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REVITALIZING REGULATION

*Daniel A. Farber**

REINVENTING GOVERNMENT: HOW THE ENTREPRENEURIAL SPIRIT IS TRANSFORMING THE PUBLIC SECTOR. By *David Osborne* and *Ted Gaebler*. Reading, Mass.: Addison-Wesley Publishing Co. 1992. Pp. xxii, 405. \$22.95.

RETHINKING THE PROGRESSIVE AGENDA: THE REFORM OF THE AMERICAN REGULATORY STATE. By *Susan Rose-Ackerman*. New York: The Free Press. Pp. xiii, 301. \$24.95.

The Reagan presidency was a watershed in the history of American government. For the first time since Hoover, a president was actively hostile to the modern administrative state, elected on a platform of "less government." Today, the call for reduced government seems less compelling; we have rediscovered the existence of pressing social problems that seem to require a government response. Yet the Reagan-era critique has destroyed liberal complacency about government's ability to solve social problems. As Bill Clinton says on the jacket of *Reinventing Government*, even the administrative state's supporters now believe that "[t]hose of us who want to revitalize government in the 1990s are going to have to reinvent it."

Reinventing Government and *Rethinking the Progressive Agenda* are efforts to move beyond the Reagan era without returning to discredited visions of government. Both could be considered neoliberal: they propose major reforms rather than defending the pre-Reagan administrative state. Many of their proposals adapt "conservative" ideas — cost-benefit analysis, competition, privatization — to serve the liberal goals of increased government effectiveness and efficiency. Ultimately, neither book truly provides what Clinton calls a "blueprint" for reinventing the administrative state. Nevertheless, they do contain provocative new ideas for improving the operation of government.

Both books discuss an enormous range of government policies. Instead of attempting to match their sweep, this review will use environmental regulation as the context for exploring their ideas. First, however, a brief overview of both books is in order.

Of the two books, *Reinventing Government* is the less convention-

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ally academic. Its authors, David Osborne¹ and Ted Gaebler,² provide the same kind of breezy management advice found in books like *In Search of Excellence*.³ Trying to bring Japanese business methods to bear on American governmental institutions, they advocate replacing rigid hierarchies with more entrepreneurial, team-oriented management. The book features relatively few footnotes and statistics. Instead, Osborne and Gaebler present a series of inspiring stories about innovative officials who transformed moribund programs into successful operations. Often, these officials began by trying to identify their organization's "customers," determining the customers' needs, and then insisting that the organization find a way to meet those needs. The stories are probably oversimplified,⁴ but they do communicate the novel idea that government can be exciting and creative.⁵

Rethinking the Progressive Agenda, by Susan Rose-Ackerman,⁶ is a more traditional work of scholarship. Professor Rose-Ackerman's impressive knowledge of regulatory policy and economic theory animate her commentary on the problems of the modern administrative state. She offers thoughtful observations about topics ranging from the Takings Clause⁷ to funding mechanisms for government services.⁸ She devotes much of her attention to improving the rationality of government decisionmaking; she proposes increased use of cost-benefit analysis and more vigorous judicial review (p. 191). But other important parts of her book (like Osborne and Gaebler's) focus on the design of implementation mechanisms.⁹

1. Consultant to state and local governments, freelance writer.

2. Consultant and former city manager.

3. THOMAS J. PETERS & ROBERT H. WATERMAN, JR., *IN SEARCH OF EXCELLENCE: LESSONS FROM AMERICA'S BEST-RUN COMPANIES* (1982).

4. For criticisms of some of these stories, see James Fallows, *A Case for Reform*, *THE ATLANTIC*, June 1992, at 119, 122-23 (reviewing DAVID OSBORNE & TED GAEBLER, *REINVENTING GOVERNMENT: HOW THE ENTREPRENEURIAL SPIRIT IS TRANSFORMING THE PUBLIC SECTOR*). A number of the stories relate to George Latimer's innovations as mayor of St. Paul. See p. 399 for 13 index entries. As a Minneapolis resident, my general sense is that Latimer was a very successful mayor but not the miracle worker portrayed by Osborne and Gaebler. St. Paul continues to face some serious problems, and some of Latimer's programs have not proved successful. See Joe Kimball, *Geurin the Younger Keeping Watch on City Great-Great-Great Helped Found*, *MINNEAPOLIS STAR TRIB.*, Apr. 30, 1992, at B1.

5. They almost succeeded in making even the lowly administrative job of associate law school dean seem potentially interesting, at least for a few brief minutes. If exciting innovations are possible in city sanitation departments and military supply operations, one might almost think it possible to improve the delivery of services to law students.

6. Richard S. Ely Professor of Law and Political Economy, Yale University.

7. Chapter nine of the book presents a useful overview of economic analyses of the Takings Clause. Pp. 132-49.

8. Rose-Ackerman presents an intriguing discussion of the possibility of using better-informed "shoppers" for public services as proxies to ensure delivery of quality government services. Pp. 97-117.

9. Unlike Osborne and Gaebler, who generally simply assume that the government's purposes are beneficent, Rose-Ackerman devotes considerable attention to the potential defects of the political process. In chapters four and five, she makes some suggestions intended to improve

These aspects of Rose-Ackerman's work exemplify two rather different approaches to improving public administration. Part I of this review discusses the older of the two approaches, which Rose-Ackerman calls policy analysis. This approach calls for greater use of economic analysis in making substantive decisions, with judicial review furnishing quality control on the technical aspects of decisionmaking. The organizational form corresponding to this model of decisionmaking is the conventional hierarchy, of the kind Osborne and Gaebler condemn, in which information flows to the top and decisions flow back down. Part II turns to a newer approach, which focuses on the design of implementation mechanisms; here, the paradigm is probably the marketable pollution permit. Part II explores how better mechanism design, of the kind both Rose-Ackerman and Osborne and Gaebler advocate, might be used to improve environmental law.

While marketable permits are promising, we need to consider other ways to decentralize regulation. Although neither book addresses other possible methods of environmental protection, their themes inspire a search for new possibilities. One option is delegating more discretion over permits to the states while using modern methods of statistical quality control to improve the state's performance. Another option is a form of "result driven" delegation, in which selected states would contract out of the normal regulatory regime, guaranteeing in return to achieve specified, measurable improvements in environmental quality. An improved regulatory process also might well involve less judicial oversight.

