Review of Environmental Economics and Policy Advance Access published July 11, 2008

Corporate Social Responsibility and the Environment: A Theoretical Perspective

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Introduction

Companies increasingly desire to appear "green." Toyota and Bank of America have new buildings that are Gold-certified by the US Green Building Council. Dell Computer allows customers to buy carbon offsets when they purchase a new computer. Nike plans to be carbon neutral by 2011. The US Climate Action Partnership—which includes Alcoa, BP, and GE—even lobbies for government regulation of greenhouse gas emissions.

Despite creeping concerns that some of these actions may be mere "greenwash," for the most part they are welcomed by employees, consumers, investors, regulators, and the public. After all, it seems intuitive that voluntary actions that internalize environmental externalities are socially responsible. But to what extent can voluntary action substitute for government mandates? Might the two be complements instead of substitutes? Is it appropriate for the private sector, instead of government, to determine which environmental issues deserve priority treatment? Is it socially desirable for managers to take costly environmental initiatives at the expense of shareholders?

Such questions tend to elicit strong reactions. Fortunately, these questions are attracting increasing attention from economists, who are in the process of building the theories needed to address them objectively. This article, which is part of a three-article symposium on corporate social responsibility (CSR) and the environment, discusses the frontiers of theoretical economics research on environmental corporate social responsibility.[1] It complements the articles by Reinhardt, Stavins, and Vietor (2008), which provides an overview of the key issues in environmental CSR, and the article by Portney (2008), which offers an empirical perspective.

One of the perplexing things about the notion of CSR is that it means different things to different people. In this article, we define environmental CSR as environmentally friendly

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[1]For a more rigorous treatment of many of the issues discussed here, especially the interactions between environmental CSR and public policy, see Lyon and Maxwell (2004a).

Review of Environmental Economics and Policy, volume 1, issue 0, 2008, pp. 1–22
doi:10.1093/reep/ren004

actions not required by law, also referred to as going beyond compliance, the private provision of public goods, or voluntarily internalizing externalities.[2] This is the same definition used by Portney (2008) in this symposium. Not everyone accepts this definition. For example, Milton Friedman, in his provocative 1970 *New York Times Magazine* article, took a much narrower perspective (Friedman, 1970). For Friedman, an action counts as an act of CSR only if it is unprofitable. Socially beneficial actions that increase profits are merely "hypocritical windowdressing." Similarly, Baron (2001) distinguishes CSR (which is driven by altruistic motives and is unprofitable) from "strategic CSR" (which is profitable).[3] In fact, Reinhardt, Stavins, and Vietor's (2008) article in this symposium defines CSR as sacrificing profits in the social interest. However, even these authors acknowledge that "Despite a large and growing literature on CSR, evidence of firms actually sacrificing profits in the social interest is lacking." Similarly, Portney (2008) argues that "if we confine our discussion of CSR only to those cases where a corporation *knows* it is sacrificing profits, then that discussion will be an awfully short one, indeed." In the remainder of this article, then, we focus on strategic CSR, and when we refer to CSR driven by altruistic or moral motivations, we will use the term "altruistic CSR."

The theoretical literature on environmental CSR addresses two main questions. First, what drives firms to engage in CSR? Second, what are the welfare effects of CSR?

Numerous explanations have been advanced for the recent surge of environmental CSR. Perhaps pollution is symptomatic of broader production inefficiencies, and pollution reduction and cost reduction go hand in hand to create "win/win" opportunities in today's economy. Perhaps a new generation of "green" consumers is willing to pay higher prices for clean products, and firms are simply responding to this shift. Or perhaps business has become savvier about the workings of the political system, taking proactive steps to avert political conflict (e.g., regulatory threats, enforcement pressures, boycott threats from non-governmental organizations [NGOs]) rather than reacting to public pressure after the fact. In our view, all of these market and political forces, as well as others, have driven firms to engage in CSR.

The welfare effects of CSR are more difficult to establish than positive economic explanations, and have received less scholarly attention. Nevertheless, the literature provides some important insights into the welfare effects of strategic CSR, and is beginning to address the welfare effects of altruistic CSR.

The remainder of this article examines a variety of theoretical models of CSR activities. Throughout, we emphasize the importance of NGO pressure as a determinant of public or private political outcomes.[4] In the public political realm we also highlight the need for political decision makers to balance pressures from a variety of groups. In the private political arena we emphasize that the power of private NGO action depends on the support an NGO obtains from the broader public.

[2]Hay, Stavins, and Vietor (2005) present a lively series of papers and commentaries that reflect varying notions of CSR.

[3]Baron (2001) uses the term "corporate social performance" to mean what we refer to here as CSR: socially or environmentally friendly actions that go beyond what is required by law.

[4]Like Baron (2006a), we treat NGOs as fundamentally political actors, even when they use tactics such as boycotts that operate through markets.

The article is organized as follows. The next section introduces the notion of the public policy life cycle, which we find to be a helpful construct for understanding the causes and consequences of CSR. The following three sections survey positive theories of CSR behavior, focusing on the market and political forces, both public and private, that are the main drivers of environmental CSR.[5] The sixth section reviews the welfare effects of CSR. The concluding section provides an assessment of future research needs.

The Public Policy Life Cycle

The public policy life cycle is a very useful framework for corporate issues management, and is commonly used in textbooks on the relationship between public policy and business strategy (e.g., Baron, 2006a).[6] Four stages are typically identified.

First is the *development* stage, in which events occur that lead various segments of the public to become aware that a problem exists. There is a key distinction in the literature between models with complete information and models with incomplete information. Within the policy life cycle, the development stage is concerned primarily with gathering and disseminating information, which virtually requires the use of incomplete information models. To the best of our knowledge, however, there is as yet no theoretical work in economics on the development stage of the life cycle.

