depends directly on the social surplus (S) generated, and that the government's political support function can be expressed in reduced form as:

$$M = (1 - \gamma) \, S(a_g) + \gamma C(a_g), \tag{11}$$

where $C(a_g)$ represents financial contributions, which are a function of the government's regulatory choice a_g, and $\gamma \in (0, 1)$ represents the degree of government in-efficiency. As γ approaches zero, governments increasingly behave like social welfare maximizers, while as γ approaches 1, the government becomes completely beholden to lobbyists.

Since the regulatory ceiling a_g is contractible, the firm offers, at date 0, a ceiling-contingent contract to the government, consisting of a financial contribution $C^e_{g,si}$ if a specific regulatory ceiling $a^e_{g,si}$ is chosen, and zero otherwise.

Before we proceed with the analysis, it is worth pausing to consider the empirical magnitudes of lobbying cost versus the potential rent extraction gains associated with lobbying. It is not the case that our model proposes that a single manager working for a large oil firm would pay billions to lobby the government so that they would be allowed to have a massive oil spill. Indeed, the empirical evidence suggests that lobbying costs are actually quite small as a fraction of firm value, so it is easy to imagine that they are an order of magnitude below the economic extraction that occurs. According to GE CEO Jeff Immelt, GE spends around \$25 million lobbying, but something like \$4 billion on R&D.[7]

In the remainder of this section, we first re-examine the case when the firm can only hire the self-interested manager, and then we consider the choice the situation

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[7]We are grateful to Tom Nycholas for this point.

faced by a firm that can choose between a self-interested and socially responsible manager, when such a date 0 take-it-or-leave-it offer from the firm to the government is allowed.

4.1 Self-Interested Manager Only

Again we start with the case where only the si manager is available for hire. For a given regulatory ceiling a_g, from date 1 onwards the equilibrium is exactly the same as in section 3.1: the equilibrium action $a_{si}(a_g)$ taken by the manager is defined as in (2) and the firm's payoff $P_{si}(a_g)$ is defined as in (3).

However here the firm can now contract with the government at date 0. The firm chooses a regulatory ceiling level $a_{g,si}^e$ and financial contribution $C_{g,si}^e$ that maximize the following program:[8]

$$\max_{a_g,C} \quad \pi(a_g) - C, \tag{12}$$

subject to the government's IR constraint:[9] $(1-\gamma)S(a_g) + \gamma C \geq (1-\gamma)S(a^*)$. The IR constraint is binding, yielding:

$$C = \frac{1-\gamma}{\gamma}[S(a^*) - S(a_g)], \tag{13}$$

and the firm's program simplifies to:

$$\max_{a_g} \quad \pi(a_g) - \frac{1-\gamma}{\gamma}[S(a^*) - S(a_g)]. \tag{14}$$

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[8]It is easy to see that the firm's objective function, $P_{si}(a_g) - C$, simplifies to $\pi(a_g) - C$. Clearly $P_{si}(a_g) = \pi(a_g)$ since it would never be optimal to have $a_g > a_\pi$: it would require a higher cost C without additional benefit.

[9]If it does not accept the firm's offer, the government ends up maximizing $(1-\gamma)S(a_g)$ and we know from section 3.1 that this yields $a_g = a^*$.

Optimal choices $a_{g,si}^e$ and $C_{g,si}^e$ are solutions to (14) and (13), respectively. Clearly, when the government is almost perfectly efficient, i.e., as $\gamma \to 0$, the cost to the firm of "incentivizing" the government set a regulatory ceiling above a^* is very high, and accordingly the contracted ceiling $a_{g,si}^e$ approaches a^*.

Nevertheless, for all values of $\gamma > 0$, there will always be some lobbying in equilibrium. We formalize this in the following lemma.

Lemma 3 *As long as $\gamma > 0$, some bribery is always optimal.*

The proof is contained in the appendix, but it hinges on the fact that at a^*, $\frac{\partial S}{\partial a} = 0$, which in turn implies that $\frac{\partial \pi}{\partial a} = -\frac{\partial V}{\partial a}$.

