

ENVIRONMENTAL REGULATION AND FEDERALISM

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I. INTRODUCTION

Concern about the effectiveness of federal environmental regulation in the United States can be understood as part of a broader reevaluation of the efficacy of federal government regulation in the economy. Regulation in general and environmental regulation in particular are viewed as imposing enormous costs that may outweigh the benefits.¹ Both Richard Revesz and Joshua Sarnoff are critical of the Environmental Protection Agency (EPA) and its current regulatory actions to improve air quality in the United States.² Each, however, takes a different approach in presenting policy reforms. Neither author asks the more fundamental question of whether federal government regulation of environmental quality with national standards makes sense. This paper argues that in a federalism context with heterogeneous states in terms of economic development, political representation in Congress, voter interests, and environmental quality, federal environmental regulation with national standards not only will be difficult politically to implement, but will be unlikely to advance social welfare.

This paper views environmental quality as a public good and the efforts to obtain it through national legislation as a bargaining problem among the political representatives of the fifty states. By referring to research on similar bargaining problems involving public goods and common property in other contexts, the paper indicates when agreement on collective action to obtain public goods is likely and when it will not be forthcoming. In general, successful collective action depends critically upon the nature and size of the aggregate benefits from regulation, the number and heterogeneity of the parties involved, and the distribution of the benefits and costs of regulation across the bargaining parties. The larger are the aggregate net benefits, the smaller the number and the more homogeneous are the bargaining parties, the more likely that agreement will be reached to provide the public good.

In the case of environmental quality, costly tradeoffs (reduced economic

1. For a discussion of the costs of general regulation, see Thomas D. Hopkins, *The Costs of Federal Regulation*, 2 J. REG. & SOC. COSTS, 1, 5-31 (1992). For a more specific evaluation of environmental regulation, see Kenneth Chilton & Christopher Boerner, *Smog in America: The High Cost of Hysteria*, SOC'Y, July-Aug. 1996, at 51.

2. Richard L. Revesz, *The Control of Interstate Environmental Externalities in a Federal System*, 38 ARIZ. L. REV. 883 (1996); Joshua Sarnoff, *Overcoming Uncooperative Environmental Federalism* (to be published in a forthcoming issue of the *Arizona Law Review*).

development) are required, but the states differ with respect to levels of per capita income, job growth, and air and water quality. Hence, voter demands for pollution abatement will vary across the states with no consensus on the aggregate benefits and costs of national standards for environmental quality or on the allocation of the benefits and costs among the states. Since the states are not equal in their political representation and since unanimity is not required in enacting federal legislation, it is possible for a coalition of politicians to enact and impose national environmental regulatory legislation that disproportionately assigns costs or benefits to certain states or regions. The more heterogeneous the states and the greater the unequal allocation of regulatory burdens, the greater the political resistance will be to federal regulation. This resistance will be intensified if regulation is viewed as being enacted strategically to disadvantage certain states to the benefit of others, rather than to achieve environmental quality goals. Research into federal regulation of various types reveals that the strategic use of federal legislation has long been practiced in the United States. Accordingly, the paper argues that environmental quality regulation should be left to state and local governments which are most responsive to local voter demands.³ Where there are important interstate externalities, regional compacts can be a solution. Efforts to strengthen federal government regulation in order to attain national pollution abatement standards will bring a) resistance in those areas where the costs are great relative to the benefits, b) political opposition to the actions of the Environmental Protection Agency, and c) calls in Congress for reforming (weakening) federal environmental regulation.

II. EFFORTS TO IMPROVE FEDERAL REGULATION

Both the Revesz and Sarnoff papers address the same problem of how to make environmental regulation more effective. The two authors, however, take different approaches to the problem, with Joshua Sarnoff arguing for a stronger and more straightforward federal government role and Richard Revesz arguing for a less centralized approach with greater reliance upon the courts under the dormant Commerce Clause and marketable permits for environmental degradation. Sarnoff calls for clearer congressional direction in guiding the courts and administrative agencies in implementing federal environmental law. He argues that in cases of duplication or confusion over authority, the federal government should be clear and consistent in its position on environmental standards. State courts and agencies should not be specifying the content and meaning of federal policies. Sarnoff asserts that due to congressional inattention, the states fail to regulate and the EPA fails to force them to do so. Accordingly, many states do not achieve federally desired levels of ambient air quality, water quality, and hazardous waste disposal. The EPA is reluctant to enforce policy because it fears congressional reaction, but, according to Sarnoff, the solicitude given by Congress and the EPA to state sovereignty is no longer warranted.