Second comes *politicization*, in which the issue acquires a label, opinion leaders begin to discuss the problem in public, the news media become more active in covering the issue, and interest groups begin to mobilize around the issue. There are two key parts to the politicization stage: political entry by organized groups, and the influence game that ensues once all groups have entered (Peltzman 1976). *Organizing costs*, which can be viewed as the fixed costs involved in preparing to enter the political arena, include the costs of gathering information on (environmental) issues, learning about the costs and efficacy of various policy alternatives, and coordinating with other individuals on a common strategy for achieving political influence. *Influence costs* are the marginal costs incurred after a group has decided to enter, and include campaign contributions, programs to mobilize public opinion, and lobbying costs.[7] One of the most compelling aspects of environmental CSR is that it can economize on both types of costs. This issue is discussed in more detail in the article's fourth section.

The politicization stage is sometimes capped by a dramatic event that crystallizes the nature of the problem for the general public, setting the stage for legislative action. The incident at Three Mile Island and the discovery of a hole in the ozone layer are examples of such events, which strengthened the hand of interest groups pressing for action on these issues.

Third is the legislative stage, in which political leaders create new laws responding to the issue. For example, following the dramatic events mentioned above, politicians tightened regulatory standards for nuclear plants and negotiated the Montreal Protocol on

[5]For a detailed analysis of the drivers of environmental CSR, see Lyon and Maxwell (2004a).
[6]For a detailed discussion of the policy life cycle, see Lyon and Maxwell (2004a), chapter 2.
[7]Economists have not devoted much attention to the details of how public opinion is created, but Yu (2005) and Baron (2005) offer insightful models that lay the groundwork for future research.

ozone-depleting substances. Fourth comes *implementation*, in which administrative agencies flesh out the details of the new legislation, and regulators, police, and the courts enforce it.

The traditional public policy life cycle assumes that policy pressures are applied through government. However, as Baron (2001) has noted, NGOs are increasingly abandoning the legislative process in favor of direct engagement with corporations. In this case, the third and fourth stages of the policy life cycle-legislation and implementation-are replaced by what Baron calls "Private Politics." In other words, rather than legislation occurring in the third stage, NGOs make direct demands on corporations for changes in their social or environmental activities. An NGO may either issue threats (such as boycotts or negative media campaigns), or promise rewards (such as endorsements) to induce a company to accede to its demands. If the company refuses, the NGO attempts to follow through on its threats. In a setting of private politics, the fourth and final stage of the policy life cycle (implementation) entails resolution of the NGO-firm dispute. This usually involves bargaining between the two sides, in which the firm agrees to undertake improvements in its environmental and/or social profile and in return the NGO agrees to stop inflicting harm on the firm. The role of NGOs in environmental CSR is discussed in more detail later in this article.

Market Forces and Environmental CSR

The growing attention to corporate environmental initiatives in the business press strongly suggests that market forces—in the markets for products, capital, and labor—are increasingly powerful drivers of corporate environmental improvement. This section discusses how demand- and supply-side forces affect the level of environmental CSR.

Demand-Side Forces

Production and sale of environmentally friendly products is a growth business, from organic food to organic cotton shirts to hybrid cars and ethanol fuel. Arora and Gangopadhyay (1995) were the first to provide a rigorous economic explanation of this growth in green consumption, applying a standard model of vertical product differentiation to capture consumer heterogeneity in willingness to pay for environmental attributes. In this setting, one firm has incentives to increase its quality in order to reduce price competition with a rival. The notion that green products command a price premium has since been incorporated into numerous other models that study additional aspects of environmental CSR.[8]

As one might expect, the level of competition in a market affects the amount of environmental CSR firms undertake. As shown by Bagnoli and Watts (2003), if the market for "brown" (less environmentally friendly) products is highly competitive, then its prices will be low, and fewer consumers will wish to buy "green" products. However, if the brown market exhibits market power, then prices will be high and consumers will switch to the green goods.

[8]These include the political economy model of Lutz, Lyon, and Maxwell (2000), the labeling models of Feddersen and Gilligan (2001) and Heyes and Maxwell (2004), and the private politics model of Baron and Diermeier (2007).

There has been much popular discussion of the role of green investors in driving companies to adopt greener practices, but theoretical work is only beginning to explore this issue (Graff Zivin and Small, 2005; Baron, 2006b, 2007). In this research, investors allocate their wealth between savings, charitable donations, or shares of a socially responsible firm. If some investors prefer to make their social donations through investing in socially responsible companies (perhaps in order to avoid taxation of corporate profits), then CSR can increase the value of the firm by attracting these investors. Baron (2006b) shows that the value of the firm is less than it would be without CSR, but because its investors derive value from CSR, its shares trade at a price above what they would fetch if no investors cared about CSR. Baron (2007) goes on to show that when CSR expenditures are fully anticipated by investors, the initial public offering of stock is offered at a price discount, with the cost borne by the entrepreneur who creates the firm, not by shareholders.

The labor market also provides incentives for CSR. Most employees want to feel good about the company where they work, and want to be able to tell their children they are working to make the world a better place. One way companies try to attract and retain the best employees is by making environmental commitments that are aligned with these employees' environmental values. Frank (2003) surveyed Cornell University graduates and found that many are willing to accept substantially lower salaries from firms engaged in socially responsible activities. If such morally motivated employees are also less likely to shirk their job responsibilities, then companies can profitably screen for them by adopting socially responsible practices. Brekke and Nyborg (2004) find that if pollution abatement is inexpensive, the gains from labor-market screening outweigh the costs of abatement. This may drive brown firms from the market, even when there is a substantial share of workers who have no moral motivation.

In developing countries with weak regulatory systems, international markets may be the strongest force for environmental CSR. For example, Colombia is a major exporter of cut flowers to the United States and Europe. Customers in the European Union (EU) have begun to choose suppliers based in part on their practices concerning the use of pesticides. As a result, the flower industry in Colombia has created the Florverde program, which encourages members to adopt a set of environmentally friendly practices. By the end of 2006, Florverde had 137 member companies, exporting some 700 million flower stems per year.[9] Hence, the shift in market demand may well be playing a stronger role than the nation's incomplete and imperfectly enforced pesticide regulations. Similarly, when downstream retailers selling in developed countries require their suppliers in developing countries to achieve ISO 14001 certification, this can have a positive impact on environmental performance upstream.[10]

Uncertainty about standards weakens green consumer-motivated CSR activities. Consumers often rely on product labels to determine the environmental quality of the products they purchase, but they do not necessarily know exactly what a label means. When there is uncertainty about the standard that lies behind a label, then consumers tend to give firms less credit for having a label, and may also give the benefit of the doubt to firms that do not

[9]For further information, visit the website of the trade association Asocolflores at http://www.asocolflores.org/

[10]ISO 14001 is an environmental management certification system created by the International Organization of Standards. Prakash and Potoski (2006) offer a thorough discussion of the system.

have the label. Harbaugh, Maxwell, and Roussillon (2006) show that both of these factors reduce firms' incentives to label their products.