I. THE "OLD" POLICY ANALYSIS: FORMALIZED DECISIONMAKING

As part of her program to improve administrative rationality, Professor Rose-Ackerman recommends expanded agency reliance on cost-benefit analysis in promulgating regulations (pp. 33-34, 37, 39). As she recognizes, regulatory schemes often lack firm statutory bases for cost-benefit analysis. In the environmental area, for example, few statutes require regulators to perform cost-benefit analysis. Nevertheless, Rose-Ackerman argues that, in the absence of specific language prohibiting the use of cost-benefit analysis, courts should require agencies to engage in "net benefit maximization" (which is just another name for cost-benefit analysis).

Rose-Ackerman's enthusiasm for cost-benefit analysis is strong

the public accountability of the process. (For a critique of her proposals, see Book Note, 105 HARV. L. REV. 1402 (1992).) Her primary concern is seemingly that members of the public find it rationally undesirable to be fully informed about the government's actions, creating an opportunity for officials to pursue less noble goals. Pp 35, 51-53, 62. In the environmental area, at least, some of these information problems seem to have been neutralized through the use of environmental groups as information brokers. See Daniel Farber, *Politics and Procedure in Environmental Law*, 8 J.L. ECON. & ORG. 59 (1992).

enough to overcome highly unfavorable statutory language. For example, she criticizes the Supreme Court for failing to require cost-benefit analysis for OSHA toxics regulations (pp. 93-94), yet the statute clearly precludes her proposed result. The Act mandates that OSHA choose the standard that "most adequately assures, to the extent feasible . . . that no employee will suffer material impairment of health."¹⁰ Rose-Ackerman's effort to expand cost-benefit analysis is thus somewhat dubious as a matter of statutory interpretation.¹¹ Moreover, as we will see, cost-benefit analysis is not really capable of playing the decisive role she desires for it.

A. *The Practical Limits of Cost-Benefit Analysis*

As Rose-Ackerman explains, cost-benefit analysis came to Washington with Bob McNamara and his "Whiz Kids" at the Defense Department (p. 15). Since then, the executive branch has increasingly applied cost-benefit analysis in policymaking. President Reagan's famous Executive Order 12,291, issued in 1981, requires agencies issuing "major rules" to conduct a cost-benefit analysis to ensure that the benefits of a proposed regulation outweigh its costs.¹² Executive Order 12,291 effectively provides a cost-benefit overlay for all major federal regulatory actions.¹³ The renewed emphasis on cost-benefit analysis found its administrative incarnation in the increasingly powerful supervisory role of the Office of Management and Budget (OMB) over EPA and other agencies.

More recently, George Bush imposed a ninety-day moratorium on new regulations. Agencies were instructed to review existing regula-

10. OSHA § 6(b)(5), 29 U.S.C. § 655(b)(5) (1989); see *American Textile Mfrs. Inst. v. Donovan*, 452 U.S. 490, 509 (1981) (rejecting cost-benefit analysis as inconsistent with the plain language of § 6(b)(5)).

11. For a critique of a similar approach to statutory interpretation (discussing some of the same cases as Rose-Ackerman), see Daniel Farber, *Playing the Baseline: Civil Rights, Environmental Law, and Statutory Interpretation*, 91 COLUM. L. REV. 676, 695-700 (1991) (reviewing CASS SUNSTEIN, *AFTER THE RIGHTS REVOLUTION: RECONCEIVING THE REGULATORY STATE* (1990)).

12. Exec. Order No. 12,291, 3 C.F.R. 127 (1981). The Order defines *major rule* as a regulation likely to produce, inter alia, an annual impact of \$100 million or more on the American economy or a major increase in costs or prices. *Id.*

13. For example, the Clean Air Act requires that EPA set primary air quality standards for criteria pollutants based solely on the level necessary to protect human health. Clean Air Act § 109, 42 U.S.C. § 7409 (1988). The Agency is not allowed to consider costs in promulgating these standards. Nonetheless, EPA must conduct the "Regulatory Impact Analysis" (cost-benefit analysis) required by Executive Order No. 12,291. EPA internal rules say the RIA must explicitly state that cost-benefit analysis cannot be used to determine the standard. OFFICE OF POLICY ANALYSIS, EPA, GUIDELINES FOR PERFORMING REGULATORY ANALYSES, EPA REPORT NO. 230-01-84-003 (1983). Once the analysis becomes part of the record, however, it tends to influence the decision. See generally Ann Fisher, *An Overview and Evaluation of EPA's Guidelines for Conducting Regulatory Impact Analysis*, in V. KERRY SMITH, ENVIRONMENTAL POLICY UNDER REAGAN'S EXECUTIVE ORDER 99 (1984).

tions during the moratorium and to ensure compliance with the following standards (among others):

- (a) The expected benefits to society of any regulation should clearly outweigh the expected costs it imposes on society.
- (b) Regulations should be fashioned to maximize net benefits to society.¹⁴

The Bush order seemed on its face directly responsive to Rose-Ackerman's demand for "net benefit" analysis.

Although a heated philosophical debate has raged about whether cost-benefit analysis should dictate regulatory policy,¹⁵ the debaters seem to have overlooked a more basic point. Experience shows that, in the most interesting, controversial cases, cost-benefit analysis could not dictate an answer even if we wanted it to do so. Except in extreme cases, the result of a cost-benefit analysis often turns on a series of discretionary judgments; competent, reasonable analysts can come up with quite different but equally defensible answers. Toxic substance control, now the subject of a large and rapidly growing body of federal regulation, exemplifies the difficulties encountered by honest cost-benefit analysts. Several steps in the process are particularly imprecise.

Valuation is a key step in conducting a cost-benefit analysis,¹⁶ which requires that future benefits be expressed in monetary terms. For goods freely traded on the market, determining monetary value is straightforward. For "nonmarket goods" like human life (or the inherent value people place on the existence of other species), however,

14. Memorandum on Reducing the Burden of Government Regulation, 28 WEEKLY COMP. PRES. DOC. 232, 233 (Jan. 25, 1992). President Bush later announced strict timetables and progress report requirements for reviews of existing regulations and an extended moratorium on new regulations to enhance compliance with the new directive. He also directed agencies to conduct cost-benefit analyses to identify reforms that could be accomplished without additional legislation. Memorandum on Implementing Regulatory Reforms, 28 WEEKLY COMP. PRES. DOC. 728 (Apr. 29, 1992).

