Corporate Environmentalism and Public Policy

By Thomas P. Lyon and John W. Maxwell
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Reviewed by Robert G. Healy
Professor of Environmental Policy
Nicholas School of the Environment and Earth Sciences
Duke University

This is a book written by, and most likely for, people who believe that economic reasoning offers a powerful way to explain not only its traditional subject matter of production and consumption but also a wide range of political behavior. With only an occasional reservation, I count myself among that group. I therefore found this study clearly focused and impressively well argued. Other readers, coming from very different analytic traditions might find this book a difficult read (yes, there are equations) and a bit obsessive in its insistence that firms, interest groups and regulators take action only after precise consideration of costs and benefits. I urge these readers to give this book a chance, for it is not only an excellent contribution to the literature on its subject area — environmental behavior of corporations — but also a fine example of what economic reasoning can do if given free rein.

The book deals with an important question in environmental policy: under what conditions will profit-motivated firms take voluntary actions to reduce environmental pollution? These actions might include voluntary clean-up by an individual firm, joint action by several firms (e.g. the chemical industry's Responsible Care program), or participation in one of the many government sponsored voluntary programs such as the Department of Energy's Climate Challenge (reduction of greenhouse gas emissions) or the EPA/DOE Energy Star program (energy efficiency for office equipment). Authors Thomas Lyon and John Maxwell, economists who respectively teach at the business schools of Michigan and Indiana University, call such voluntary approaches "the most notable trend in environmental policy over the last decade." They contend that this voluntary behavior, which they term corporate environmentalism, "only makes sense against the backdrop of the public policy process, and that government voluntary programs can only be understood in a political-economic framework that explicitly accounts for corporate strategy."

Lyon and Maxwell use economic models of firm behavior and of political choice to (a) provide a rationale for voluntary behavior, (b) explore the circumstances in which it will be beneficial to society, and (c) allow empirical comparisons with actual behavior, mainly toxic substance releases in the U.S. during the early 1990s. Although most of the analysis considers choices made by business firms, mainly large ones, the analysis also considers the behavior of other stakeholders, legislators and government bureaucrats. Indeed, while rational, optimizing behavior by firms is usually at center stage, the authors make frequent use of insights from game theory, which considers how the various participants react to decisions by others — or to judgments about what they think others will do.

The study opens with the observation, supported by a very current and comprehensive review of the literature, that voluntary business-led environmental initiatives have become "a familiar phenomenon." So have voluntary government programs, which range from the negotiated agreements between government and firms that are common in Europe and Japan as an alternative to regulation to the "public voluntary agreements" increasingly used in the United States, in which government merely offers firms information, encouragement and recognition. Lyon and Maxwell argue that while some voluntary corporate behavior might be motivated by cost-reduction and/or green consumerism, "their impact appears to be modest." Voluntary programs driven by other considerations, which they believe to be widespread, require "new models of the interplay between corporate strategy and public policy."

In Chapters 1 and 2, the authors outline such a model. Their approach is rooted in theories of political behavior and of the economics of regulation that originated during the 1960s and 1970s at the University of Virginia and the University of Chicago. The fundamental idea is that politics is a battle of aggressive interest groups whose behavior can be best understood by their pursuit (sometimes in clever and convoluted ways) of economic self-interest. Lyon and Maxwell make ingenious adaptations of this "political economy" approach to their specific problem of corporate environmentalism. They identify as key variables the structure of the industry, the stage of the policy process at which a problem comes to the corporation's attention, and the political structure. The last variable emphasizes the differences between a unitary parliamentary system, as in Europe and Japan, and a splintered and often adversarial separation-of-powers system, as in the U.S.

In Chapters 3-5, the authors apply their general ideas about the political economy of corporate behavior to the specific case of corporate adoption of voluntary environmental standards. These standards can cover environmental problems that have not yet been addressed by government, or can involve self-regulation that goes beyond attainment levels currently required by law. The authors "model self-regulation and social welfare in a three-stage game where quantity-setting oligopolists face the possibility of stricter pollution abatement regulations . . . we model these regulations as arising from a political influence game between consumers and firms, with consumers favoring stricter abatement regulations than do firms." In other words, the behavior studied is that of oligopolists — large firms whose individual behavior influences and is influenced by the behavior of their competitors. The decision-making is a multi-stage game, so that firms take an action, wait for consumers and competitors to react, and make another move. And, most important of all, the major concern of the firm is to pre-empt the possibility that consumers, environmental groups or bureaucrats will impose legally binding regulations. We find in this model no benevolent managers worried about how their company will affect the future of the world or trying to save money by reducing waste. Nor do we find "green consumers" who seek assurance that the products they buy will not harm the environment. Rather, the Lyon-Maxwell world is a game of clever and self-interested opponents, each of whom seeks to outplay and outsmart the others. It may not be an attractive world, but it strikes many realistic notes.