However, as government inefficiency γ increases, the cost to the firm of "incentivizing" the government decreases, and the value of $a_{g,si}^e$ gradually increases. Finally, as γ approaches 1 the firm's lobbying cost becomes almost zero, and the ceiling comes close to the profit maximizing action: $a_{g,si}^e \to a_\pi$.

Note that for all $\gamma \in (0, 1)$, the regulatory ceiling $a_{g,si}^e < a_\pi$. The implication that follows from this and from (2), is that the equilibrium ceiling is binding: At date 1, the firm requests action $a_{si} = a_{g,si}^e$ from the manager. In sum, the equilibrium can be described as follows:

Lemma 4 *Under inefficient government, and with a self-interested manager: At date 0, given any $\gamma \in (0, 1)$, the firm offers contract $\left(a_{g,si}^e, C_{g,si}^e\right)$ to the government: The government sets regulatory ceiling $a_{g,si}^e \in (a^*, a_\pi)$ with $da_{g,si}^e / d\gamma > 0$, and receives payment $C_{g,si}^e$ from the firm. At date 1, the firm hires the si manager, and requests action $a_{si} = a_{g,si}^e$. At date 2, the si manager takes action $a_{g,si}^e$ and receives compensation $W_{sr}\left(a_{g,si}^e\right)$; and the firm obtains payoff $\pi\left(a_{g,si}^e\right)$.*

Two types of inefficiencies arise in this equilibrium: First, by lobbying government, the firm ensures that the regulatory ceiling, and in turn in equilibrium action a_{si} is strictly superior to the first-best action a^*. Indeed, the inefficiency associated with action choice a_{si} can be expressed at $S(a^*) - S(a_{si})$. Second, to the extent that the firm's contribution $C^e_{g,si}$ to the government is dissipated - e.g. in an attempt to secure reelection - rather than put to socially productive use, i.e. if $C^e_{g,si}$ is wasted in rent-seeking by the government, then any such payment must be viewed as a second source of economic inefficiency. Thus:

Proposition 3 *Under inefficient government, and with a self-interested manager, rent-seeking by the government and a suboptimally high action $a = a^e_{g,si}$ choice lead to a second-best social surplus $S(a_{si}) - C^e_{g,si} < S(a^*)$.*

4.2   Self-Interested and Socially Responsible Managers

Now suppose again that at date 1, the firm has a choice between hiring a si manager and hiring a sr manager. For a given regulatory ceiling a_g, from date 1 onwards the equilibrium is exactly the same as in section 3.2: For all $a_g \in [0, a^e_{sr})$, with $a^e_{sr} \in (a^*, a_\pi)$ defined as the solution to (8), the firm is indifferent between hiring the si or the sr manager at date 1. And for all $a_g \in [a^e_{sr}, +\infty)$, we have $P_{sr}(a_g) > P_{si}(a_g)$: the firm is strictly better off by hiring a sr manager over a si manager.

What happens in this context if the government is not perfectly efficient and cares about financial contributions as well as about social surplus? Since the firm weakly prefers to hire the sr manager at date 1, without loss of generality we determine her optimal date 0 behavior as if she were anticipating to hire the sr manager at date 1; and then verify whether in equilibrium the firm strictly prefers the sr manager over the si manager at date 1 or is indifferent between the two.

When contracting with the government at date 0, the firm chooses a regulatory ceiling level $a_{g,sr}^e$ and financial contribution $C_{g,sr}^e$ that maximize $P_{sr}(a_g) - C$, or:

$$\max_{a_g, C} \left\{ \begin{array}{ll} \pi(a_g) - C & \text{if} \quad a_g < a_{sr}^e \\ \pi(a_{sr}^e) + \rho[S(a_{sr}^e) - S(a_g)] - C & \text{if} \quad a_{sr}^e \le a_g < a_\pi \\ \pi(a_{sr}^e) + \rho[S(a_{sr}^e) - S(a_\pi)] - C & \text{if} \quad a_g \ge a_\pi \end{array} \right\}, \qquad (15)$$