Supply-Side Forces

In addition to the demand-side market forces discussed above, there are also supply-side forces encouraging firms to adopt greener production. Porter and van der Linde (1995) provide numerous examples of firms that have increased their resource use efficiency, reducing pollution and costs at the same time. The presence of waste does not mean that pollution abatement has been transformed into a strictly negative-cost enterprise, however. There is likely nothing unique about environmental efficiency improvements as a way to cut costs. Indeed, it is tempting to postulate an "Equal Slop Hypothesis" businesses can reduce costs just as effectively by rooting out waste in human resources, outbound logistics, or any other business function as by improving environmental efficiency. Nevertheless, the presence of X-inefficiency[11] means that environmental regulations may often cost firms less than they initially expect.

Even when there are no cost-reduction opportunities, firms that produce both brown and green products that are imperfect substitutes can profit by colluding to reduce their production of the "brown" products, as shown by Ahmed and Segerson (2006). Such collusion raises the price of brown products and consumer demand for green products, which increases prices and profits for both products.[12]

If market participants had complete information about waste-reduction opportunities and transaction costs were zero, then markets would bring about all socially beneficial pollution abatement without any government intervention. In practice, however, these conditions are unlikely to hold and market-driven emission reductions are unlikely to be sufficient to achieve the social optimum. As a result, politics and government regulation will remain key forces driving environmental improvement. It is to this subject that we now turn.

Public Politics and Environmental CSR

Collective action is often required to solve environmental problems, and public politics remains the key venue for most collective action to protect the environment. In this section, we present insights from the theoretical literature about the role of public politics in environmental CSR.

Preempting Regulatory Threats

One important reason that industry invests in CSR is to preempt advocacy groups from organizing to enter the political arena and press for regulation (i.e., the politicization stage in the policy life cycle). Because organizing and lobbying are costly for advocacy groups, investing in CSR may enable industry to preempt regulation with a lower level of abatement

[11]This is a term coined by Leibenstein (1966) to refer to a failure to minimize unit costs due to lack of competitive pressure. It includes wasteful expenditures such as maintenance of excess capacity and luxurious executive benefits.

[12]The authors assume that collusion on the green product would be a violation of antitrust laws.

than would be required through the political process. Maxwell, Lyon, and Hackett (2000) formalize this notion and identify conditions under which firms can profitably preempt regulatory threats. When organizing and lobbying costs are low, preemption may be excessively costly. This is because advocacy groups may still enter the political process even after industry has made voluntary reductions in emissions. However, there is a point at which an advocacy group's organizing costs are high enough to make preemption profitable. Beyond this point voluntary abatement declines with organizing costs.

Voluntary Agreements

It is easy to see why industry and advocacy groups prefer to avoid the high costs of working within the regulatory system. Interestingly, regulators may share the desire to reduce the costs of regulation, and may negotiate "voluntary agreements" (VAs) with industry to circumvent the traditional regulatory process. Since industry is not required by law to participate in such programs, they are also considered to be a part of environmental CSR.

When regulators bargain with industry, one might argue that the regulator could commit to blocking passage of threatened legislation if a VA is reached. Segerson and Miceli (1998) present a model based on this notion, and find that assuming the VA has lower transaction costs than government regulation, both industry and government benefit from signing the agreement.[13]

Blackman, Lyon, and Sisto (2006) find that a VA is socially desirable only when the probability of enforcing mandatory regulations is low. In the developing world, there may be considerable uncertainty regarding when regulators will have the capacity to enforce environmental laws that are on the books. In cases where firms take this uncertainty into account, government may use a VA to accelerate environmental improvement. However, Segerson and Miceli (1998) find that a VA is always socially desirable, regardless of the probability of enforcing mandatory regulation.

When industry groups negotiate VAs with government, firms may disagree about how to allocate the burdens of the agreement. There is no consensus in the theoretical literature about how groups of firms resolve such disagreements. Nevertheless, in the area of CSR, Dawson and Segerson (forthcoming) and Manzini and Mariotti (2003) develop models of industry negotiation of VAs. Dawson and Segerson (forthcoming) apply the approach of d'Aspremont et al. (1983) to argue that we should expect only a subset of the total population of the industry to enter into negotiated agreements, as is indeed often observed in practice. In contrast, Manzini and Mariotti (2003) show that, if the negotiation process for some reason requires consensus among all firms in the industry, the outcome of the negotiations is controlled by the firm with the highest cost of abatement, which tends to produce low levels of CSR.

[13]In Segerson and Miceli (1998), the probability of legislation is exogenous. Glachant (2005) extends their analysis to determine this probability endogenously through a political influence game played between industry and a green advocacy group. Like the earlier analysis, Glachant (2005) finds that a negotiated agreement enhances social welfare. Glachant (2007) extends the analysis further to the case where government observes industry compliance with the agreement but with a detection lag. This means that industry could use a voluntary agreement to delay compliance with threatened legislation.

Public Voluntary Programs

Most of the business-government partnerships offered by the US Environmental Protection Agency do not fit the foregoing analysis. These "public voluntary programs" (PVPs) are typically initiated by government when political conditions preclude any credible regulatory threat. Most of US climate policy to date has been conducted through these programs, which include the Energy Star program, Natural Gas Star, Climate Challenge, etc.[14] These programs typically offer firms technical assistance and favorable publicity if they adopt environmentally friendly practices. Hence, PVPs offer industry small "carrots" (subsidies) when big "sticks" (regulatory threats) are unavailable.