15. Mark Sagoff is a particularly sharp critic. See, e.g., MARK SAGOFF, *THE ECONOMY OF THE EARTH: PHILOSOPHY, LAW AND THE ENVIRONMENT* (1988); Mark Sagoff, *Economic Theory and Environmental Law*, 79 MICH. L. REV. 1393 (1981). But see Carol M. Rose, *Environmental Faust Succumbs to Temptations of Economic Mephistopheles, or, Value by Any Other Name Is Preference*, 87 MICH. L. REV. 1631 (1989) (reviewing SAGOFF, *supra*); Christopher H. Schroeder, *In the Regulation of Manmade Carcinogens, If Feasibility Analysis Is the Answer, What Is the Question?*, 88 MICH. L. REV. 1483 (1990) (reviewing FRANK B. CROSS, *ENVIRONMENTALLY INDUCED CANCER AND THE LAW* (1989)).

16. Valuation depends on interested parties' subjective (and often hypothetical) willingness to pay for the program benefits at issue. One basic difficulty with willingness to pay as a measure is its dependence on the initial assignment of rights. Generally, people will require a larger payment to relinquish a right than they will pay to acquire that right. See JONATHAN BARON, *THINKING AND DECIDING* 436-38 (1988). One reason is that possession of an entitlement increases an individual's total wealth and therefore her willingness to pay for goods. Thus, in order to determine willingness to pay, the decisionmaker must first decide whether an individual already has a right to the good in question. In the asbestos situation, for example, the policymaker would need to determine in advance whether individuals already possess a right to a healthful, asbestos-free environment. Similarly, if a cost-benefit analysis were conducted to decide whether to save the whales, the result could turn on whether the initial entitlement was assigned to the whalers or Greenpeace.

assignment of a monetary value is much more controversial. Much of today's regulation involves nonmonetary benefits and therefore raises precisely these valuation problems. For instance, federal agencies have imputed values to human life ranging from \$70,000 to \$132 million.¹⁷ Even apart from the difficulty of placing a dollar value on life, overall reductions in the levels of human mortality may not fully capture the benefits of toxics regulation. Other characteristics of risks, such as clustering of victims, may also matter.¹⁸ Moreover, regulations may have important incidental benefits, which may resist quantification even more stubbornly. The policy analyst tends to ignore these "soft variables,"¹⁹ precluding a truly complete analysis.

After monetization of the benefits, the next problem is setting the discount rate, so as to factor in the delay in receiving the benefits. Placing a value on human life or some other "intangible" is hard enough, but additional complexities arise when the benefits of a regulation will not occur for many years. For example, because government regulation of carcinogens cannot be expected to affect the cancer rate for twenty or thirty years,²⁰ the choice of discount rates has dramatic implications for toxics regulation. To illustrate, suppose we value each life saved at \$1 million, but expect the regulation's benefits to accrue in twenty years. The present value we should place on a life saved twenty years from now is only \$150,000,²¹ if we use OMB's ten

17. CLAYTON P. GILLETTE & THOMAS D. HOPKINS, FEDERAL AGENCY VALUATIONS OF HUMAN LIFE, A REPORT TO THE ADMINISTRATIVE CONFERENCE OF THE UNITED STATES 2 (1988), reprinted in 1988 ADMINISTRATIVE CONFERENCE OF THE UNITED STATES, RECOMMENDATIONS AND REPORTS 367, 369 (citing OFFICE OF MANAGEMENT AND BUDGET, REGULATORY PROGRAM OF THE UNITED STATES GOVERNMENT, 1987-88). Another study by Kip Viscusi found a slightly narrower range among federal agencies using labor market studies as a basis for the value assigned to lives saved. See W. Kip Viscusi, *The Valuation of Risks to Life and Health*, in JUDITH BENTKOVER ET AL., BENEFITS ASSESSMENT: THE STATE OF THE ART 200-02 (1986). For a cogent recent overview, see Lewis A. Kornhauser, *The Value of Life*, 38 CLEV. ST. L. REV. 209 (1990). Similar problems exist in determining how to assess the value that people place on the continued existence of an endangered species apart from the species' direct usefulness to humans. For an exchange about the appropriateness of including those valuations in cost-benefit analysis, see Donald Rosenthal & Robert Nelson, *Why Existence Value Should Not Be Used in Cost-Benefit Analysis*, 11 J. POLY. ANALYSIS & MGMT. 116 (1992); Raymond J. Kopp, *Why Existence Value Should Be Used in Cost Benefit Analysis*, 11 J. POLY. ANALYSIS & MGMT. 123 (1992).

18. See, e.g., Donald T. Hornstein, *Reclaiming Environmental Law: A Normative Critique of Comparative Risk Analysis*, 92 COLUM. L. REV. 562, 584-629 (1992).

19. See Laurence H. Tribe, *Policy Science: Analysis or Ideology?*, 2 PHIL. & PUB. AFF. 66 (1972).

20. EPA estimates the "latency" period for asbestos-related lung cancer at 20 years from the time of exposure and the latency period for asbestos-related mesothelioma at 25-30 years. Final Rule: Asbestos Manufacture, Importation, Processing and Distribution in Commerce Prohibitions, 54 Fed. Reg. 29,460, 29,469 (1989).

21. OMB's recent proposed reduction of the regulatory discount rate to seven percent would mean OMB would calculate the value of the life in 20 years at \$260,000. See Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs, 57 Fed. Reg. 35,613, 35,614 (1992).

percent annual "discount rate."²² The discount rate has even greater impact on long-term global environmental issues such as the ozone layer and the greenhouse effect.²³ For projects with "long tails," a change of even a few percentage points can have a substantial impact on results.²⁴

Although cost-benefit analysis of environmental regulation clearly involves serious technical problems of valuation and discounting, quantitative estimates of risk often involve even more speculation. Because of the limited nature of current scientific knowledge, we often can do little more than make educated guesses about a chemical's effects on human health (or about other environmental problems like the greenhouse effect). For estimates to vary over an entire order of magnitude or more is not unusual.²⁵

Because of these uncertainties, cost-benefit analysis is best at identifying highly promising projects or ruling out extremely poor ones.²⁶ Rose-Ackerman acknowledges that "cost-benefit analysis cannot always be carried out with precision" (p. 39). But in areas like toxics regulation, this is a dramatic understatement. In this area, uncertainties multiply quickly. Given estimates of the value of life that vary by about a factor of five, discount rates that can cause answers to differ by a factor of two, and risk estimates that differ by an order of magnitude or more, estimates of regulatory benefits can vary by two orders of

22. OMB Circular A-94, at 4 (1972). For an introductory treatment, see ZYGMUNT PLATER ET AL., ENVIRONMENTAL LAW AND POLICY 59-63 (1992). Recently, then-Senator Al Gore vigorously attacked the use of discounting. See AL GORE, EARTH IN THE BALANCE: ECOLOGY AND THE HUMAN SPIRIT 190-91 (1992).