3. For discussion of the effectiveness of state and local governments in environmental regulation, see Wallace E. Oates & Robert M. Schwab, *Economic Competition Among Jurisdictions: Efficiency Enhancing or Distortion Inducing?* 35 J. PUB. ECON. 333 (1988); Wallace E. Oates, *The Invisible Hand in the Public Sector: Interjurisdictional Competition in Theory and Practice* (Univ. of Md. Dep't of Economics Working Paper No. 95-17, 1996).

By contrast, Richard Revesz calls for more reliance on marketable permits for environmental degradation and on the courts through the use of the dormant Commerce Clause. Revesz claims that current federal policy fails in the control of interstate environmental externalities, and he challenges the "race-to-the-bottom" justification for federal environmental regulation. Although interstate externalities provide some justification for a federal role, little of the existing regulatory regime effectively addresses those externalities. Revesz focuses attention on the administration of the Clean Air Act and its national air quality standards, provisions for the prevention of serious deterioration of air quality (PSD), new source performance standards (NSPS), and state implementation plans (SIP). He is critical of the Clean Air Act for failing to force the internalization of interstate externalities.

In his arguments, Revesz incorporates more explicit consideration of the costs of emissions reductions and of the impacts of upwind state emissions on ambient air quality levels in downwind states. He argues that ambient emissions standards are an ineffective and poorly targeted means of dealing with interstate externalities. He describes a variety of scenarios involving upwind state pollution and its effects on the ability of downwind states to comply with federal air quality standards. He correctly notes that how environmental rules are written and administered will have differential effects or uneven impacts on economic growth and well-being across the states. Revesz argues that rules should adjust emissions according to differences in marginal costs and benefits in order to minimize the total cost of meeting the ambient standard across the states. He points out that such cost considerations require more flexibility in reallocating emission reduction requirements than are available under existing regulatory practices. The courts and marketable permits offer such flexibility. Revesz argues that there are precedents of case law in other areas such as landfills and groundwater pumping for guiding the courts in a greater role for allocating the burdens and benefits of environmental regulation across state boundaries. The attraction of marketable permits for environmental degradation lies in avoiding centralized rules and in providing more flexibility across sites in controlling emissions in upwind and downwind states.

Although the arguments provided by Richard Revesz are compelling and generally consistent with other social science research, a major omission in the paper is any indication of the empirical importance of interstate pollution externalities. What proportion of emissions are from new stacks located along state lines? Compared with other in-state sources, what is the additional contribution to air pollution from other states? Moreover, is this truly a national problem or one that is localized in a few regions, where regional compacts might be a more appropriate solution? Until Revesz grounds his arguments in empirical evidence, it is difficult to gauge their potential contribution to environmental regulation.

This concern about the magnitude of the externality problem and its spread across state boundaries is emphasized in other research on public goods or common-pool situations where the size of the problem or the aggregate benefit of resolving it is critical to the success of collective action. Further, the distribution of the benefits and costs of regulation determine its timing and effectiveness. These issues are relevant for mobilizing interstate support for environmental regulation.

III. THE CONDITIONS FOR SUCCESSFUL COLLECTIVE ACTION

There is a large body of research in economics and political science on collective action to provide public goods or solutions to common-pool problems.⁴ The empirical cases include oil field unitization, fishery regulation, controls on common grazing lands, and compliance with orange marketing orders. In some cases, the losses associated with common-pool conditions lead to timely and successful private cooperation or government regulation. More generally, however, collective action to address externalities and to provide public goods is delayed with very limited regulations to control access and resource use. The research record is sufficiently complete to draw conclusions as to when collective action will be successful and when it is likely either to fail or to be very incomplete. The lessons are relevant for environmental policies in the United States.

Empirical research has identified a number of factors that critically affect the outcome of collective action. The first is general agreement on the magnitude of the problem. A consensus on the size of the externality or on the losses of a common-pool problem such as air or water pollution provides the basis for collective action to provide a public good of pollution abatement.⁵ The size of the problem defines the potential aggregate benefits. If these benefits are considered to be small, uncertain, or are controversial, then mobilization for a cooperative solution will be more difficult.

The second factor in determining the success of collective action is the distribution of the costs and benefits of providing a public good. Indeed, net benefit calculations relative to the status quo determine the incentive of the parties to participate in collective action. In terms of the benefits of environmental regulation, the states will be motivated by their share of the aggregate benefits of cleaner air, water, and a higher quality of living. In terms of the costs, however, each of the states will be concerned with how environmental regulation affects their prospects for economic growth, employment, and tax revenues. As in other collective good bargaining cases, the stands taken by political representatives of each of the states will depend upon their evaluation of the distribution of costs and benefits across the states. If they conclude that the regulation will disadvantage their state relative to others, they will oppose it. Hence, the allocation rules for assigning the benefits and burdens are critical. Each state will attempt to mold the resulting agreement or regulation in ways that maximize its share of aggregate benefits and minimize its share of aggregate costs. Accordingly, assuming agreement on the overall benefits of action, the political bargaining problem becomes one of agreeing to the assignment of costs and benefits—the allocation rule.

