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BREAKING OUT OF THE REGULATORY DILEMMA:

ALTERNATIVES TO THE STERILE CHOICE

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BREAKING OUT OF THE REGULATORY DILEMMA: ALTERNATIVES TO THE STERILE CHOICE

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Economic research has played an important role in the current debate over regulatory policy. Since 1959, economists have generated a massive literature on the economic consequences of regulation.[1] By 1975, the leading spokesman for regulatory reform in the federal government was an economist who had contributed several important studies, ranging from a book on the origins of the Interstate Commerce Commission to a statistical analysis of the effects of Federal Power Commission regulation of natural gas field prices.[2]

[1] The seminal work is J. Meyer, M. Peck, J. Stenason and C. Zwick, The Economics of Competition in the Transportation Industry, Harvard, 1959. While this study was hardly the first to criticize regulatory policy, it was a major advance in the sophistication and completeness of research on regulatory effects.

[2] P. MacAvoy, The Effects of Regulation: The Trunkline Railroad Cartels and the ICC before 1900, MIT, 1965, and "The

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Regulation-Induced Shortage of Natural Gas," Journal of Law and Economics, October 1970.

To my knowledge, no economic evaluation of a regulatory activity has produced a clean bill of health for the policy under review. Economists uniformly find immense indirect costs due to regulation, with little or no benefit. While most of these findings pertain to the regulation of entry, prices and profits in the major infrastructural industries, the results with respect to safety and environmental regulation are essentially the same, although here the results are less convincing.[1]

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[1] Two highly publicized studies of safety regulation, both by S. Peltzman, are "The Effect of Automobile Safety Regulation," Journal of Political Economy, July/August 1975, and Regulation of Pharmaceutical Innovation: The 1962 Amendments, American Enterprise Institute, 1974.

The natural inference from these studies is that regulation has uniformly failed and ought to be dispensed with, or at least drastically reformed. But this conclusion does not necessarily follow from the recitation of the research results.

Empirical estimates of the "cost of regulation" are normally measures of the extent to which the performance of an industry departs from maximal efficiency -- that is, from a situation in which price is equal to the additional costs incurred in producing the last unit of output and total output is produced at the minimum feasible cost. Practically speaking, this will occur only if an industry is perfectly competitive. Consequently, the estimates of the costs of regulation constitute a case for deregulation only if an industry would be perfectly competitive in the absence of government intervention.

In many cases the principal barrier to competition is, in fact, regulation. Examples are trucking, trunk airlines, agricultural commodities subject to marketing orders, securities markets, banking, and local passenger transportation. In these cases the only sensible issue is how to devise a reasonable transition to the deregulated state. In other instances, it is likely that deregulation would not result in perfect competition. The relevant policy issue in these cases is which alternative is least costly. Here the choices are not easy because the alternatives that are normally considered all have serious liabilities.

INHERENT PROBLEMS OF REGULATION

As a procedure for controlling market behavior, the administrative process has certain inherent weaknesses. The first arises because it is a process in which policy decisions are made by passive, judicial-like officials on the basis of information supplied to them in a formal adversary proceeding. This procedure creates the dilemma of bias or delay.

If only some interested parties are represented in a proceeding, the dependence of decisions on the content of the formal record causes decisions generally to favor those who are represented. If all parties are represented in a proceeding, the amount of information fed into the process, the time spent responding to points made by opponents, and the greater care required to write a decision that will withstand appeal all add considerably to the time the agency takes to make a decision, and to the direct cost of the process. To illustrate, in 1973 AEC cases to issue construction permits for nuclear power plants averaged six months in duration when no one participated but the applicant and 29 months when an intervenor was granted full standing. More

generally, the source of much of the recent criticism that the regulatory process is too slow has been the growing use of intervention by environmentalists and consumer groups. While agencies have responded to these new circumstances by streamlining some procedures,[1] they can never succeed completely and still satisfy

[1] See P. Joskow, "Inflation and Environmental Concern: Structural Change in the Process of Public Utility Regulation," Journal of Law and Economics, V. 17 No. 2 (October 1974).

procedural requirements. Attempts to short circuit normal procedures, such as by denying standing to intervenors or resorting to informal processes, have been attempted, but have been sternly rebuked by the courts.[2]

[2] For example, see Moss v. CAB, 430 Fed. 981 (U.S.D.C. for District of Columbia), 1970. See also the statement of Ruben B. Robertson, in U. S. Senate, Committee on Government Operations and Committee on Commerce, To Establish an Independent Consumer Protection Agency : Joint Hearings, 93rd Congress, 1st Session, 1973.

