

## 1 Greening the firm: an introduction

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Though environmental problems have challenged humankind since time immemorial, policy scientists have given serious attention to environmental issues only since the 1960s. A series of industrial accidents and media events such as the publication of Rachel Carson's *Silent Spring* (1962) highlighted the environmental consequences of unfettered industrialization. Responding to public concerns, from the 1970s onwards, the United States Congress has enacted a series of laws stipulating environmental standards and technologies for firms. These policies were often backed by zealous monitoring and enforcement. In the 1980s the policy community and the regulatees began articulating their dissatisfaction with the inefficiencies of command and control policies, specifically questioning the capacities of governmental agencies to implement detailed regulations.

Since the late 1980s, particularly after the Rio Summit of 1992, policy-makers appear to have accepted that governmental coercion alone will not be sufficient in forcing firms to adopt environmentally sustainable policies; "right incentives" must be provided (Hahn and Nell 1982; Lee and Misiolek 1986; Baumol and Oates 1988; Oates, Portney, and McGartland 1989; Atkinson and Tietenberg 1991; Tietenberg 1992). More recently, policymakers are beginning to play down their adversarial role, and are highlighting the potential gains of collaborating with firms in developing and implementing environmental policies. Further, as opposed to a reluctance in implementing environmental laws, firms are increasingly inclined to adopt "beyond-compliance" environmental policies, the ones that are more stringent than the requirements of the extant laws and regulations.

Beyond-compliance initiatives could be designed and implemented by regulators, industry associations, or individual firms. For example, in recent years, the United States Environmental Protection Agency (EPA) has launched voluntary beyond-compliance programs such as Green Lights, Project XL, and 33/50. These initiatives are win-win-win for the regulators, firms, and citizens. Regulators are able to implement their

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mandates to enforce environmental laws at low costs. This is particularly welcome in an era of declining budgets for many governmental programs and of calling for “reinventing government” (Osborne and Gaebler 1992). Citizens enjoy cleaner air and purer water without an increased tax burden. Firms enjoy greater operational flexibility in designing and implementing environmental programs that the command and control era denied to them. Their relationship with regulators also becomes less adversarial.

Regardless of whether regulators view firms as adversaries or as potential partners, as reluctant implementers of extant laws or as enthusiastic participants in beyond-compliance programs, environmental policy scientists have implicitly treated firms as unitary actors with similar responses to external incentives (notable exceptions include Fischer and Schot 1992; Gable 1994; Bunge, Cohen-Rosenthal, and Ruiz-Quintanilla 1995). As a result, there is an inadequate understanding of the internal processes that lead firms to adopt or not adopt various kinds of environmental policies, especially the beyond-compliance ones. In other policy areas and disciplines, however, firms have been “unpacked” and their internal processes extensively studied (March and Simon 1958; Baumol 1959; Cyert and March 1963; Marris 1964; Williamson 1964; Katz and Kahn 1966; Thompson 1973; also, Allison 1971). There is also a well-established literature on the impact of external factors on intra-firm dynamics (Cyert and March 1963; Pfeffer and Salanick 1978; DiMaggio and Powell 1983; Tolbert 1985; Oliver 1991).

In contrast to the existing environmental policy literature, this book examines the processes of environmental policymaking within firms. The *theoretical question* I address is: why do firms *selectively* adopt beyond-compliance environmental policies? Selective adoption implies that a given firm adopts only some but not all policies with similar characteristics, or different firms within the same industry respond differently to a given policy. This study argues that the existing explanations that focus exclusively on factors external to firms and that treat firms as unitary actors are under-specified to answer this question. An examination of intra-firm dynamics is also required. Though factors external to firms create incentives and expectations for managers, intra-firm politics influences how managers perceive and interpret external pressures and act upon them. My *policy question* therefore is: why and how do external factors aid or thwart supporters of beyond-compliance policies to persuade their firms to adopt these policies?

To examine these questions, I explore the following issues. How do managers make decisions on environmental policies? What are the decision criteria? Do managers have different preferences on environmental

policies and, if so, do such differences impact policy adoption? Are beyond-compliance policies adopted only if they are projected to deliver adequate levels of quantifiable profits? How are non-quantifiable benefits brought into the equation? Since answers to these questions vary within and across firms, the book investigates internal processes and inter-managerial interactions on environmental policymaking.