Agreement is much more difficult if the states are very heterogeneous in

4. For a summary, see Gary D. Libecap, *The Conditions for Successful Collective Action*, 6 J. THEORETICAL POL. 563 (1994); GARY D. LIBECAP, *CONTRACTING FOR PROPERTY RIGHTS* (1989).

5. Air or water pollution are common-pool problems because they are due to a lack of clearly enforced property rights to air or water. For a discussion, see Stephen N.S. Cheung, *The Structure of a Contract and the Theory of a Non-Exclusive Resource*, 13 J.L. & ECON. 49 (1970).

terms of their anticipated gains or losses from environmental regulation, if there is information asymmetry or uncertainty about the flow of expected benefits and costs, or if there is controversy about the aggregate benefits of collective action. Absent agreement on the aggregate benefits of national pollution abatement standards, it will be difficult to reach agreement on the implementation of those standards in each of the states.

Similar bargaining problems have plagued collective action to resolve common-pool problems in most settings, even when there is agreement on the overall benefits. In the case of oil fields, the benefits of unitization, whereby a single firm rather than a group of firms develops the reservoir, have long been recognized. Nevertheless, complete field-wide unitization in the United States has not been widespread. Libecap and Wiggins report that as late as 1975 only thirty-eight percent of Oklahoma and twenty percent of Texas production came from field-wide units.⁶ The key issue in blocking agreement on the voluntary unitization of oil fields is conflict over a share formula to divide the net proceeds of unit production among the working interest owners. When oil fields are unitized, agreement comes late, after most of the costs of competitive extraction have been inflicted irrevocably on the field. Similarly, the problems of overfishing have been observed since early in the century, but few fisheries are effectively regulated to limit access and catch. Indeed, virtually all of the migratory fisheries in the world are subject to excessive harvest rates and the long-term sustainability of the stocks is at risk. As with oil field unitization, the failure to effectively regulate access and harvest is due to disagreement regarding the aggregate benefits of regulation and disputes over the distribution of the costs and returns among fishermen.

These are only two examples, but they are representative of the general problem. For there to be successful collective action on air and water pollution control in a federalism context, there must be general consensus on the aggregate value or benefit of such action. Further, there must be agreement on how each state will share in the burdens and benefits of environmental regulation. Because the distribution of the costs and benefits is unlikely to be even, there is great potential for political conflict among the states over environmental regulation.

Under these circumstances, the federal government might be viewed as the unit that can step above interstate rivalries as an impartial third party to provide for the common good. Unfortunately, the use of federal legislation and regulation as a strategic device to provide benefits to particular industries or states at the disadvantage of other industries or states is a long-standing and generally understood practice. Hence, federal regulation that assigns benefits and costs across the states is also unlikely to be seen as fair or impartial. Violation of federal rules and political resistance to them of the nature described by Joshua Sarnoff will continue.

To illustrate the problem, consider that one of the first federal agricultural laws taxed oleomargarine to make it less competitive with butter.⁷

6. Gary D. Libecap & Steven N. Wiggins, *The Influence of Private Contractual Failure on Regulation: The Case of Oil Field Unitization*, 93 J. POL. ECON. 690, 702 (1985).