PVPs are inherently weaker instruments than mandatory regulations such as environmental taxes, standards, or cap-and-trade programs (Lyon and Maxwell, 2003). Since PVPs are voluntary and involve only carrots, unlike a mandatory program, they cannot force inefficient, dirty firms out of business. Additionally, unlike an environmental tax, PVPs deplete public coffers, rather than contributing to them. Furthermore, if industry believes a subsidy program is possible, it has greater incentives than usual to lobby against mandatory regulation. For these reasons, we should have only modest expectations for PVPs. Nevertheless, PVPs may be useful programs when stronger measures are politically infeasible.

As PVPs have grown in popularity over the past decade, they have attracted increasing attention from researchers. Ironically, despite the growing use of PVPs, most empirical research has concluded that they are ineffective. Morgenstern and Pizer (2007) review many of the best-known PVPs, finding little evidence that participants in the programs achieved substantially more environmental improvement than nonparticipants. However, Lyon and Maxwell (forthcoming) argue that most PVPs should be viewed as information diffusion programs, whose goal is to change overall industry behavior, not just the behavior of participants. Thus, a successful PVP would diffuse information about pollution reduction opportunities throughout an entire industry. This implies that empirical work that simply compares the performance of participants and nonparticipants is unlikely to uncover the true value of the program.

CSR and Shaping Future Regulations

Despite industry's best efforts, not all environmental regulations can be preempted. Even so, environmental CSR can pay dividends by helping industry shape the regulations that are ultimately implemented. In particular, CSR investments can constrain the regulator's options, or send a signal about the costs of meeting new regulations.

Industrial organization teaches that a firm's sunk investments constrain its subsequent actions, and hence the actions of its competitors. This insight applies to the regulatory arena as well. Lutz, Lyon, and Maxwell (2000) show that corporate leaders may strategically commit to modest environmental improvements that constrain regulators' ability to set tough standards. For example, a firm's sunk investments make it very costly to retool and achieve more substantial environmental gains. This means that if the regulator cares about industry profits as well as environmental performance, he may set a weak standard so as

[14]See Lyon and Maxwell (2004a) for a thorough discussion of these programs.

not to dissipate profits too much. The disquieting implication is that environmental CSR leadership does not necessarily have beneficial results for society.

When the regulator lacks information about the costs of alternative policies, CSR can play an important informational role. For example, as shown by Denicolò (2003), a firm's voluntary adoption of a clean technology can signal to the regulator that the cost of adoption is low. Consequently, the regulator, in balancing profits, consumer welfare, and environmental externalities, may find it socially desirable to mandate the adoption of the clean technology.[15]

Of course, firms also use the familiar tools of campaign contributions and lobbying to influence future regulations. To date, the relationship between CSR and these tools of corporate public affairs management has not received much attention, but this may be changing. Beloe, Harrison, and Greenfield (2007) argue (p. 1) that because companies have not been sufficiently transparent about their public affairs activities, "other stakeholders—namely the mainstream investment community—are showing more involvement in assessing the public affairs activities of companies . . . and in some cases are now driving measurement of business activity in this area."[16]

Deflecting Monitoring and Enforcement

Even after regulations are promulgated, they are unlikely to have much impact on corporate behavior unless government undertakes costly monitoring and enforcement activity. Enforcement agencies are chronically underfunded, which means that officials must carefully allocate their enforcement resources. As a result, companies (or plants) viewed by regulators as socially responsible are likely to be monitored less frequently. Harrington (1988) argues that regulators can leverage their enforcement resources by targeting firms with poor environmental performance records. If we assume that CSR activities are correlated with other aspects of a firm's environmental performance, then it is a small step to argue that regulators should target firms that are less active in CSR. Indeed, Maxwell and Decker (2006) show that if a firm voluntarily makes an observable investment in pollution control that lowers its marginal cost of abatement, then it is optimal for the regulator to monitor the firm less frequently.[17]

Private Politics and Environmental CSR: The Role of NGOs

NGOs are playing an increasingly influential role in CSR. This is due in large part to the Internet, which has significantly lowered the internal and external communication costs of NGOs. More specifically, this translates into lower costs for bringing together like-minded individuals and groups to plot complex strategies that can bring attention to the group's concerns (internal communication). It also means lower costs for informing the public about

[15] Innes and Bial (2002) show how a proactive government can strengthen incentives for firms to reveal their environmental innovations, using a combination of policy instruments.
[16] One of the most egregious examples of opaque lobbying practices is "astroturf lobbying," in which companies covertly foot the bill to create artificial "grassroots" political lobbying organizations. Lyon and Maxwell (2004b) have studied this form of lobbying in a CSR context.
[17] Sam and Innes (2007) find empirical support for this theory with respect to toxic waste emissions.

objectionable corporate activities, and mobilizing the public for action (external communication).

The Activism Process

In the realm of private politics, an NGO targets a firm to induce it to undertake environmental or social change. The NGO's goal is perhaps best thought of as the optimization of environmental services subject to constraints, the most important of which is the need to retain the support of the general public, as this is the source of the NGO's power.

Mitigation of the objectionable activity is presumably costly to the firm; otherwise the firm would simply comply with the mitigation request from the NGO. In order to induce compliance with its demands, the NGO may take an adversarial approach, threatening harm for noncompliance, or a cooperative approach, offering the firm a reward for compliance. As mentioned above, the firm might decide to self-regulate by taking voluntary actions in order to avoid a threat of harm. Alternatively, the NGO may participate in the firm's self-regulatory efforts, as part of the provision of a promised reward. In general, however, as shown by Baron and Diermeier (2007), NGOs prefer to threaten harm rather than offer rewards, since threatened harm is more likely to decrease the level of the targeted activity.

NGOs as Adversaries

If the NGO chooses the adversarial path and the firm rejects the NGO's demand, the NGO will attempt to deliver its threatened harm (e.g., disseminating negative propaganda about the firm, launching a consumer boycott of the firm's products). These activities are designed to negatively impact sales, employee morale, corporate recruitment efforts, etc. These same tactics may also be used against the firm's suppliers to induce them to cease dealing with the firm, thus bringing about indirect pressure on the firm to step up its CSR activities.

Resolution of the NGO's campaign can occur in three ways: (1) The firm remains intransigent and the NGO decides to cease its campaign, (2) The firm acquiesces to the NGO's demands, or (3) The firm and the NGO negotiate a mutually acceptable level of CSR activity and the NGO stops its campaign.