subject to the government's IR constraint: $(1-\gamma)S(a_g) + \gamma C \ge (1-\gamma)S(a^*)$. The IR constraint is binding, yielding:

$$C = \frac{1-\gamma}{\gamma}[S(a^*) - S(a_g)], \qquad (16)$$

and the firm's program simplifies to:

$$\max_{a_g} \left\{ \begin{array}{ll} \pi(a_g) - \frac{1-\gamma}{\gamma}[S(a^*) - S(a_g)] & \text{if} \quad a_g < a_{sr}^e \\ \pi(a_{sr}^e) + \rho[S(a_{sr}^e) - S(a_g)] - \frac{1-\gamma}{\gamma}[S(a^*) - S(a_g)] & \text{if} \quad a_{sr}^e \le a_g < a_\pi \\ \pi(a_{sr}^e) + \rho[S(a_{sr}^e) - S(a_\pi)] - \frac{1-\gamma}{\gamma}[S(a^*) - S(a_g)] & \text{if} \quad a_g \ge a_\pi \end{array} \right\}. \qquad (17)$$

The optimal contractual terms $a_{g,sr}^e$ and $C_{g,sr}^e$ are chosen as solutions to (17) and (16), respectively. As government inefficiency γ increases, the firm's marginal (lobbying) cost of raising the regulatory ceiling $(-\frac{1-\gamma}{\gamma}\frac{dS(a_g)}{da_g}$ with $\frac{dS(a_g)}{da_g} < 0$ for all $a_g > a^*$) declines, thus leading to an increase in contracted ceiling $a_{g,sr}^e$.

Again, when the government is almost perfectly efficient, i.e., as $\gamma \to 0$, the cost to the firm of "incentivizing" the government to set a regulatory ceiling above a^* is very high, and accordingly the contracted ceiling is $a_{g,si}^e$, which approaches a^* as γ approaches 0.

If goverment inefficiency γ is relatively low, below a threshold γ_{sr}, the contracted

ceiling $a_{g,sr}^e < a_{sr}^e$ remains binding for both the si manager and the sr manager. As γ increases further, above threshold γ_{sr}, it becomes optimal for the firm to stipulate $a_{g,sr}^e > a_{sr}^e$ in her date 0 contract with the government. Interestingly, in that case she deliberately sets a ceiling strictly above the optimal action for the sr manager, but below the optimal action for the si manager; i.e. a ceiling that is not binding for the former but binding for the latter. This creates a social responsibility wedge $\rho \left[S\left(a_{sr}^e\right) - S\left(a_{g,sr}^e\right) \right]$ for the sr manager, which the firm can extract through contractual means.

Importantly, in that region differentiating the firm's date 0 marginal net payoff is $\left(-\rho + \frac{1-\gamma}{\gamma} \right) dS\left(a_g\right)/da_g$, with $dS\left(a_g\right)/da_g < 0$ for all $a_g > a^*$; and define a threshold level of government inefficiency $\gamma_{sr} = 1/\left(1+\rho\right)$. If $\gamma > \gamma_{sr}$, the firm's marginal net payoff from an increase in regulatory ceiling a_g is strictly positive, and it is optimal for her to choose the (constrained)[10] highest ceiling, $a_{g,sr}^e = a_\pi$, in an attempt to maximize the sr manager's social responsibility wedge. her optimal ceiling choice. In that case, at date 1 the firm anticipates a payoff $\pi\left(a_{sr}^e\right) + \rho\left[S\left(a_{sr}^e\right) - S\left(a_\pi\right)\right]$ if she hires the sr manager, and $\pi\left(a_\pi\right)$ if she hires the si manager. (The date 0 lobbying cost C is sunk at that point.) Clearly she is strictly better off hiring the former: She could request action a_π from the sr manager, and obtain the same payoff $\pi\left(a_\pi\right)$ as if she hired the si manager; but she chooses to request $a_{sr}^e < a_\pi$; which must yield a strictly higher payoff.