### **Beyond-compliance: an overview**

Beyond-compliance is different from over-compliance. In the latter, firms seek to comply with the law but due to technological indivisibilities, deliver more than the legal requirement. Also, adopting uniform technologies across facilities that face varying environmental regulations results in over-compliance (Oates, Portney, and McGartland 1989). In contrast, beyond-compliance policies specifically propose to exceed the requirements of extant laws. They may involve modifying physical aspects of value-addition processes or adopting new management systems.

The profit-maximizing view of the firm predicts that firms will adopt policies that can be demonstrated, *ex ante*, to meet or exceed firms' profit criteria. Thus, from a managerial perspective, environmental policies can be classified along two attributes: (1) whether they meet or exceed the *ex ante* profit criteria as stipulated in capital budgeting or some other established investment appraisal procedure; (2) whether they are required by law or they are beyond-compliance. Based on these attributes, four modal policy types can be identified: Type 1 (beyond-compliance and meet or exceed the profit criteria), Type 2 (beyond-compliance but cannot or do not meet the profit criteria), Type 3 (required by law and meet or exceed the profit criteria) and Type 4 (required by law but cannot or do not meet the profit criteria). This discussion is summarized in table 1.1.

Since Type 3 and Type 4 policies are required by law, firms are expected to adopt them. This is especially true for industrialized countries where environmental laws are perceived by managers as being strictly enforced and penalties for non-compliance are significant. Consequently, most firms are not expected to systematically violate environmental laws. This book, therefore, does not focus on these policies.

Type 1 policies, though not required by law, are consistent with the profit-maximizing model of a firm since they meet the *ex ante* profit criteria. For example, scholars suggest that firms can increase profits by voluntarily reducing pollution (Porter 1991; Porter and van der Linde 1995; Shrivastava 1995; Hart 1995; Russo and Fouts 1997; for a critique, see Walley and Whitehead 1994; Newton and Harte 1996). Such policies enable firms to capture the "low-hanging fruit." It is also suggested that

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Table 1.1. *Categories of environmental policies*

Impact on quantifiable profits	Impact on Compliance	
	Ensure compliance	Result in beyond-compliance
<i>Established procedures to assess profitability are employed and the policy meets or exceeds their criteria</i>	Type 4 profitable policies that are required by law; are implemented with low inter-manager conflict	Type 1 policies that involve profitable organizational changes with low inter-manager conflicts
<i>Either established procedures to assess profitability cannot be employed, or if they can be, then they were not employed</i>	Type 3 policies that are required by law; are implemented with low inter-manager conflict if there is stringent punishment for non-compliance and effective monitoring	Type 2 policies that involve inter-manager conflicts

such policies enable firms with greater consumer contact to compete on environmental quality and charge a premium (Arora and Cason 1996). Based on these arguments, these policies seem win-win for virtually every constituent. Of course, due to inertia or lack of knowledge about profit opportunities, firms may be slow to adopt them. Nevertheless, serious opposition within firms to such policies is not expected, and, consequently, this book does not examine them.

In contrast to Type 1, 3, and 4 policies, managers are expected to differ on the economic usefulness of Type 2 policies. This book, therefore, exclusively focuses on these policies. Literature identifies multiple motivations for firms to adopt Type 2 policies. The first category of explanations identifies strategic reasons geared towards potential long-term economic benefits. Firms could preempt and/or shape environmental regulations if they themselves adopt such policies (Fri 1992; Khanna and Damon 1999) and reap first-mover advantages (Nehrt 1998; Porter and van der Linde 1995; for a critique, see Palmer, Oates, and Portney 1995; Rugman and Verbeke 2000). Similarly, technologically advanced firms could raise the cost of entry for their rivals – the assumption being that higher standards will lead to stringent regulations (Barrett 1991; Maloney and McCormick 1982; Salop and Scheffman 1983).