Within this setting, actions that seem altruistic may be indistinguishable from strategic CSR. Interestingly, even an altruistic firm that voluntarily undertakes the socially optimal level of mitigation is not necessarily protected against adversarial NGO demands. Because the NGO's focus is on improving environmental quality, it will pressure firms to reduce pollution beyond the level that balances the costs and benefits of abatement. In fact, in some cases, the altruistic firm may be a more attractive target for the NGO than a profit-maximizer, since it has less incentive to resist the NGO's demands.

Although the targeting strategies of NGOs are fascinating, and play a critical role in shaping strategic CSR behavior, they have just begun to receive attention from academic researchers. A pioneering example is the work of Baron and Diermeier (2007), who develop a theory of adversarial NGO campaigns.[18] They show that the NGO prefers to pick issues that have high social value and target firms that are likely to be responsive to the campaign (i.e., those that will incur low costs for complying with the NGO's demand), which will reduce the

[18] The findings we discuss in this and the next two paragraphs all come from Baron and Diermeier (2007).

resources needed to carry out a successful campaign). NGOs will not necessarily target the worst social or environmental offenders, as these firms may be the most intransigent. As mentioned above, firms that have undertaken some CSR activities, for altruistic or strategic reasons, may find themselves targets of NGOs because they are viewed as weaker targets.

The NGO prefers to target firms sequentially rather than targeting multiple firms simultaneously. Sequential targeting lowers the costs that consumers face for participating in the NGO's campaign, such as a boycott of the firm's products, allowing them to switch to a supplier of a similar product rather than giving up the product category altogether. Sequential targeting also reduces the NGO's campaign costs and allows it to use interim successes to raise additional funds.

Potential targets may use two very different strategies to deflect the NGO. First, they may increase their CSR activities if the NGO will commit to not retargeting the firm after the requested improvements have been made. The NGO may agree to such a commitment if self-regulation by the firm makes the pursuit of an alternative firm more desirable. Second, firms may develop a reputation for being resistant to NGO demands in order to induce NGOs to target alternative (weaker) firms. This may have implications for public politics to the extent that intransigence in the public arena enhances a firm's general reputation for resisting social and environmental changes.

A product boycott is costly both for the firm in terms of lost sales and for the NGO in terms of resources expended to conduct the campaign. This raises the question of why bargaining would not always preempt a boycott. However, Innes (2006) shows that an NGO may be willing to conduct a long-term boycott against a dirty firm in order to shift consumer demand toward a cleaner rival. The dirty firm may resist acquiescing to even a long-term boycott if the market gains from complying with the NGO's demands are small (e.g., if the dirty firm is small or if price competition between similar products would be too fierce).

While firms face growing pressure from NGOs to undertake CSR activities, they also face growing demands for transparency, that is, for full disclosure of their environmental profiles. This pressure is stronger when stakeholders are worried about environmental impacts and when an NGO boycott threatens to be very costly. Sinclair-Desgagne and Gozlan (2003) show that when the NGO wields a big threat, it can induce green firms to distinguish themselves by issuing a detailed CSR report. If the NGO threat is weak, however, then both green and brown firms release only moderately informative CSR reports. In this case, the NGO conducts its own audit of the firm, and initiates a boycott if the firm is found to be brown.

As firms increasingly strive to appear green, NGOs have become more vigilant about perceived corporate hypocrisy, which NGOs often label as "greenwash." Lyon and Maxwell (2006) develop a theory of greenwash as selective disclosure, in which an NGO may attack a firm that is promoting green activities if it finds that the firm has also suppressed information about environmentally harmful activities. Under this theory, firms with poor reputations disclose fully because they gain much from trumpeting a success and lose little by disclosing a failure (since they are already expected to fail); in this case, there is little value in risking public backlash by refusing to disclose. At the other extreme, firms with excellent reputations disclose nothing because they gain little by disclosing successes (since they are already expected to succeed) and lose a lot by disclosing a failure; in this case, there is little value in risking public backlash by disclosing a success. For firms with moderate reputations, however, selective disclosure is attractive: disclosing a success can produce a significant improvement in public perception, and withholding information about a failure can prevent a significant negative public perception; thus, they are willing to risk public backlash by disclosing only partially.[19]

NGOs as Allies

Most environmental CSR activities involve changes to a firm's production process. Consequently, when viewed through the lens of CSR, a corporation's products can be classified as credence goods, that is, goods whose relevant attribute, in this case environmental or social responsibility, is not discernable, even after consumption. If firms wish to obtain credit for their CSR activities through increased prices or sales, or possibly even through heightened employee morale, public recognition is necessary. While some firms may have reputations that make their statements credible to the public, this is likely the exception rather than the rule. As a result, firms often need to seek third-party verification of their CSR efforts. For this purpose, NGOs make excellent potential corporate allies, since they have more credibility with the public than does a typical corporation. In fact, a recent poll found that 55 percent of Americans trust NGOs, while less than 30 percent trust CEOs of major corporations.[20]

NGOs can use their credibility with the public to certify the existence of environmentally or socially beneficial process changes. The literature has focused on two issues: (1) How NGOs can credibly convey information to the public and (2) How the presence of NGOs may affect government decisions to set minimum-quality standards on an industry.

Even though NGOs are generally viewed as trustworthy, they may not always be able to credibly vouch for the greenness of corporate offerings. Assuming NGOs seek to minimize environmental damage, Feddersen and Gilligan (2001) show that they may prefer to discourage consumption across the board, rather than shifting consumption toward less damaging products. Thus, an NGO may be happy to label a few products in an industry as green, but it does not want to label all products as green (even if they are!) for fear of increasing overall demand and hence overall environmental impact.

Further complications arise when NGO certification and government minimum-quality standards may both be present in the marketplace. The NGO's voluntary label is more attractive to industry, since it allows higher-quality producers to distinguish themselves without forcing lower-quality producers to exit the industry, something a minimum-quality standard would do. Heyes and Maxwell (2004) show that if the NGO's label is seen as an alternative to government regulation, then its very existence may raise industry resistance to the government's minimum-quality standard, effectively weakening the standard in response to industry's lobbying pressures. However, if the NGO's label is seen as a complement to government regulation, then industry will support their coexistence.