In contrast, if $\gamma \leq \gamma_{sr}$, the net marginal net payoff from an increase in regulatory ceiling a_g over and above a_{sr}^e is strictly negative, and in equilibrium the firm sets $a_{g,sr}^e \leq a_{sr}^e$. Hence, at date 1, the firm anticipates that she will ask either manager to select $a = a_{g,sr}^e$ at date 2, giving her a payoff $\pi\left(a_{g,sr}^e\right)$, and is thus indifferent in

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[10]It would never be optimal to have $a_{g,sr}^e > a_\pi$: it would require a higher cost C without additional benefit since the ceiling would not be binding for anyone.

hiring at date 1. We state the equilibrium in the following lemma:

Lemma 5 *Under inefficient government, when the firm can choose between a self-interested manager and a socially responsible manager:*

- *If the government is relatively efficient ($\gamma \leq \gamma_{sr}$), at date 0 the firm makes "contribution" $C^e_{g,sr}$ to the government, in exchange for setting binding regulatory ceiling $a^e_{g,sr} \leq a^e_{sr}$; at date 1, she hires either manager and requests action $a_{sr} = a^e_{g,sr}$; at date 2, the hired manager takes action $a^e_{g,sr}$ and receives compensation $W_{si}\left(a^e_{g,sr}\right) = W_{sr}\left(a^e_{g,sr}\right)$; and the firm obtains payoff $\pi\left(a^e_{g,sr}\right)$.*

- *If the government is relatively inefficient ($\gamma > \gamma_{sr}$), at date 0 the firm makes "contribution" $C^e_{g,sr}$ to the government, in exchange for setting regulatory ceiling $a^e_{g,sr} = a_\pi$; at date 1, she hires the sr manager and requests action $a_{sr} = a^e_{sr}$; at date 2, the sr manager takes action a_{sr} and receives compensation $W_{sr}\left(a^e_{sr}\right)$; and the firm obtains payoff $\pi\left(a^e_{sr}\right) + \rho\left[S\left(a^e_{sr}\right) - S\left(a_\pi\right)\right]$.*

Similar to section 4.1, the inefficiency associated with this equilibrium can be expressed as

$$[S\left(a^*\right) - S\left(a_{sr}\right)] + C^e_{g,sr}.$$

This includes a decrease in social surplus $[S\left(a^*\right) - S\left(a_{sr}\right)]$ associated with an equilibrium action that is strictly superior to the first-best action, and hence too high; and the firm's contribution $C^e_{g,sr}$ to the extent that it is dissipated in rent-seeking by the government.

The key question, however, concerns the impact of the firm's hiring choice between a *si* manager and a *sr* manager. Comparing (14) and (17), it is easy to see that when the government is relatively efficient ($\gamma \leq \gamma_{sr}$), the firm's maximization program at

date 0 is the same whether she can hire only the si manager or either one at date 1. Unsurprisingly then, in equilibrium the social surpluses generated and the firm's contributions to government, are identical under both scenarios: $S(a_{si}) = S(a_{sr})$ and $C^e_{g,si} = C^e_{g,sr}$ for all $\gamma \leq \gamma_{sr}$.

In contrast, when the government is relatively inefficient ($\gamma > \gamma_{sr}$), giving the firm a choice between the si manager and the sr manager has two distinct impacts on social welfare. On the one hand, it leads to an equilibrium action a_{sr} that is lower, and hence closer to the first-best action: $a^* < a_{sr} < a_{si}$.[11] The intuition is simple and related to the above discussion: Here, when given a choice the firm hires the sr manager, and deliberately requests a lower action a_{sr} in order to create a social responsibility wedge $\rho\left[S(a^e_{sr}) - S\left(a^e_{g,sr}\right)\right]$ for the manager, which she can extract from him through contractual means. This lower equilibrium action leads to a higher social surplus: $S(a_{sr}) > S(a_{si})$.