23. See Maureen L. Cropper & Wallace E. Oates, *Environmental Economics: A Survey*, 30 J. ECON. LIT. 675, 724-27 (1992) (noting the significance of choosing a discount rate both for analysis of carcinogen regulation under CERCLA and RCRA and for global environmental issues).

24. For example, over a 30-year period, the present value of \$1 million at a 5% discount rate is \$230,000, but at a 7% rate it is only \$130,000. Thus, over three decades, a 2% difference in discount rate translates into a difference of almost 100% in result. For a more detailed discussion of discounting, see Daniel Farber & Paul Hemmersbaugh, *The Shadow of the Future: Discount Rates, Later Generations, and the Environment*, 46 VAND. L. REV. (forthcoming 1993).

25. See, e.g., ROBERT PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY 479 (1992) (Workers exposed to benzene face leukemia risk "ranging from 44 to 152 per 1,000."); Alon Rosenthal et al., *Legislating Acceptable Cancer Risk from Exposure to Toxic Chemicals*, 19 ECOLOGY L.Q. 269, 287 (1992) (noting that different standard statistical models for the dose-response relationship "may yield low-dose risk estimates for the same chemical, or even from the same data set, that vary enormously, by factors of hundreds or even of thousands"); Sidney A. Shapiro & Thomas D. McGarity, *Not So Paradoxical: The Rationale for Technology-Based Regulation*, 1991 DUKE L.J. 729, 732 (positing that the vinyl chloride standard could save one life a year, but that "an estimate of twenty or even forty lives would be . . . equally plausible"). Rosenthal et al., *supra*, conclude that quantitative risk assessment of chemical carcinogens "is a fragile science that is being pushed, from many directions, to take on some very large responsibilities." *Id.* at 295.

26. Robert C. Lind, *A Primer on the Major Issues Relative to the Discount Rate for Evaluating National Energy Options*, in ROBERT C. LIND ET AL., DISCOUNTING FOR TIME AND RISK IN ENERGY POLICY 21, 24 (1982).

magnitude.²⁷ One could defensibly estimate the environmental benefits of a regulation at either \$10 million or \$1 billion. Such a disparity is hardly close enough even for government work.

Toxics regulation may present something of a worst-case scenario for cost-benefit analysis, but this is little consolation. Given the degree of uncertainty involved, many important decisions fall into the grey area in which cost-benefit analysis turns on discretionary technical choices. In short, even if we *wanted* it to provide answers, cost-benefit analysis could not provide any assurance of certainty in our comparisons of various policy options and their ramifications.

This does not mean that cost-benefit analysis is useless, but only that we should not expect it to do too much. Environmental regulation does involve difficult tradeoffs, and economic analysis, including cost-benefit analysis, can help clarify the differences among competing policy options. Cost-benefit analysis provides useful information by allowing us to compare a proposed regulation with the kinds of tradeoffs made in the private sector (for example, the way that wages in high-risk industries reflect the value that workers put on their own lives). Despite its imprecision, cost-benefit analysis can also function as a form of triage, identifying some highly desirable regulations and also some extremely dubious ones, leaving the middle range for further consideration.²⁸

B. Organizational Implications

The preceding section asked whether cost-benefit analysis is capable of producing the kind of answers we would need if we were going to make it the controlling standard for regulatory decisions. The Osborne and Gaebler book, however, suggests another kind of question: Quite apart from its intrinsic qualities, does cost-benefit analysis work organizationally? To put it another way, is basing decisions on cost-benefit analysis a good management technique? Genuine grounds exist for concern on this score. One of the risks of cost-benefit analysis is

27. For example, suppose that benefits will be received thirty years in the future, that the risk is estimated at between one in a hundred million and one in a million (with a hundred million people exposed to the risk), that discount rates of either five or seven percent are used, and that the value of life is estimated at between \$3 million and \$6 million. On these facts the high end calculation is one hundred lives saved at \$6 million each, which totals \$600 million with a present value of \$138 million. The low end calculation is one \$3 million life saved with a present value of \$490,000.

28. Economists themselves fully realize the limits of cost-benefit analysis. As Robert Lind has written:

[B]enefit-cost analysis need not and cannot provide precise answers to policy questions. Rather it is a procedure that can provide a crude but highly useful picture of the relative merits of alternative policies. It therefore can be used to identify those investments that are either very good or very bad. Benefit-cost analysis also organizes data that bear on policy decisions and does so in a way that educates us about the important elements of a problem and allows us to test the sensitivity of the decisions to changes in those elements.

Lind, *supra* note 26, at 24.

that it may obscure policy choices behind seemingly technical decisions (such as the choice of a discount rate). Another risk may be that the locus of decisionmaking is shifted toward OMB and away from agencies like EPA. In the view of some observers, at least, OMB may have served more as a conduit for crude political pressure from the White House than as a source of technical oversight or economics expertise (Rose-Ackerman, p. 151).

A more subtle harm may lie in shifting decisions away from officials with substantive policy expertise to "bean counters" at OMB. Cost-benefit analysis reflects a very traditional type of organizational structure, in which underlings collect and analyze numerical data that provide the basis for a superior's decision. The Osborne and Gaebler book raises general questions about the desirability of this kind of traditional hierarchy and suggests that we might learn from the private sector experience with similar management techniques.²⁹

In this respect, Robert McNamara's role in bringing cost-benefit analysis into federal decisionmaking may teach an important lesson. Some evidence suggests that one problem of American industry in the past few decades — and of McNamara's legacy at Ford Motor Company in particular — was a shift in corporate influence from manufacturing and sales executives to the finance department.³⁰ For example, Ford's European branch developed an improved method to paint cars in 1958, but the method was not fully adopted at Ford's American plants until 1984 because of the influence of the "finance men."³¹ David Halberstam describes this reason for delay:

The men who had developed the E-coat [the new painting method] and the plant men who pushed for it considered it the key to a great increase in quality. Unfortunately, there was no way to quantify that improvement in terms of sales. That it was a much better process no one doubted. But when the manufacturing and product men pointed to its virtues, the finance men would point to the price. Somehow the manufacturing men would be unable to *prove* that the E-coat would make a \$4 million difference. How, after all, asked one of its proponents, did one put a price on a happy customer?³²

In a variety of industries, financial analysts have applied techniques

29. OMB might be considered the equivalent of the factory inspector, rather than the finance department. On that analogy, however, one can still criticize OMB as an example of the outmoded concept of inspecting quality into products. See E. Donald Elliott, *TQMing OMB: Or Why Regulatory Review Under Executive Order 12291 Works So Poorly and What President Clinton Can Do About It*, 56 LAW & CONTEMP. PROBS. (forthcoming 1993).