7. Act of Aug. 2, 1886, ch. 840, 24 Stat. 209 (defining butter and taxing oleomargarine).

Indeed, much of early federal regulation ostensibly meant to provide public goods with meat inspection, regulation of food and drugs, patent medicines, distilled and malt liquors, and baking powder, was in fact designed to benefit some industry groups and hurt others.⁸ The strategic use of federal regulation to benefit private interests extends also to environmental policy. Peter Pashigian's examination of political support for the policy of prevention of significant deterioration (PSDs) as indicated by House of Representative votes on the 1976 and 1977 amendments to the Clean Air Act reveals that these provisions were designed to attenuate competition between industrial and rural areas.⁹ PSDs were opposed by representatives of the South, West, and rural areas, whereas they were supported by northern urban areas to raise the costs of factor mobility. The strongest support for PSDs came from representatives from the New England, Middle Atlantic, Pacific and East North Central states, and strongest opposition to PSD policy came from the East South Central, West South Central, and South Atlantic states. The results suggest that House members from areas with relatively dirty air were staunch defenders of the relatively clean air in other parts of the country. Ironically Pashigian argues that the PSDs actually may have resulted in overall lower air quality since industry was more restricted in its ability to migrate from very dirty air regions to areas with air where its marginal impact might have been quite small. Similarly, Robert Crandall focused on the 1977 Clean Air Act amendments that forced best technology scrubbers on new utilities even if they had planned to burn low-sulphur western coal. These provisions were designed to increase their costs and to reduce their incentives to switch from high-sulphur eastern coal where scrubbers would be required to meet air quality standards.¹⁰ These amendments mainly were undertaken to make western coal a less attractive substitute for high-sulphur eastern coal. This example shows one of the dangers of a national policy whereby interests in one part of the country can inflict costs on another. It seems unlikely that a regional compact between Ohio and downwind states to reduce acid rain emissions, for example, would have involved such provisions. Accordingly, there are advantages to regional compacts over national standards or rules. Comparable private incentives appear to be part of the provisions of the Surface Mining Control and Reclamation Act where private interests dominated the crafting of the legislation.¹¹

These examples suggest that even where there is agreement on the aggregate benefits of air and water pollution abatement, the states and the political constituents within them cannot be confident in the impartial allocation of the benefits and costs of environmental regulation. To the degree that federal

8. See DONNA J. WOOD, STRATEGIC USES OF PUBLIC POLICY (1986); Gary D. Libecap, *The Rise of the Chicago Packers and the Origins of Meat Inspection and Antitrust*, 30 ECON. INQUIRY 242 (1992); MITCHELL OKUN, FAIR PLAY IN THE MARKETPLACE (1986); Jack High & Clayton A. Coppin, *Wiley and the Whiskey Industry: Strategic Behavior in the Passage of the Pure Food Act*, 62 BUS. HIST. REV. 286 (1988).

9. B. Peter Pashigian, *Environmental Regulation: Whose Self-Interests Are Being Protected?*, 23 ECON. INQUIRY 551, 553 (1985).

10. Robert W. Crandall, *Air Pollution, Environmentalists, and the Coal Lobby*, in THE POLITICAL ECONOMY OF DEREGULATION 84 (Roger G. Noll & Bruce M. Owen eds., 1983).

11. Joseph P. Kalt & Mark A. Zupan, *Capture and Ideology in the Economic Theory of Politics*, 74 AM. ECON. REV. 279 (1984).

environmental regulation is seen as benefitting certain parties, states, or regions and disadvantaging others, compliance with federal rules and indeed, political support for them will be reduced.

An increased and clearer mandate for the EPA as suggested by Joshua Sarnoff is unlikely to be enacted by Congress because it makes the distributional effects more apparent (and increases the political costs) to result in improved environmental regulation. The alternative generally described by Richard Revesz with more reliance on less centralized mechanisms, such as marketable permits for environmental degradation and court action under the dormant Commerce Clause, will involve fewer federally imposed interstate transfers of wealth and economic opportunity. Further because they are more flexible and more directed to local issues where the benefits will be clearer, such environmental policy is more apt to be successful.

IV. CONCLUSION

The problem of designing policies to obtain air and water pollution abatement in a federalism context is not a simple one. Because the states differ in air and water quality, the benefits of federal regulation to achieve uniform national standards vary across the states. Further, because the states differ in levels of economic development and per capita income, the costs of strict environmental controls also vary across the states. These differences in the benefits and costs of environmental quality regulation lead to corresponding differences in political support for federal pollution abatement policies. Even when legislation such as the Clean Air Act is enacted, Congress and the administering agency, the Environmental Protection Agency, will be reluctant to enforce rules that impose inordinate costs on particular areas. Maintaining vague rules and allowing the agency to have considerable leeway in implementing legislation is in the interest of Congress because it diffuses political reaction. Hence, the call by Joshua Sarnoff for greater direction from Congress in enforcing legislation will be ignored because Congress and the agency prefer the current arrangement. Greater reliance on tradeable permits and court action under the dormant Commerce Clause, as advocated by Richard Revesz, has more merit because of the flexibility for addressing interstate pollution externalities, but the magnitude of those externalities is not documented. As alternatives, local and state government regulations are more likely to be effective in obtaining voter-desired environmental quality objectives. Local regulations can be tailored to the heterogeneous conditions that exist across the states, and local governments are more responsive to changing voter demands. Finally, these local policies can be coordinated through regional compacts to address interstate externalities. Given this, the case for more effective federal regulation of environmental quality is unclear.