On the other hand, anticipating she will hire the sr manager at date 1, the firm lobbies the government for a very high regulatory ceiling $a^e_{g,sr} = a_\pi$, higher in fact than the ceiling $a^e_{g,si} < a_\pi$ that would be contracted if she could only hire a si manager. But of course this higher ceiling comes at a higher lobbying cost: $C^e_{g,sr} = \frac{1-\gamma}{\gamma}\left[S(a^*) - S(a_\pi)\right]$ is strictly superior to $C^e_{g,si} = \frac{1-\gamma}{\gamma}\left[S(a^*) - S\left(a^e_{g,si}\right)\right]$, for all $\gamma > \gamma_{sr}$. And to the extent that these contributions are dissipated by the government, their negative impact on welfare is higher when the firm has access to the sr manager than when she does not. We summarize these results in the following proposition:

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[11]To see this, recall that $a_{si} = a^e_{g,si}$, and hence that $\pi\prime(a_{si}) + \frac{1-\gamma}{\gamma}S\prime(a_{si}) = 0$. Define $Z(.) = \pi(.) + \rho\left[S(.) - S(a_\pi)\right]$ as the firm's net payoff at date 1 if she hires the sr manager. Now consider marginal payoff $Z\prime(.)$, evaluated at a_{si}: $Z\prime(a_{si}) = \pi\prime(a_{si}) + \rho S\prime(a_{si})$. Substituting $\pi\prime(a_{si}) = -\frac{1-\gamma}{\gamma}S\prime(a_{si})$ into $Z(a_{si})$ yields $Z(a_{si}) = \left(\rho - \frac{1-\gamma}{\gamma}\right)S\prime(a_{si}) < 0$ for all $\gamma > \gamma_{sr}$. By the strict concavity of payoff $Z(.)$, we must have $a_{sr} < a_{si}$ in order to ensure that $\pi\prime(a_{sr}) + \rho S\prime(a_{sr})$.

Proposition 4 *When the government is relatively inefficient ($\gamma > \gamma_{sr}$), having access to a socially responsible manager in addition to a self-interested manager 1) makes the firm strictly better off; and 2) has two offsetting effects on social welfare: On the one hand, it leads to a socially superior action being chosen, but on the other hand it lead to more wasteful contributions to the goverment. Otherwise ($\gamma \leq \gamma_{sr}$), access to a socially responsible manager has no impact on the firm or social welfare.*

The main intuition behind this proposition is illustrated in Figure 3. The degree of government inefficiency is depicted on the horizontal axis. The critical threshold γ_{sr} is a function of ρ and thus must lie between $\frac{1}{2}$ and 1. For values of γ above this, the government is sufficiently corrupt that bribery has positive net present value for the firm because they can absorb more social surplus from socially responsible managers than they have to pay out in bribes to the government.

For values of γ below this critical threshold, the government is sufficiently well functioning that the firm is indifferent between hiring self-interested and socially responsible managers. Bribery occurs in equilibrium, but the level of bribery is below what is required to make hiring socially responsible managers strictly preferred. If no socially responsible manager is available, the straight line with upward slope between a_* and a_π depicts the equilibrium regulatory ceiling that the firm purchases from the government.

In the presence of a socially responsible manager, the story changes considerably to the right of γ_{sr}. To the right of this, the upward sloping line disappears and is replaced by the horizontal line at height a_π. Thus, when a socially responsible manager is available, there is a discontinuity in the firm's optimal lobbying policy at γ_{sr}. The firm immediately lobbies for a_π, requests the action a_{sr} from the socially responsible manager and captures the difference through contractual means. The

reason why the upward sloping portion of the a_{si} function vanishes at this point is because if a socially responsible manager is available, the firm will simply request the action a_π from the self-interested manager in the shadow of bargaining with the socially responsible manager.

5 Comparative Statics

[To be completed]

A couple of points to make here. First, the more socially responsible the *sr* manager, i.e. the higher ρ, the smaller γ_{sr}, and hence the larger the region $[\gamma_{sr}, 1)$ over which having access to the *sr* manager is beneficial.