This review and Elliott's article both invite the response that business management techniques are irrelevant to government. *Reinventing Government* provides an extended rebuttal to that criticism. Nevertheless, the government's substantive goals are likely to differ substantially from those of a private firm, and the government must consider equity and process values in addition to efficiency.

30. See DAVID HALBERSTAM, *THE RECKONING* 213-16, 245-46 (1986).

31. *Id.* at 499-501.

32. *Id.* at 500.

like cost-benefit analysis to justify rejecting bold innovations whose advocates could not adequately document the potential benefits.³³ While assigning the primary blame for the stagnation of some American industries to corporate "bean counters" would surely be an overstatement, individuals with substantive expertise are surely more likely to spur progress. Unfortunately, many companies mistakenly vested power in individuals with expertise in economics and finance theory who had little commitment to the product or daily operation of the business.³⁴ The analogy to disputes between environmental regulators, who claim a new regulation will improve environmental quality, and OMB, which objects that the regulators cannot prove the benefits outweigh the costs, is obvious.

During the past decade, the federal government may have been replicating an organizational mistake that possibly contributed to the decline of key American industries.³⁵ We ought to resist Rose-Ackerman's suggestion to continue further down this path. Cost-benefit analysis should assist rather than control regulatory decisions.

II. THE "NEW" POLICY ANALYSIS: MECHANISM IMPROVEMENT

Although expanded use of cost-benefit analysis is probably not the answer, our current regulatory system certainly is cumbersome, expensive, and only moderately effective. In the environmental area, some pollution problems have dramatically improved, while others have remained constant or even deteriorated. In the meantime, hundreds of billions of dollars have been spent.³⁶ Both industry and environmentalists should welcome proposals to achieve environmental progress more cheaply.

The question, then, is how to improve regulatory mechanisms.

33. Consider the following description of the "tyranny of the numbers crunchers" at GM:

Another form of financial tyranny has been the frequent decision to pinch pennies at the expense of product content and design. Cars have often been produced that lack the exciting features once planned because original designs have had to be altered so many times to save money. Of course, the long-term results of penny-wise-and-pound-foolish car-building practices are legendary

MARYANN KELLER, RUDE AWAKENING: THE RISE, FALL, AND STRUGGLE FOR RECOVERY OF GENERAL MOTORS 28 (1989); see also DOUGLAS K. SMITH & ROBERT C. ALEXANDER, FUMBLING THE FUTURE: HOW XEROX INVENTED, THEN IGNORED, THE FIRST PERSONAL COMPUTER 132-36, 153-62, 171, 188, 221 (1988); LESTER C. THUROW, HEAD TO HEAD: THE COMING ECONOMIC BATTLE AMONG JAPAN, EUROPE, AND AMERICA 129-33, 149-51, 171-75 (1992) (arguing that U.S. firms have specialized in short-term static efficiency at the expense of dynamic efficiency and have also overcentralized management, losing benefits of more participatory decision systems).

34. See HALBERSTAM, *supra* note 30, at 314.

35. OMB's lack of substantive expertise provided a frequent cause for criticism. THOMAS MCGARITY, REINVENTING RATIONALITY: THE ROLE OF REGULATORY ANALYSIS IN THE FEDERAL BUREAUCRACY 281 (1991).

36. See COUNCIL ON ENVIRONMENTAL QUALITY, TWENTIETH ANNUAL REPORT 7-11 (1990); SUNSTEIN, *supra* note 11, at 81 ("[B]etween 1972 and 1985 the United States spent a total of no less than \$632 billion for pollution control.").

Although not devoting most of their discussions directly to environmental issues, Rose-Ackerman as well as Osborne and Gaebler advocate approaches that have important implications for environmental law.

A. *Use of Economic Incentives*

Rose-Ackerman, like Osborne and Gaebler, advocates replacing our current environmental regulations with a system of economic incentives (Rose-Ackerman, pp. 128, 155-56, 191). To explain these arguments, a little background on pollution regulation is necessary. Unfortunately, the current regulatory system is not easy to understand because the federal pollution statutes have grown almost as complicated as the Internal Revenue Code. Basically, the Clean Water Act requires polluters to use the highest feasible degree of pollution control. The Clean Air Act has similar explicit requirements for new pollution sources, but a different set of standards for existing polluters. In practice, however, existing polluters are often also held to the feasibility standard.

Osborne and Gaebler, Rose-Ackerman, and other critics criticize three basic aspects of EPA's effort to mandate specific levels of pollution controls. First, this method of pollution control is inherently cumbersome (Osborne and Gaebler, p. 300). EPA must investigate pollution control technologies and economic conditions in each individual industry to determine the best technology the industry can afford. A major EPA rule may require tens of thousands of pages of documentation, including careful responses to dozens of arguments raised by the industry.³⁷ Second, what Osborne and Gaebler call the "one size fits all" approach (p. 301), requiring the best possible method of pollution control for all sources, is sometimes quite wasteful. In one notorious case, the courts required two West Coast paper mills to install expensive pollution control equipment, although the pollution was harmlessly diluted by the Pacific Ocean. Only a special act of Congress rescued the two mills.³⁸ Third, according to the critics, the current approach to regulation asks EPA to perform a job that it is fundamentally incapable of doing. EPA cannot fully master the economics and technologies of dozens of industries, from petrochemicals to steel to electric utilities. It is bound to make mistakes in both directions, asking more than some industries can ultimately achieve while letting others off too lightly.³⁹

37. The courts have done a great deal to make this process even more cumbersome than it has to be. See *infra* section II.C.

38. See *Crown Simpson Pulp Co. v. Costle*, 642 F.2d 323 (9th Cir.), cert. denied, 454 U.S. 1053 (1981) (overturned by a special provision covering only those two paper mills, § 301(m)(1) of the Clean Water Act, 28 U.S.C. § 3311(m)(1) (1988)).

39. The crux of these criticisms is that EPA has the desire but not the information to regulate, while industry has all the information but little incentive to use it. If regulations were

Economists have spent many years considering possible incentive systems that would avoid these flaws. The basic concept is to make pollution into a cost for the company, which the company will want to minimize like any other expense (Osborne and Gaebler, p. 302). Imposing a fee or tax on the pollutants released into the environment can achieve this "cost internalization" directly. Making companies pay for pollution permits can achieve it indirectly.⁴⁰

The arguments for these incentive schemes are powerful. Some promising efforts have been made at implementation, the most ambitious being the new system of marketable sulfur-dioxide allowances under the 1990 Clean Air Act.⁴¹ But before we scrap our existing regulatory scheme, some countervailing arguments deserve consideration.