The model is applied to changes in the rate of toxic emissions over the period 1988-1992, as measured by the Toxic Release Inventory. The authors construct an index of releases of 17 key toxic chemicals, weighted by toxicity and adjusted by the dollar value of shipments. This is an appropriate and important data set, although I would not support the authors' claim that it is "the only existing data set on corporate self-regulation." (Certainly some of the energy saving programs, for example, or the product certification programs have also left substantial paper trails.) Ironically, although corporate behavior to reduce toxic emissions to improve their TRI record is indeed voluntary, the reporting itself is required by federal law.

The empirical analysis suggests that the dirtiest states clean up most after TRI reporting, and that variables that measure, at least indirectly, the chance of future regulation correlate with greater cleanup. The results are fascinating, but the authors have only scratched the surface of the rich TRI data. The single regression model presented is a cross-sectional model of emission change from 1988-1992, by state. However the TRI data are available for individual plants, identified by firm, industry and exact location. It would be a massive job to generate the independent variables needed to test various hypotheses about industry structure and state/local political structure that are suggested by the authors' theoretical models, but it would have been a worthy endeavor. Also, this reader wishes that some of the estimating issues were discussed in greater detail (e.g. problems with states with very large emitters, or the effect on plant investment of the phase-out of lead in gasoline.)

Most of the remainder of the book, chapters 6-9, explores voluntary agreements in which government is a partner with an individual firm in a negotiated promise to reduce environmental damage or in which government creates programs to which various firms choose to voluntarily adhere. Among the OECD countries, negotiated agreements are most common in Europe and Japan, and the government initiated private voluntary programs are most common in the U.S. This is no accident, Lyon and Maxwell argue.

They believe that countries where the executive and legislative branches are in the hands of the same party are in a better position to use somewhat flexible firm-by-firm agreements, because they can easily bring enforcement pressure against firms that do not negotiate in good faith or carry out their promises. They also argue that the recent increase in government-sponsored private voluntary programs in the U.S. reflects cuts in the EPA regulatory budget and the agency's desire to avoid costly lawsuits brought by environmental organizations (on the theory that regulations result in more enforcement-seeking lawsuits than do voluntary programs.)

The book's final chapter restates conclusions and makes the cautionary point that most research to date has studied why firms participate in private voluntary agreements and negotiated agreements, but little has been done to measure the actual environmental impacts of such programs. Lyon and Maxwell have taken a big step forward by modeling, rather than merely inventorying, corporate participation and by applying their models to an important data set, the Toxic Release Inventory. I endorse their observation that global warming is an excellent case for studying how voluntary corporate actions, some of which have already occurred in diverse contexts, can best be fit into an overall policy framework that may also include regulations and incentives.

The shortcomings of the book stem from its greatest strength — its focus on hypotheses that can be modeled and tested with economic tools. At times, in their single-mindedness, the authors are somewhat dismissive of alternative hypotheses that cannot be so modeled. For example, the analysis assumes that corporate executives are extremely foresighted about politics as well as markets and that they put their analytic talents exclusively at the service of the firm, rather than of their own welfare. The corporate mistakes and scandals of the early 21st century indicate that neither of these assumptions always holds. For example, might a corporate decision-maker go along with a voluntary program that is not an optimal investment for the firm, but that enhances his or her reputation (I care about climate change)? Or might the decision-maker make voluntary commitments to take future action that does not affect today's bottom line, but may have negative long-term consequences? Or might some commitments to voluntary programs just be bad corporate decisions, motivated by the same herd-following behavior that has characterized many corporate investments? A book by a pair of sociologists might devote more space to the training and values of those who make decisions and the methodology might involve interviews about motivations rather than consideration of decisions and their results.

Similarly, the book dismisses most "green" consumer purchasing behavior, correctly citing a number of empirical studies that indicate that most consumers are uninformed or unconcerned about the environmental content of the things they buy. But a book by other analysts might have paid a bit more attention to what one might call "green risk" — the chance that poor environmental performance might cause an embarrassing accident or lawsuit, or make the firm a target of a consumer boycott.

On the empirical side, the use of Toxic Release Inventory performance over a short time period provides solid data on a range of industrial sectors. But the empirical analysis represents only 2% or 3% of a book rich in models that generate testable hypotheses. The results, moreover, would not necessarily be the same were one to consider other aspects of environmental performance, such as voluntary adoption of carbon dioxide controls or adherence to forest practice codes. This does not fault the Lyon and Maxwell book, but suggests that many interesting empirical studies remain to be written. One would hope that their theoretical base would be as explicit and sophisticated as is Lyon and Maxwell's.

Overall, this book is not an easy read, but it is a very rewarding one. The book can be read for its findings, of which the principal one is that voluntary environmentalism can sometimes be a good option even for the most profit-hungry corporation, and may even give environmentalists part of what they seek, if rarely all. The book is also an exemplar of the sophisticated application of economic reasoning to environmental behavior. It is an important contribution to the literature on business and the environment and could be put to good use as a supplementary text for a Ph.D. level course in policy analysis or corporate strategy.