Conversely, as can be seen on Figure 3, if the aggregate preference for social responsibility is low in the economy, then the corresponding value of ρ will be low. This will cause the critical threshold γ_{sr} to approach 1, which in turn means that the region will shrink over which the firm lobbies for inefficient regulation and absorbs the surplus through contractual means. This point is relevant because it harkens back to the analysis provided by Friedman (1963): a necessary condition for firms to engage in regulatory capture is that there is a sufficient aggregate preference for social responsibility.

6 Extensions

In this section we sketch several potential extensions of the basic analysis. *[To be completed]*

6.1 Interpreting the Model

The way the model is presented, there is a very tight coupling of the production technology and the nature of the CSR. I.e., CSR is specifically the act of doing less harm while manufacturing—cutting down fewer trees, killing fewer fish, etc. There is no reason for these to be so tightly coupled. We could imagine, for instance, a pharma company that lobbies for strong IP provisions so it can charge excessively high prices for its drugs, but then it also sets up some system whereby it gives away polio vaccines in the developing world.

Also, care should be taken with the interpretation of $\pi(a)$ versus $\rho\left[S(a') - S(a^*)\right]$. In some ways, the firm is doing exactly what Friedman said it should do by hiring the CSR guy. Doesn't this make it more profitable? Answer, yes: you can think of $\pi(a)$ is sort of the gross margin, and $\rho[]$ is the fact that people will work for less money. Alternatively, one can think of the overall P function as the market value of the firm, and society with aggregate preferences for CSR given by ρ price the shares higher for a given unit of a than they otherwise would.

6.2 Agency and Imperfect Screening Technology

The analysis thus far has assumed that firm's can costlessly detect which employees are motivated by CSR and which are purely self-interested. No agency problem exists between employees and the firm. What happens if firms cannot tell which employees are self-interested and which are socially responsible? To frame the question more broadly, what if implementing CSR comes with agency costs?

Recent empirical work suggests that CSR does indeed involve agency costs. Cheng, Hong and Shue (2012) look at shocks to managerial ownership induced by dividend tax cuts and find that firms engage in less social responsibility when the

level of agency problems drops.

In addition, recent theoretical work offers guidance on this issue. Carlin and Gervais (2009) explore an agency model in which some agents suffer from agency costs and some do not. The fact that some agents do not require high-powered incentives to exert effort, in equilibrium, induces sorting between firms and employees.

In our analysis, introducing agency costs into the model will likely only make CSR less desirable. Nevertheless, introducing the possibility for some agents to shirk and appear to hide their behavior as socially responsible could induce interesting behavior in the limit as government inefficiency γ approaches 1. In the limit, it may be optimal to only use CSR policies for intermediate levels of government inefficiency, and to switch back to hiring only self-interested employees as government inefficiency becomes extreme.

6.3 Limited Managerial Liability

Suppose that instead of assuming that both managers have unlimited wealth, as we have implicitly done so far, we posit that they have finite wealth $w_0 \geq 0$, and are protected by limited liability. In that case the firm's program is slightly different because she can no longer use the base salary w_{sr} to extract all rents from the sr manager. One can show that the firm's program when dealing with the sr manager simplifies to:

$$\max_{a_{sr2}^e} \quad \pi\left(a_{sr2}^e\right) + w_0 - \rho\left[S\left(a^*\right) - S\left(a_{sr2}^e\right)\right],$$

which yields $a_{sr2}^e = a_{sr}^e$.

We make the following conjectures:

1. Under efficient government government, the results are exactly the same as in

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the main model: In equilibrium the first-best action is chosen and the firm is indifferent betweeen the si and the sr manager.

2. Under inefficient government:

   (a) For any given level of managerial wealth w_0 there exists a threshold level of social responsibility $\rho_0(w_0)$ such that in equilibrium the firm prefers the sr manager over the si manager if and only if $\rho \leq \rho_0(w_0)$.