Conclusions about the Role of NGOs in CSR

The literature on private politics, while fairly new, already provides interesting insights into the roles NGOs play in CSR efforts. This literature includes two distinct lines of work. The first focuses on the NGO as an adversary, inducing firms to engage in strategic CSR either as

[19] For empirical evidence about greenwashing by firms in the electric utility sector, see Lyon and Kim (2007).
[20] See http://www.euractiv.com/en/pa/ngos-top-public-trust-ratings-poll-shows/article-134675

a preemptive measure or as a means to stop NGOs from inflicting harm on the firm. NGOs will desire more CSR than even altruistic firms are likely to undertake voluntarily. Therefore, altruistic firms are not immune to NGO threats, and may even represent more attractive targets than profit-maximizing rivals. The second line of research shows how NGOs can be corporate allies, using their reputations to certify the CSR activities of firms. Indeed, NGOs with global reach can be a very important source of endorsements since globalization has resulted in production and distribution across different governmental jurisdictions.

Welfare Effects of Environmental CSR

Thus far we have focused on positive theories and analyses to illuminate the market and political forces that drive environmental CSR and the roles that environmental CSR can play as a part of overall corporate nonmarket strategy. In this section, we consider what theory has to say about the *social desirability* of CSR in the environmental arena.[21] Overall, we find that there is no grand result showing that CSR is necessarily beneficial to society. Whether it improves welfare depends upon the function CSR performs within a particular context, for example, a specific phase of the public or private policy life cycle.

We begin our discussion of welfare with strategic, profit-driven CSR. We consider first the effects of CSR in a pure market setting. Then we turn to traditional public politics, distinguishing between CSR's effects in different phases of the policy life cycle. This is followed by a discussion of welfare effects in the context of private politics. Finally, we consider the welfare effects of nonstrategic CSR.

Welfare Effects of Strategic CSR in the Marketplace

When externalities are present, market forces alone typically will not induce socially optimal environmental protection. Monopoly power in markets for polluting goods is environmentally beneficial, since it reduces total quantity purchased and hence total pollution. Even when "green" goods compete with "brown" goods, markets will not achieve optimal environmental protection, since market prices will reflect private benefits from purchasing green goods but not the benefits to society at large. In this setting, as shown by Bagnoli and Watts (2003), monopoly power in the brown segment aids the attainment of environmental protection, while monopoly power in the green segment impedes it.

Welfare Effects of Strategic CSR in the Political Arena

In order to identify and understand the welfare effects of CSR in markets with the potential for regulation, it is helpful to keep in mind the stage of the policy life cycle in which CSR is conducted.

[21]Throughout this section, we discuss welfare from a second-best perspective. That is, we compare social outcomes with and without the presence of CSR, rather than comparing to the first-best outcome.

Preempting Legislation

Preemptive self-regulation occurs during the development or politicization phase of the policy life cycle, and avoids the costly political process, thus offering the potential for welfare gains. When consumer organizing costs are high, firms may be able to preempt legislation with much less abatement than would have been imposed legislatively. Poorer environmental performance, however, must be weighed against the reductions in political costs when abatement is voluntary rather than mandatory. Maxwell, Lyon, and Hackett (2000) argue that if consumers have allowed themselves to be preempted, then they must be better off than if they had entered the political arena and fought for tough regulations. Of course, firms will only preempt if doing so increases their profits. Thus, if preemption occurs, both firms and consumers must be better off than if consumers had fought to impose legislation on the industry.

Similar issues arise when a firm and a regulator sign a VA that preempts legislation. If the regulator maximizes social welfare, then any VA that is signed will necessarily increase expected welfare. However, the amount of environmental abatement may be less than it would be under legislation. Segerson and Miceli (1998) show that if compliance with the agreement is perfect, then there always exists a negotiated agreement that will preempt legislation. Again, the amount of abatement may be less than would have been legislated.

In practice, corporate compliance with self-regulatory promises is imperfect, and there is a lag between noncompliance and the imposition of any legislative threat. Thus, VAs may be unable to improve upon the results of mandatory legislation. Glachant (2007) shows that a welfare-maximizing regulator may opt for a VA if two conditions hold. First, Congress must be highly sensitive to lobbying pressure, which implies that legislation would produce weak environmental standards. Second, the lag between noncompliance and its correction through subsequent legislation must be short.

Overall, the welfare effects of preemptive CSR depend upon whether CSR is undertaken unilaterally or through a VA with regulators. Unilateral self-regulation that preempts legislation is typically welfare-enhancing, since consumer groups will intervene in the political process if they find the firm's CSR efforts unsatisfactory. Negotiated agreements improve welfare when they are negotiated by welfare-maximizing regulators. However, there is no guarantee that this result holds if regulators are influenced by particular interest groups, which is what Stigler (1971) and much of the subsequent literature on regulation have suggested occurs in practice.

Shaping Regulations

Even if legislation is not preempted, there may be substantial delays before regulatory standards are put in place, providing another opportunity for CSR to influence policy. For example, delays for new National Emission Standards for Hazardous Air Pollutants required under the Clean Air Act Amendments lasted a decade. Lutz, Lyon, and Maxwell (2000) show that if the regulator cares about firms' adjustment costs, then a firm can take advantage of regulatory delays by committing itself to a technology with moderate environmental benefits. The regulator then eschews tough environmental standards that would require the firm to retool. Although the firm's commitment increases its profits, society is worse off.