To begin with, while incentive schemes sound terrific in theory, we should not be overly confident about translating that theory into practice. Real-world implementation of regulatory reform may raise significant practical problems and conflict with other goals like equity.⁴² Moreover, the actual legal enactments are likely to differ considerably from the elegant theoretical models, if only for political reasons. (Compare the intellectual elegance of the *concept* of an income tax with the notorious complexity of the Internal Revenue Code.) We cannot be sure that theoretical arguments for incentive schemes will apply equally to actual implementation.⁴³

Despite these concerns, incentive schemes do present exciting possibilities for making environmental protection more cost-effective. Unfortunately, as two leading economists in the field have pointed out, "[i]n spite of the potential importance of emissions trading as an alter-

tailored to individual plants, society could perhaps achieve the same levels of pollution control as the current regulatory approach, but at a much lower price. Society could then spend some of the savings on even higher levels of pollution control, benefiting industry while improving the environment.

40. As discussed *supra* section I.A, quantifying the benefits of regulation is difficult; quantifying environmental harms is equally difficult. As a result, setting an effluent fee or permit price equal to the harm done by a polluter is generally infeasible. Instead, the agency must first determine the desired level of pollution and then work backwards to ensure that the permit or fee system results in that pollution level. Consequently, incentive mechanisms in practice only approximate the concept of cost internalization.

41. These provisions make up subchapter IV-A of the Clean Air Act, 42 U.S.C. §§ 7651-7651o. For a brief overview of these provisions, see ROGER W. FINDLEY & DANIEL A. FARBER, ENVIRONMENTAL LAW 375-76 (3d ed. 1991).

42. For arguments in favor of technology-based standards on these grounds, see Howard Latin, *Ideal Versus Real Regulatory Efficiency: Implementation of Uniform Standards and "Fine-Tuning" Regulatory Reforms*, 37 STAN. L. REV. 1267 (1985); Jerry Mashaw, *Imagining the Past; Remembering the Future*, 1991 DUKE L.J. 711, 721-23; Joel A. Mintz, *Economic Reform of Environmental Protection: A Brief Comment on a Recent Debate*, 15 HARV. ENVTL. L. REV. 149, 153-54 (1991); Shapiro & McGarity, *supra* note 25, at 729.

43. For example, the trading system for sulfur dioxide allowances seems to be off to a very slow start and may prove ineffectual. See Matthew L. Wald, *Risk-Shy Utilities Avoid Trading Emission Credits*, N.Y. TIMES, Jan. 25, 1993, at D2.

native to conventional regulatory approaches, surprisingly little effort has been spent evaluating the impact of this program."⁴⁴ Extensive followup studies of existing incentive-based programs should be a high priority. Until these studies have been done, we should proceed cautiously in replacing conventional regulation with incentive schemes.

Moreover, the attack on conventional regulatory techniques has been too facile. Although conventional regulation has proved cumbersome and difficult, such problems are not necessarily inherent. In particular, as discussed in the next two sections, other improvements in the regulatory process may be possible.

B. *Decentralizing Regulation*

Regardless of the general merits of incentive schemes, in some situations we probably have very little choice beyond conventional regulations. We simply know too little to establish a reasonable incentive scheme for some pollutants. For practical reasons, other environmental problems may not lend themselves to incentive schemes, perhaps because effects vary too much depending on local settings or interactions with other pollutants. We should therefore consider whether we could improve the regulatory process.

In the last section, I considered one method of decentralizing pollution control, whereby the task of determining plant-specific requirements is transferred from EPA to the private sector. Another possibility is to transfer more of the task to the states. As Professor Rose-Ackerman says, if properly implemented, "decentralization may promote freedom of choice, responsiveness, and desirable forms of interjurisdictional competition" (p. 173). Ideally, a proper institutional structure would lead the states to compete with each other, and perhaps with the federal government, in designing more effective and cheaper regulatory strategies. At the same time, we would also need safeguards to prevent competition from taking the destructive form of a "race to the bottom."

The Clean Water Act illustrates the current situation. The key regulatory requirements are found in section 301, which requires achievement of a set of "effluent limitations" based on various levels of technological control.⁴⁵ EPA issues regulations establishing uniform effluent limitations for categories of firms.⁴⁶ Section 301 limitations are issued as industry-wide regulations by EPA. States play no role in

44. Robert W. Hahn & Gordon L. Hester, *Where Did All the Markets Go? An Analysis of EPA's Emissions Trading Program*, 6 YALE J. ON REG. 109, 109 (1989).

45. 28 U.S.C. § 3311 (1988).

46. See, e.g., 40 C.F.R. §§ 415.220-415.227 (1992); see also E.I. du Pont de Nemours & Co. v. Train, 430 U.S. 112 (1977) (upholding EPA authority to issue regulations for chemical industry). In theory, variances are available for firms that deviate too far from the industry norm, but in reality EPA virtually never grants these variances. See Latin, *supra* note 42, at 1317.

establishing these standards, but if states meet certain criteria they can obtain permission to operate the permit program under section 402 of the Act.⁴⁷ In theory, at least, this does not involve much discretion, because the federal regulations supply the crucial regulatory standards.⁴⁸

The Supreme Court considered but ultimately rejected another approach to implementing the statute. Under this approach, which industry favored, EPA would have issued guidelines that provided ranges of effluent limits for various industrial categories, as well as a list of factors to be used in making choices within that range. The state permit authority would then have chosen a limit for each individual plant within that range, subject to veto by EPA.⁴⁹ The Court rejected this approach largely for statutory reasons, but it was also concerned about the approach's practicality:

The [industry] view of the Act would place an impossible burden on EPA. It would require EPA to give individual consideration to the circumstances of each of the more than 42,000 discharges who have applied for permits . . . and to issue or approve these permits well in advance of the 1977 deadline in order to give industry time to install the necessary pollution-control equipment. We do not believe that Congress would have failed so conspicuously to provide EPA with the authority needed to achieve the statutory goals.⁵⁰

This was a highly sensible remark at the time of the Court's ruling, but it may make less sense today. To begin with, we now know that EPA's preferred approach also conspicuously failed to meet the 1977 deadline; indeed, even today, effluent limitations for some industries are not yet in place.⁵¹ More importantly, it is no longer clear that overseeing the issuance of 42,000 permits would be an impossible task. True, assessing the technological and economic basis of each permit individually would be a daunting task. But new methods of statistical quality control provide a promising alternative to uniform categorical standards or individualized permit review. As Osborne and Gaebler observe, "[w]e can generate, analyze, and communicate a thousand times more information than we could just a generation ago, for a fraction of the cost" (p. 141).