   (b) For any $w_0 \geq 0$, hiring the sr manager is optimal from a social point of view. In other words social welfare could be improved if the firm could be forced to hire the sr manager.

6.4 Limited Bargaining Power

For simplicity, throughout our analysis we have assumed full bargaining power on the side of the firm. This means that the firm extracts all the surplus from labor contracts with managers, as well as from the lobbying agreements with governments. We conjecture that qualitatively similar would obtain even if we allowed for some bargaining power on the government side.

7 Discussion and Conclusion

As Benabou and Tirole (2010) note, "Society's demands for individual and corporate social responsibility as an alternative response to market and distributive failures are becoming increasingly prominent." The question we address in this paper is whether society's increased demands for such behavior are welfare improving, or if to paraphrase Milton Friedman, they are tantamount to a loss of individual liberty

and an erosion of civil society because they represent the dismantling of the proper role of government.

Although our analysis shows how corporate social responsibility can emerge as an equilibrium response to government inefficiency, our model makes it clear that it is far from obvious that this is good for society as a whole. In a narrow sense, the emergence of corporate social responsibility is welfare increasing, in that it lowers the amount of negative externalities relative to what would obtain under a similar degree of government inefficiency. CSR itself is a response to ineffective government, but that alone does not make it good. The ability to capture economic rents associated with corporate social responsibility creates an incentive for firms to engage in wasteful lobbying to jawbone governments into setting regulations inefficiently. Thus, there is a dark side to corporate social responsibility even in a setting in which, all else equal, it is beneficial to society in a narrow sense.

This, in turn, has implications for empirical work. First, it serves as a reminder that it is not generally possible to draw welfare conclusions from simple exercises aimed at measuring changes in negative externalities. It highlights the fact that the relevant counterfactual from a social welfare point of view is not what would have obtained in the absence of corporate social responsibility *holding constant the level of government inefficiency.* Instead, the relevant counterfactual is the level of externalities that would obtain in the absence of corporate social responsibility altogether. In short, corporate social responsibility can endogenously crowd out government oversight, and this fact greatly complicates welfare analysis based on empirical observation.

In Friedman's analysis, the concern is that social responsibility causes business to become "unwitting puppets of the intellectual forces that have been undermining the basis of a free society these past decades" (Friedman, 1970). In our analysis, they

are not unwitting puppets at all, but rather willful puppet masters. This highlights a second empirical implication. In our analysis, the negative consequences of corporate social responsibility come from the fact that firms engage in socially wasteful lobbying to capture the rents of social responsibility: it is the *endogeneity* of the government's behavior that drives a wedge between social welfare and corporate action.

What if instead firms were too small to have an effect on government behavior? If government is exogenously inefficient, then our analysis illustrates that corporate social responsibility is unambiguously welfare increasing, as no crowding out occurs. Thus, our model suggests that firm size is related to the welfare consequences of social responsibility. Our model predicts that social firms—those who operate small-scale organizations aimed at alleviating social ills, but with a profit motive—are much more likely to be welfare increasing for society as a whole than CSR initiatives undertaken by large organizations that could reasonably be expected to affect the equilibrium behavior of regulatory institutions.

This final point highlights a potentially important dimension by which alternative organizational forms engaged in the private provision of social benefits differ from one another. Understanding the distinct interactions between these alternative organizational forms and the governments that have typically have provided such social benefits is important for future research.

A   Appendix

[Proofs collected here.]