The second set of explanations – sociological institutional theory and stakeholder theory – focus on non-profit objectives of firms that may or may not impact their long-term profit objectives. The institutional theory focuses on the impact of external institutions on the policies of firms

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(Scott 1987; Zucker 1988; Oliver 1991; Meyer and Scott, 1992; Hoffman 1997). In contrast to neoclassical economics that privileges two institutions – markets and governments – institutional theory takes into account other social institutions as well. Questioning the atomistic accounts of organizational policymaking, it suggests that firms are not profit maximizers; their policies reflect external pressures for legitimacy. Of course, different institutions have varying capacities to influence firms. This theory would predict that firms adopt Type 2 policies in response to pressures from key external institutions and *managers would have little autonomy in this regard* (Hoffman 1997: 6).<sup>1</sup>

Neoclassical economics views the social objective of business is to maximize shareholders' wealth (Friedman 1970). In contrast, stakeholder theory suggests that firms should (and sometimes do) design policies taking into account the preferences of multiple stakeholders – stakeholders being “any group or individual who can affect or is affected by the achievement of the organization's objectives” (Freeman 1984: 46; Donaldson and Preston 1995; Clarkson 1995). Similarly, the literature on corporate social performance (CSP), responsibility, and responsiveness argues that firms have societal responsibilities other than the pursuit of shareholder wealth maximization (Preston 1975). CSP policies are adopted because they are the “right things to do.” Firms could be reactive, defensive, accommodative, and proactive in dealing with them (Wartick and Cochran 1985; Carroll 1995; for a critique see, Wood 1991). It could be argued that since Type 2 policies represent proactive CSP, they are adopted by firms.<sup>2</sup> Of course, different stakeholders and institutions have different expectations; sometimes expectations may even be in conflict (Wood and Jones 1995). Thus, it is critical to examine how managers interpret these expectations and employ them to push their agendas on Type 2 policies.

Though institutional theory and stakeholder theory correctly identify non-profit and long-term (potential) profit reasons for adopting Type 2 policies, they inadequately explain *variations* in response – why do firms *selectively* adopt them? For example, why does firm X consider Policy A

<sup>1</sup> Oliver (1991) acknowledges that “agents” may have autonomy even in an institutionalist perspective.

<sup>2</sup> Scholars have examined whether CSP policies positively impact firms' financial performance (Ackerman 1975; Preston and Post 1975; Preston and Sapienza 1990; Jones 1995) and adopting a stakeholder approach furthers firms' economic performance (Cochran and Wood 1984; Barton, Hill, and Sundaram 1989; Kotter and Heskett 1992). These studies have been criticized on theoretical and methodological grounds. As a result, these literatures are inconclusive on the impact of adoption of CSP policies and/or stakeholder approach on firms' economic performance (Wood and Jones 1995; Griffin and Mahon 1997).

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but not Policy B as “the right thing to do” although both policies have similar characteristics? Or, why does firm X but not firm Y believe that adopting policy A is the “right thing to do”?

This book draws insights from institutional theory and stakeholder theory and relates them to dynamics within firms. The point of departure is that I do not view managers as passive recipients of external pressures. Since “agents” have autonomy in the realm of Type 2 policies, explanations focusing on external “structures” only are under-specified (Child 1972; Granovetter 1985; Ostrom 1990). Further, managers do not have homogeneous preferences on Type 2 policies. The book focuses on the role of key managers in generating consensus or, if faced with opposition, lobbying the top management to mandate policy adoption. While not denying the importance of external factors, I highlight that in the context of Type 2 policies, managers have autonomy to interpret the impact of external pressures on the long term profit and non-profit objectives. Hence, intra-firm politics is important in explaining variations in adoption within and across firms.

**“Unpacking” the firm**

To understand internal policy processes, an explication of the notion of a firm is imperative. Neoclassical economic theory treats firms as unitary actors seeking to maximize profits (Hirshleifer 1988). The book interprets its broad message as that firms adopt only those policies and projects that can be demonstrated *ex ante* as potentially profitable. Project appraisal is a technical process and there is a shared understanding among managers about the legitimacy of established appraisal procedures, particularly capital budgeting. This procedure requires estimating future benefits and costs and discounting them with an appropriate discount rate. If a project meets or exceeds a given rate of return, it is deemed potentially profitable. Consequently, capital budgeting ensures that managers examine investment decisions objectively with a focus on maximizing shareholders’ wealth. This is an important safeguard for shareholders who often have little say in the running of firms, and are therefore vulnerable to “agency abuses” by managers (Berle and Means 1932; Fama 1980). Further, since maximizing a firm’s measurable profits is the primary objective for all managers, policy processes would be consensual. This is not to say that managers have identical preferences on environmental policies. Most likely they do not. However, different managerial preferences are not predicted to play out in the policymaking process because there is consensus that a policy should meet or exceed the profitability criteria.