Investment in CSR activities does not necessarily worsen regulatory outcomes. It can play a useful role by providing credible information to regulators. For example, as shown by

Denicolò (2003), when regulators are unsure of the costs of reducing pollution, corporate leadership can speak louder than words and convey information that traditional lobbying cannot.[22] Such information can enhance overall social welfare. Still, it is important to recognize that having a well-informed regulator is only guaranteed to benefit society if the regulator's goal is aligned with overall social welfare. If the regulator is captured by the regulated industry or by environmental advocates, then signaling via CSR investments may make society worse off.[23]

Deflecting Enforcement

If a firm's CSR investments lower the marginal cost of environmental compliance, then they can lead to reduced regulatory oversight. Such investments serve as a credible commitment by the firm to improve its compliance. This means that if the regulator observes the firm's investments, it will rationally shift resources away from monitoring the firm and toward other productive uses. This is known as responsive regulatory enforcement. For example, the EPA's 1995 changes to its audit policy allowed regulators to tailor their enforcement behavior to reflect firms' CSR investments, thereby conserving on regulatory resources.[24] However, this reduction in regulatory oversight may not always increase social welfare. Maxwell and Decker (2006) show that the optimal monetary fine with responsive regulatory enforcement is different than if enforcement is unresponsive to CSR. But since a shift to responsive regulation does not necessarily result in a change in fines, in some cases the shift may actually be welfare-reducing.

Welfare Effects of Strategic CSR in Private Politics

The literature on NGO campaigns against corporations has focused on positive theories, and has few welfare results to report. However, the literature on NGO endorsements does present some interesting welfare implications.

In an unregulated market, NGO certification increases sales of environmentally friendly products, and enhances social welfare if consumers switch from "brown" to "green" products. However, the NGO may be concerned about increasing overall sales, even of green products, if those products generate some environmental damage. Feddersen and Gilligan (2001) show that as a result, an NGO may be unwilling to certify all firms in an industry. By leaving doubt in the consumer's mind regarding the environmental footprint of some products, the NGO can discourage overall purchases of the product category, thereby reducing overall environmental impact.

When there is a possibility of government regulation, NGO certification does not necessarily enhance social welfare. Heyes and Maxwell (2004) show that social welfare is higher under a government standard, since it can force out of the market all products that do not meet the standard. If industry views the NGO's label as a substitute for government regulation,

[22]For example, if a firm adopts a new technology voluntarily, this sends a signal to regulators that the technology is not prohibitively costly.

[23]For a discussion of regulatory capture theory, see the seminal paper by Stigler (1971).

[24]See *Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations*, Federal Register, 60 FR 66706.

then the existence of the NGO's label intensifies industry's resistance to regulation, effectively weakening the mandatory standard. Thus, the NGO standard can be socially damaging if it substitutes for the government standard. However, if the NGO standard coexists with a government standard, then NGO certification enhances social welfare, since it certifies environmentally friendly products that exceed the government standard.

Welfare Effects of Nonstrategic CSR

Although the literature on altruistic CSR is much smaller than the literature on strategic CSR, it too has focused on positive rather than normative analyses. Friedman (1970) argues that "true" CSR is socially irresponsible because it imposes a manager's preferences on a whole group of shareholders, who might prefer to allocate their charitable contributions in different ways. However, Friedman makes a number of implicit assumptions that limit the general applicability of his assessment. First, he assumes that shareholders are motivated solely by the desire to maximize monetary earnings from their investments. Second, he assumes that the market for charitable donations is perfectly competitive, so that individuals can allocate their charitable giving precisely to their preferred causes and in their preferred allocations. Third, he assumes that the invisible hand of the marketplace functions effectively in the political realm as well. If these assumptions do not hold in practice, the distinction between "altruistic" and "strategic" CSR blurs, and Friedman's argument against CSR must be called into question. Even when these assumptions hold, it is possible that CSR—as a transfer from the wealthy to society more generally—increases overall social welfare, even though it may not make every individual shareholder better off.

When Friedman's implicit assumptions are relaxed, shares in a socially responsible firm can be viewed as a charity-investment bundle. Such a bundle may be attractive to investors who prefer to do their charitable giving through investing in socially responsible firms (perhaps to avoid taxation of corporate profits or transaction costs associated with personal giving), and who view socially responsible corporations as competing with nonprofits in the charitable donations market. Graff Zivin and Small (2005) show that under these circumstances, what may appear to be "altruistic" CSR can not only increase welfare but also increase share prices.

If investors prefer to make charitable donations directly, rather than through corporations, socially responsible firms can still survive in the marketplace, but they will trade at a discount to other firms. Baron (2007) shows that if investors are informed about the firm's CSR activities at the time they invest, then in this case it is the entrepreneurs who have created the firms that bear the cost of the CSR activities, not ordinary shareholders.[25] Because their share prices are discounted, CSR firms may be vulnerable to takeover attempts by investors concerned only with profit maximization. This can be prevented if there are transaction costs for making tender offers for takeover or there is a socially responsible mutual fund that holds a large enough share in the company to prevent a takeover. From a welfare perspective, the entrepreneur's creation of a CSR firm is a gift to society—he benefits from starting the firm,

[25] Friedman might argue that a firm's unanticipated conversion to CSR appropriates shareholder value; however, such a conversion would be opposed by shareholders and hence can only be possible if the firm were shielded from the market for corporate control.

investors benefit from the expanded range of investment opportunities, and the recipients of CSR benefit directly.

The other key assumption in Friedman's argument is that the political marketplace is workably competitive, which makes it appropriate for do-gooders to work through the political system rather than through corporate voluntarism. However, Friedman's long-time colleague George Stigler argues strongly that regulatory agencies are often captured by the companies they regulate, implying that the political marketplace is far from efficient (Stigler, 1971). This point reinforces the arguments in favor of environmental CSR.[26]

Conclusions about Welfare Effects of CSR

Although intuitively it seems that environmental CSR must be socially beneficial, we have shown that this is not necessarily true. The overall welfare effects of CSR depend very much on the context in which CSR occurs. In the domain of public politics, CSR can be a less costly substitute for government mandates and hence an increase welfare. However, CSR can also distort regulatory decisions in a way that lowers overall welfare. Thus we cannot draw a general conclusion.

Within the domain of private politics, NGO endorsements of green products and firms can have beneficial effects. However, by inducing firms to lobby against government standards, it is also possible that the existence of NGO labeling schemes can undermine government regulatory programs that would be of even greater value.

The welfare implications of altruistic CSR have not been studied in detail. Still, it seems reasonable to suggest that such efforts create value for the entrepreneurs who create them, the individuals who choose to invest in them, and the charities they fund.

Future Research Needs and Conclusions

Although there has been much progress in the theoretical understanding of environmental CSR in recent years, much remains to be done. Strategic CSR has received the most attention to date, but we are still far from having a unified theory of strategic environmental CSR.