Efficient systems to oversee even 42,000 permits do not seem out of the question. Consider, for example, the vastly greater number of

47. See Clean Water Act § 402(b); 33 U.S.C. § 1342(b).

48. EPA maintains two forms of control on state permit programs: it can veto individual permits, or it can withdraw approval for the entire state program. Withdrawing approval of a state program, however, is not a very credible threat, because doing so would require EPA itself to fund the expensive permit process at the expense of other programs.

49. The industry position prevailed in the first appellate decision on the issue, *CPC Intl. v. Train*, 515 F.2d 1032 (8th Cir. 1975).

50. *E.I. du Pont de Nemours & Co. v. Train*, 430 U.S. 112, 132-33 (1977).

51. See *FINDLEY & FARBER*, *supra* note 41, at 273-74.

Medicare claims or income tax returns that must be screened annually. To manage the permit-granting process, EPA might create a model to predict effluent limitations for plants having particular characteristics. The model could be based on economic or engineering theory, or it could incorporate statistical studies of actual permits from other states. Permits straying too far from the prediction would be automatically audited, as would a random sample of other permits.⁵² As an incentive, there could be a monetary penalty for rejected permits (with a quick arbitration of any disputed claims). No doubt an expert on quality control could devise a much better system, but even this rough sketch suggests that a solution is feasible.

This system would have several advantages over the current regulatory scheme. It would reduce the costs of "one size fits all" regulation by allowing closer tailoring of effluent limits to the needs of individual plants. Also, because the EPA guidelines would be more flexible than the current regulations, they could justifiably be less precise and less heavily documented. This could help streamline the issuance process and might encourage judges to ease the intrusiveness of judicial review. Finally, the permit limitations established by different states could provide valuable new information, so that EPA could adjust the standards based on experience.⁵³

Potentially, even greater flexibility could be given to the states. Osborne and Gaebler are enthusiastic advocates of results-based government (pp. 138-41). The ultimate goal of the Clean Water Act is cleaner water, not more elaborate pollution control, yet the regulatory system gives its primary attention to technology standards rather than water quality. Under the Clean Air Act, the states in theory have considerable leeway to set certain standards in whatever manner they like, so long as federal air quality standards are met. In practice, state discretion has unfortunately been subject to an increasing number of qualifications, the air quality targets are unrealistic, and the sanctions against noncomplying states are so draconian that EPA has resisted ever imposing them.⁵⁴

Obvious risks lie in delegating too much authority to states that may lack the resources, expertise, or political will to implement innovative environmental programs, but these risks are not insuperable.

52. For an insightful analysis of a similar proposal for the use of statistical claim profiles in tort cases, see Glen O. Robinson & Kenneth S. Abraham, *Collective Justice in Tort Law*, 78 VA. L. REV. 1481 (1992). The authors rebut in some detail the argument that justice requires individualized treatment, and their logic seems to extend to the permit context.

53. For example, if states that are generally strict issue permits with relaxed requirements for some category of sources, EPA might want to consider whether its initial technological expectations were too high. Similarly, some states' issuance of unexpectedly strict permits might trigger a reappraisal in the opposite direction.

54. Some of the difficulties of implementing the Clean Air Act are discussed in Howard Latin, *Regulatory Failure, Administrative Incentives, and the New Clean Air Act*, 21 ENVTL. L. 1647 (1991).

One safeguard against inaction would be to authorize EPA to enter into contracts with particular states to create innovative programs. These contracts would only be available to states that had demonstrated the capacity to run an effective regulatory program. The contract would contain quantitative performance measures — specific levels of air or water quality to be met by particular dates. Failure to achieve these standards would result in financial penalties against the state⁵⁵ or cancellation of the contract. Finally, minimum federal standards would remain in place as a safeguard against risks to public health or irreparable environmental damage. Again, an expert undoubtedly could design a more effective plan, but the basic concept seems workable. The result would encourage state innovation to find cheaper ways of meeting environmental goals. Successful state programs then could operate as models for other states or could become federal law.

As with results-based approaches generally, reliable outcome measures are crucial to this scheme. Unfortunately, our pollution monitoring is strikingly inadequate.⁵⁶ Whether or not we adopt any of the decentralizing mechanisms I have discussed here, we urgently need better information about the current state of the environment.

C. *Improving Judicial Review*

Among her other proposals to improve the regulatory process, Rose-Ackerman endorses more searching judicial review of agency decisions (pp. 39, 42). Like her advocacy of cost-benefit analysis, this proposal is designed to improve the rationality of the regulatory process. Her suggestion, however, would merely exacerbate existing flaws in the administrative process.⁵⁷

Obtaining more information and analysis seems obviously desirable, but at some point it can become counterproductive. Again, despite the obvious differences between commercial and governmental institutions, a business analogy is suggestive. Consider Halberstam's

55. In a more positive approach, the federal government might give grants, the amounts depending on quality of performance, to states with innovative programs.

56. See PERCIVAL ET. AL., *supra* note 25, at 793, 866; Debra S. Knopman & Richard A. Smith, *Twenty Years of the Clean Water Act*, ENVIRONMENT, Jan./Feb. 1993, at 18-20, 34. With regard to toxics, EPA's information base was so weak that the huge discharges revealed by mandatory disclosures under the Emergency Planning and Community Right-to-Know Act "shocked" the agency. PERCIVAL ET. AL., *supra* note 25, at 624. For a more recent survey of environmental monitoring, and calls for improvement, see COUNCIL ON ENVIRONMENTAL QUALITY, ENVIRONMENTAL QUALITY: 22D ANNUAL REPORT 43-56 (1992).

57. Administrative law scholars have engaged in extensive debate about whether judicial review has become too intrusive. For a discussion and citations to the literature, see Robert Glicksman & Christopher H. Schroeder, *EPA and the Courts: Twenty Years of Law and Politics*, 54 LAW & CONTEMP. PROBS. 249, 250 n.2, 273-74, 301-02 (1991). For a historical overview of the evolution of administrative law, see Daniel Gifford, *The New Deal Regulatory Model: A History of Criticisms and Refinements*, 68 MINN. L. REV. 299 (1983).

account of an executive who helped delay Ford's manufacture of front-wheel drive vehicles:

To many of his critics, he embodied the problem of the modern Ford company as created by the men of the Harvard Business School: too much information, too many options, too little feeling about the cars. "The trouble with you, Phil," Iacocca once told him, "is that you went to Harvard, where they told you not to take any action until you've got all of the facts. You've got ninety-five percent of them, but it's going to take you another six months to get that last five percent. And by the time you do, your facts will be out of date because the market has moved on you." . . . He always wanted additional information, and each meeting seemed to end not with a decision but a call for yet another meeting, where there could be even more information and more options.⁵⁸

Unfortunately, the federal courts have often seemed determined to impose this model of decisionmaking on regulatory agencies.