Capital budgeting is appropriate to assess profitability of projects that

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involve up-front capital expenditures and generate future cash flows. Since Type 2 policies may not involve capital expenditures, capital budgeting is inappropriate for assessing their profitability. In general, it is difficult to assess the impact on profits of policies that focus on establishing management systems, and hence do not generate revenue or decrease quantifiable costs. To assess the profit impact of Type 2 policies, managers employ subjective methods. Such projects are justified by some managers by arguments such as “they are good for the firm in the long run” and “they are important for keeping the EPA in good humor.”

Further, some policies involving significant up-front capital expenditures may be adopted without being subjected to capital budgeting. This suggests that established procedures are not applied consistently and policymaking within firms involves a complex mix of factors. Intra-firm processes, inter-manager interactions, and managerial perceptions of external factors are important in influencing whether or not a Type 2 policy is adopted. Project appraisal is not a technical process only; organizational politics also plays an important role in influencing managerial perceptions of the desirability of a project.

The neoclassical notion of a firm is useful in predicting market outcomes in highly competitive markets or when policies are required by laws that are strictly enforced. It is not helpful in explaining why firms selectively adopt Type 2 policies. For this we need to examine the internal processes of firms. Treating firms as composites consisting of many managers, this book employs a new-institutionalist perspective. Further, it assumes that while maximizing quantifiable profits is often the preeminent goal of most managers, it is not the only goal. Managers also differ in their subjective assessments of the long-term profit impacts of policies. I classify managers into two categories: (1) policy supporters favoring the adoption of beyond-compliance policies whose profit impact is not quantified; and (2) policy skeptics who oppose such policies. There is a third category as well: policy neutral. Since they do not significantly impact policy dynamics, the book does not focus on them.

Within a new-institutionalist perspective, three broad theories of firms can be identified: transaction cost, power-based, and leadership-based. Transaction cost theorists examine an important question that is not adequately addressed by neoclassical economics: why do firms arise at all; alternatively, why and how do managers arrive at “make or buy” decisions? Following Coase (1937), transaction cost theorists view firms as institutions designed to economize on transaction costs by allocating resources through hierarchical fiats and not market mechanisms. Williamson (1975, 1985) focuses on how firms evaluate “make or buy” decisions, and suggests that these decisions reflect managers’ desire to



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minimize transaction costs given asset specificity, bounded rationality, and a potential for labors' opportunism. Transaction cost theories, however, do not specifically address my research question: why do firms selectively adopt beyond-compliance policies? Consequently, the book employs power-based and leadership-based explanations only to examine intra-firm dynamics. Importantly, both theories focus on the crucial role of organizational politics – especially the preferences, strategies, and endowments of key managers – in shaping policy outcomes.

There is extensive literature suggesting that managers are “boundedly rational,” often have heterogeneous preferences, and are organized as coalitions that seek different policy objectives (Cyert and March 1963; Simon 1957). Since boundedly rational managers make decisions under uncertainty, decision making is often influenced by inter-managerial interactions. Employing these insights, this book suggests that beyond-compliance policies provide political space for “discursive struggles” (Hajer 1995) within firms on their long-term profit and non-profit impact. If such policies are adopted, it is by two kinds of processes: (1) power based, where policy supporters, in face of opposition from policy skeptics, “capture” the top management and have it mandate the adoption of such policies; (2) leadership based, where policy supporters succeed in inducing consensus, convincing policy skeptics and policy neutrals of the long-term benefits of such policies. It is important to differentiate power-based from leadership-based processes since they arise under different conditions and lead to different types of outcomes. In both processes, managers invoke the external environment in different ways to advocate their policy preferences. The final outcome depends on factors such as policy supporters' hierarchical position, their persuasive or canvassing abilities, their expertise in the issue area, and how they invoke external factors to shape perceptions of others. Policy outcomes would also be influenced by the degree of organizational change required for their implementation: the greater are the predicted changes, the stronger are the incentives for the “losers” to oppose policy adoption. Consequently, the likelihood of policy adoption decreases.