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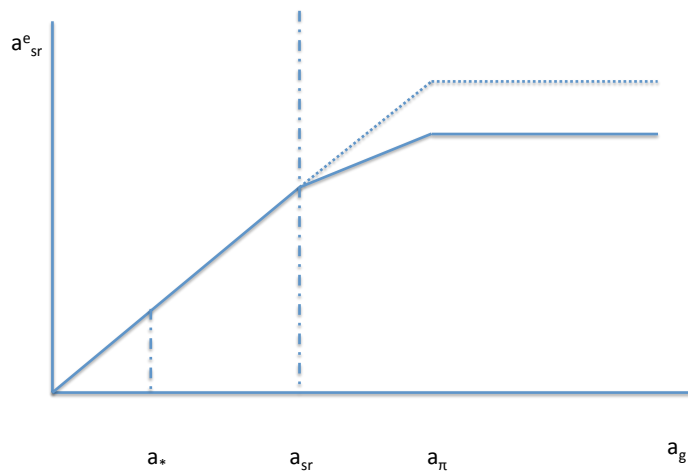
Figure 1: This figure depicts equilibrium effort choice for self-interested and socially responsible managers (along the y-axis) as a function of the threshold set by the government (along the x-axis). To the right of a_{sr}, the dashed line corresponds to the SI manager and the solid line, the SR manager. To the left of a_{sr}, their equilibrium behavior coincides.
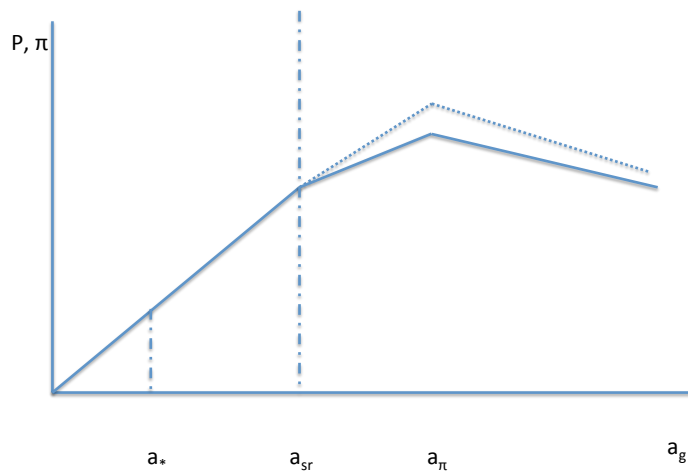
Figure 2: This figure depicts equilibrium profit levels for firms hiring self-interested and socially responsible managers (along the y-axis) as a function of the threshold set by the government (along the x-axis). To the right of a_{sr}, the dashed upper line describes the extra utility captured by allowing the SR manager to engage in a_{sr}^e instead of the SI's preferred effort level.
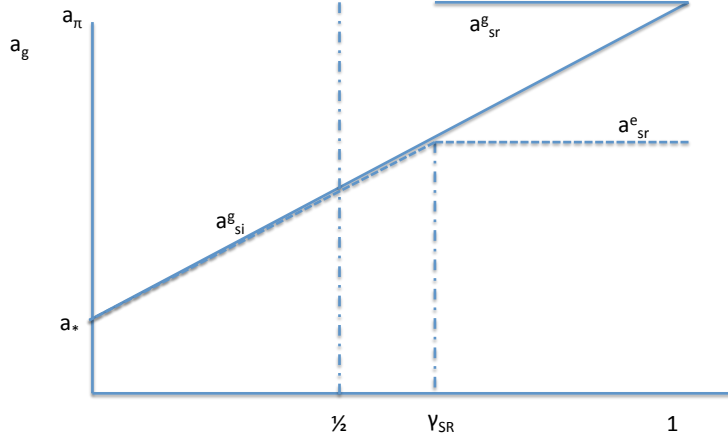
Figure 3: This figure depicts equilibrium regulatory ceilings for varying levels of government inefficiency, γ. The critical threshold γ_{sr} corresponds to the level of government inefficiency above which it is optimal to engage in bribery and absorb the surplus from the SR manager. This value is bounded between $\frac{1}{2}$ and 1. The upward sloping straight depicts the equilibrium regulatory ceiling in the case when only a self-interested manager is available. In the case when both types of managers are available, the upward sloping portion of the line to the right of γ_{sr} vanishes and is replaced by the horizontal line at a_π. At values of γ above γ_{sr}, the firm sets the threshold at a_π, requests effort a^e_{sr}, and captures the difference through contractual means.

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