In a recent book, Jerry Mashaw and David Harfst detail how judicial obsession with obtaining exhaustive documentation derailed the federal auto safety program. They conclude that the "hard look" doctrine, under which judges closely scrutinize the administrative record to insure agency rationality, is ill conceived.⁵⁹ In the environmental area, finding cases in which courts that demanded further documentation and more careful analysis overturned EPA's technical decisions is easy. In *Corrosion Proof Fittings v. EPA*,⁶⁰ for example, the Fifth Circuit overturned the agency's carefully considered asbestos regulations, effectively wrecking EPA's most serious effort to implement the Toxic Substances Control Act. Other judges have not hesitated to correct agencies on abstruse technical issues.⁶¹

Improved decisionmaking may seem worthwhile in any circumstance. In a world of limited staffs and budgets, however, improvements in quality come only after expensive delays and reduced outputs. If we assume that the preregulatory status quo is unsatisfactory, a quicker (though less accurate) regulatory process may be a preferable response. In addition, the delayed response risks the problem confronted by the auto executive described above. By the time all the data have been considered and all the analytical issues covered, the problem may have changed, leaving the proposals ill suited to fix it. In

58. HALBERSTAM, *supra* note 30, at 516.

59. See JERRY L. MASHAW & DAVID L. HARFST, *THE STRUGGLE FOR AUTO SAFETY* 87-102 (1990).

60. 947 F.2d 1201 (5th Cir. 1991).

61. See, e.g., *AFL-CIO v. OSHA*, 965 F.2d 962 (11th Cir. 1992) (demanding that agency separately document health effects for each of 428 toxic substances, although OSHA argued that this was scientifically infeasible); *State of Ohio v. EPA*, 784 F.2d 224 (6th Cir. 1986) (rejecting EPA computer model); *Gulf S. Insulation v. United States Consumer Prods. Safety Commn.*, 701 F.2d 1137 (5th Cir. 1983) (second-guessing the agency on technical issues); see also Thomas O. McGarity, *Some Thoughts on 'Deossifying' the Rulemaking Process*, 41 *DUKE L.J.* 1385, 1400-1403 (1992).

the environmental area, the agency may find that the scientific data or technological and economic constraints have shifted, leaving the agency with a choice between starting over or closing the record and adopting a potentially obsolete regulation. Mistakes are rarely irrevocable in the regulatory arena, and the agency may do better to try a "quick and dirty" interim solution, to be improved when additional information arrives.⁶²

Judicial review seems an unpromising way to improve the quality of an agency's technical judgments. A report from the National Academy of Science is far more likely to provide a useful evaluation of the merits of a proposed regulation than an opinion by an appellate judge. Of course, judicial review does serve other important purposes. It can help assure that statutory procedures have been followed, and judges can also correct agency misinterpretations of the law. But relying heavily on judges to evaluate technical judgments makes little more sense than appointing engineers to review legal issues.

Another possible benefit of intensive judicial review is to reduce undue political influence (or other forms of bias) on agency decisions.⁶³ Within the range of reasonable outcomes, however, the agency remains free to take its preferred position; judicial review merely forces the agency to create a more elaborate record. Only when the outcome is wholly unjustifiable from a technical perspective is the agency constrained, and even then relatively uninformed judges may mistakenly uphold the agency. If preventing undue influence is the purpose, then we would do better to adopt administrative procedures that assure public accountability (Rose-Ackerman, p. 41) than to have courts closely monitor the substance of agency decisions.

Despite these shortcomings, judicial review of an agency's factual conclusions can help ensure at least the good faith of agency judgments. When the agency announces that a statutory standard has or has not been met — but the agency has not made any effort to determine the facts — it fails to heed its statutory mandate.⁶⁴ Preventing agencies from wilfully ignoring their statutory mandates is an important judicial role, but this function does not guarantee the best regulations. Rather, it merely ensures that agencies exercise good-faith professional judgement.

Wholesale abandonment of "hard look" review is unlikely and might be unwise. Although intensive judicial review is an inefficient way to improve regulation, it may be warranted when the risk of

62. In short, striving for an unattainable level of rationality in decisionmaking may be counterproductive. See James E. Krier & Mark Brownstein, *On Integrated Pollution Control*, 22 ENVTL. L. 119, 123-26 (1992).

63. I put aside the question of when political influences should be considered "undue."

64. See *Motor Vehicle Mfrs. Assn. v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29 (1983) (finding that agency rejected air bags for purely political reasons, without having made responsible professional judgment about feasibility).

agency error is especially grave. For example, when an agency's action would be irreversible (as with threatening extinction of an endangered species), a "harder look" may well be justified. Moreover, depending on the political circumstances and the agency's expertise, the credibility of its technical judgments may vary. Michael Blumm's findings regarding NEPA cases suggest one promising solution. Typically, courts uphold environmental impact statements unless the agency has failed to respond adequately to criticisms by other state or federal agencies.⁶⁵ Similarly, we might reserve the "hard look" doctrine for cases where the agency decision conflicts with the views of other government bodies or when the agency may cause irreparable injury.

Whether or not we modify judicial review, we do need better ways of preventing politics from entering the decisionmaking process at the wrong points and of improving the technical quality of agency decisions. Greater use of independent scientific expertise would help, as would better monitoring of results. After all, the true test of a regulation is not whether it was made on a full record or bears a sufficiently analytic explanation, but whether it works.

* * *

During the past decade, a debate raged over whether or not to abandon government regulation. As Rose-Ackerman and Osborne and Gaebler insist, we need to move beyond that debate. Instead, we need to explore new ways of regulating more effectively and efficiently. Some of the proposals these authors present are more useful than others, but their efforts to move beyond the stale deregulation debate deserve applause. In environmental law and elsewhere, it is time to explore new approaches to regulation.

65. See Michael C. Blumm & Stephen R. Brown, *Pluralism and the Environment: The Role of Comment Agencies in NEPA Litigation*, 14 HARV. ENVTL. L. REV. 277, 281-83 (1990).