In examining beyond-compliance policies, the book first employs the neoclassical theory: can the profitability of a beyond-compliance policy be assessed by employing capital budgeting? If this theory does not hold (that is, capital budgeting was either inapplicable, or, if applicable, it was not employed), then I turn to power-based or leadership-based theories. Policy processes marked by imposition are classified as power based, and the ones marked by induced consensus as leadership based. The key actors, policy supporters and policy skeptics, are identified and their positions in the hierarchy, and their strategies and logics for supporting or



opposing a policy are examined. Since preferences are inferred from behaviors, the book does not examine why policy supporters or policy skeptics have certain preferences. However, it seeks to understand whether policy adoption requires significant levels of organizational changes that upset the status quo, thereby creating incentives for “losers” to oppose a policy. It also examines how factors external to firms support or impede the efforts of policy supporters.

In summary, the theoretical contributions of this study are fourfold. First, it highlights the inadequacy of the neoclassical theory in explaining why firms selectively adopt Type 2 policies. Second, at a broad level, it argues that “agents” have some (not complete) autonomy in pursuing beyond-compliance policies; external “structures” alone cannot provide fully specified explanations. Third, it focuses on the important role of power-based and leadership-based processes in shaping the policies of firms. It argues for “bringing back leadership” in the study of political economy. Further, the book integrates insights from sociological institutional theory and stakeholder theory (that focus on pressures external to firms) with leadership-based and power-based theories. Finally, since the conclusions of this book are generalizable to other issue areas where firms adopt Type 2 policies (often subsumed under social policies), it outlines important questions for future research.

### **Research designs and methods**

At an empirical level, I focus on two firms – Baxter International Inc. and Eli Lilly and Company – and study their key environmental programs during 1975 to mid 1996. Both Baxter and Lilly are multinational enterprises (MNEs). Since MNEs are important economic actors, they have critical roles in environmental policymaking and implementation (Walters 1973; Pearson 1985; World Commission on Environment and Development 1987; Leonard 1988; World Bank 1992; Schmidheiny 1992; Choucri 1993; Jaffe, Peterson, Portney, and Stavins 1995; Prakash, Krutilla, and Karamanos 1996). Therefore, one objective of many environmental policies is influencing the environmental performance of MNEs. This requires an understanding of how MNEs make environmental policies. Unfortunately, there is little literature on this subject as most environmental policy scholars treat MNEs (or any firm for that matter) as unitary actors.

This study focuses on environmental policymaking in the US operations of Baxter and Lilly. It does not study environmental policymaking in their subsidiaries outside the US. For most MNEs operating in industrialized countries, compliance with domestic environmental regulations is

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often a non-issue though previously many have resisted complying with laws. I attribute such compliance to stringent laws specifying significant civil and criminal liabilities, relatively serious implementation of environmental laws by regulatory bodies and the courts, active monitoring by environmental groups and local communities, and pressures from employees to “go green.” The battle within most firms is now being fought in a different arena: to what extent, if at all, should firms go beyond minimum regulations?

Why Baxter and Lilly? According to the largest ever survey of MNEs’ environmental programs, these policies are significantly influenced by MNEs’ line of business, sales volume, and home country (UNCTAD 1993). These factors are briefly discussed below.

*The line of business* The high-risk industries as well as the “sun-rise” industries have the strongest environmental programs. High-risk industries such as oil and chemicals have extensive environmental programs because a single industrial accident can inflict significant costs on them. Since sun-rise industries such as electronics, biotechnology, and specialty chemicals have quick product obsolescence, they replace their capital equipment in short cycles. Consequently, they are afforded opportunities to install state-of-the-art, resource-efficient technologies. Further, their high profitability provides them with resources for investing in environmental programs that often have long gestation lags.

*The size of MNEs* Large MNEs (sales of \$4.9 billion and above) have more comprehensive environmental programs than the smaller MNEs because they can tap economies of scale on such expenditures.

*The home country of the MNE* The scope and content of environmental practices vary significantly across regions. The UNCTAD survey notes that:

[P]robably the nature of the regulatory environments in the home country of the corporation explains variations. . . . The tendency of Asian corporations [that is, Japanese] to view EH&S [Environmental Health and Safety] activities as business opportunities could be related to the fact that Japanese EH&S policy is formulated to a large extent by the Ministry for International Trade and Industry and not the Environmental Agency. The relatively low utilization of EH&S policies and practices in Europe is probably related to the fact that European environmental regulations tend to rest on administrative enforcement and cooperation between industries. On the other hand, United States’ environmental regulation has traditionally been described as adversarial and aggressive, and seems to have encouraged the TNCs [transnational corporations] to establish EH&S procedures to minimize liabilities. (1993: 93)