Strategic CSR and Public Politics

Regarding strategic CSR and public politics, we highlight two areas needing more work. First, the literature generally assumes full information, and hence ignores the issue of the credibility of corporate environmental disclosure. How does the disclosure of environmental information affect demands for environmental regulation by NGOs and the public? Can companies preempt regulatory threats with prominent actions that lack environmental substance? If so, exactly what is the nature of the information transmission process that allows for such outcomes and what are the welfare effects?

Second, corporate political activities need to be incorporated into an overarching framework for CSR. Such activities include lobbying against mandatory regulations or for envi-

[26]As discussed earlier, Segerson and Miceli (1998) and Maxwell, Lyon, and Hackett (2000) show that a voluntary action that preempts government regulation can improve welfare.

ronmentally harmful subsidies, funding candidates that oppose internalizing environmental externalities, and funding "junk science" intended only to sow seeds of doubt in the public debate. Although such actions seem unlikely to be socially beneficial, there is no accepted paradigm for discussing them in the language of CSR.

Strategic CSR and Private Politics

Regarding strategic CSR and private politics, many issues remain unresolved. First, we need a better understanding of how NGOs and companies compete for public opinion. Why do NGOs seem to react more angrily to perceived "greenwash" by companies with green reputations (e.g., BP) than they do to the almost total lack of interest by others (e.g., Exxon-Mobil)? How does the public respond to competing public advertisements by companies and NGOs? Can corporate greenwash forestall or weaken NGO campaigns?

Second, what are the welfare effects of CSR driven by NGO campaigns? To answer this, we need a richer "theory of the NGO," which is less developed than the theory of the firm. Even if one accepts that environmental NGOs attempt to maximize environmental quality, we need to understand when their fund-raising constraints and internal agency problems may lead them to pursue campaigns that could reduce social welfare, and possibly even environmental quality itself. These issues call for an "industrial organization of NGOs," in which NGOs compete among themselves for financial resources and public support.

Third, we need to better understand the dynamics of corporate targeting by NGOs. Often, NGOs want to transform the environmental practices of an entire industry, not just a single firm. What is the optimal sequence of targets in an industry? Should the NGO start with the weakest firm and gradually work toward stronger ones? Should it instead target the most visible firm first, or the one with the greatest power over its supply chain? When can private politics transform an entire industry? Can a shift in public opinion cause a cascade effect that leads to new performance norms in an industry?

Fourth, we need a better understanding of cooperative relationships between firms and NGOs. What are an NGO's motives for endorsing particular companies, and how are endorsements affected by competition between NGOs and by managerial objectives within them? Because it is difficult to enforce agreements between the two parties, they may need to develop long-term relationships in order to build trust with each other. To what extent does the inability to write enforceable contracts limit the value of corporate-NGO partnerships? When can a history of CSR buy a firm protection from NGO attacks if an accident occurs?

Fifth, more research is needed linking the domains of public and private politics. In many cases, private political actions may pave the way for more effective NGO efforts in the public political arena. More research is also needed on the development stage of the policy life cycle. How do issues come to light? What is the role of NGOs in this process? Relatedly, information campaigns to shape public opinion will influence the effectiveness of both corporate campaigns and NGO lobbying for new legislation. What is the optimal mix of private and public political strategies for NGOs? How does the existence of a private political option increase or decrease the likelihood of public regulatory action?

Sixth, the role of environmental CSR in developing countries needs more study. When government regulatory capabilities are limited, large international NGOs often play important roles in protecting biodiversity and environmental services. For example, NGOs such as the World Wildlife Fund and Conservation International manage substantial tracts of land in the tropics.[27] The effects of CSR under such conditions may be very different than in the United States or Europe, and the importance of private politics is likely to be much greater.

Nonstrategic CSR

Theoretical work on altruistic CSR is still in its early stages. Two areas in particular need further work. First is the market for charitable contributions. To what extent is it a competitive market? Which aspects of charity are nontraded goods? What is the comparative advantage of firms in social giving? Environmental CSR may be an area in which firms have comparative advantages over nonprofits, but more research is needed before this can be asserted with confidence.

A second area concerns the welfare effects of altruistic CSR. The existing literature is almost entirely positive in orientation. Friedman's (1970) argument against altruistic CSR is couched in an assumed environment in which all social goods are traded, the market for charitable contributions is perfect, and the political marketplace is frictionless. None of these conditions holds in practice. We believe it will be particularly interesting to explore the role of CSR when corporations have the ability to block political attempts to force them to internalize externalities. It may also be worthwhile to examine corporate political activity from the perspective of altruistic CSR, using as a benchmark how an altruistic firm would behave in the political arena.

Conclusions

We hope this review has conveyed the dynamic nature of the literature on CSR and the environment. Much has been accomplished in recent years, yet much remains to be done. Market drivers of CSR will likely continue to grow in importance. For environmental issues that are complex, that require expensive remedies, or that require change across multiple firms—such as global warming—political pressure is likely to remain a critical influence on CSR activities. However, as NGOs have become more important, especially in developing countries, they have also started to have major economic impacts on firms, and will often shape the nature of environmental CSR. Finally, as interest in social entrepreneurship grows, the boundaries between nonprofit organizations and altruistic corporations are likely to become increasingly blurred. We expect that 10 years from now there will be a rich literature on CSR and the environment, which will encourage academics, policymakers, NGOs, and the business community to revisit these pages in the *Review of Environmental Economics and Policy*.

[27]The role played by these groups is not without controversy, however, as pointed out by Chapin (2004).

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Abstract

This article surveys the growing theoretical literature on the motives for and welfare effects of environmental corporate social responsibility (CSR). We show how both market and nonmarket forces are making environmental CSR profitable, and also discuss altruistic CSR. In particular, nongovernmental organizations strongly influence CSR activities, through both public and private politics. CSR can have varied effects, from attracting green consumers or investors, to preempting government regulation, to encouraging regulation that burdens rivals. Welfare effects of CSR are subtle, and there is no guarantee that CSR enhances social welfare. We identify numerous areas in which additional theoretical work is needed. (*JEL* Q58, D21)