A second general problem of the administrative process is its inherent conservatism. Typically the burden of proof is on those who would change the status quo. They must demonstrate through evidence that a change in regulatory rules and policies is desirable. Prior to the mid-1960s, when the rate of inflation was generally below the rate of productivity advance in public utility sectors, the utilities benefited from this characteristic of regulation. In that period the proper direction of change was for price reductions, with the burden of proof on those who would force

utilities to cut prices. In the 1970s, with costs on the rise and the appropriate direction of change in the opposite direction, the burden of proof has switched to utilities. As a result, utilities have moved from a period in which their rates of return generally exceeded the cost of capital to one in which many utilities, if not facing bankrupcy, at least are not sufficiently profitable to attract new capital.[1]

[1] See Joskow, op. cit., and P. Joskow and P. MacAvoy, "Regulation and the Financial Condition of the Electric Power Companies in the 1970s," American Economic Review LXV #2 (May 1975).

The conservatism of regulatory agencies is partly related to the representation problem discussed above. In order to find it worthwhile to be represented in the regulatory process, a group must perceive the stake it has in the issue at hand. Suppose the issue is the adoption of a new technology or the prohibition of a possibly hazardous substance. In both cases, those who derive their income from existing methods are more likely to be aware of their stakes in the issue than are those who would gain from change. Workers who would be employed in the use of the new technology once it is standardized have not been hired when its adoption is debated, nor are all of those who are threatened by a hazardous substance likely to be aware of the danger. In the debate over cable regulations before the FCC, for example, the cable television industry has been represented by an association comprised of existing systems, yet the key to the development of cable is the set of regulations that now keep cable out of most of the hundred largest metropolitan areas. Since some of the

entrepreneurs who would invest in such systems are not yet in the industry, and some of the industry's potential customers are not yet fully aware of the nature of the service that might be offered them, the representation of cable is not in the same proportion to its stake in the issue as is that of commercial broadcasters.[1] And

[1] For a more complete treatment of the representation problem, see R. Noll, "Government Administrative Behavior and Technological Innovation," Social Science Working Paper #62, California Institute of Technology. For a more thorough treatment of the application of these arguments to cable television, see R. Noll, M. Peck and J. McGowan, Economic Aspects of Television Regulation, Brookings, 1973, Chapters 4 and 7.

because cable interests have fewer resources to commit to the regulatory process, they presumably will be less effective in dealing with the regulators, assuming, of course, that the quality of representation is important in determining outcomes.

A third problem inherent in regulation is the inflexibility that arises from the decision theory that underpins it. The basic model of the regulatory decision-maker is an expert philosopher-king. Two important assumptions lie behind this model: (1) that an unambiguous "best" decison exists "in the public interest" and (2) that it can be identified by an expert through collecting, analyzing and evaluating information about the problem. Social science theory is firm in rejecting the first assumption, whether the test be the maximization of real economic output or majority approval in a political process. In both cases, indeterminancies are the rule, rather than the exception.[1]

[1] The weakest conditions under which GNP maximization leads to an unambiguously preferred position are that all people have identical tastes and place equal value on an increment to their incomes. See J. Chipman and J. Moore, "The New Welfare Economics: 1939-1974," mimeo, Department of Economics, University of Minnesota, 1974. Recent empirical work has confirmed the presence of cyclic social preferences in actual decision-making situations. See C. Plott and M. Levine, "On Using the Agenda to Influence Group Decisions: Theory, Experiments and an Application," American Economic Review (forthcoming) and Social Science Working Paper #66, California Institute of Technology, 1975.

The second assumption is invalid in cases in which the information base is insufficient to enable the problem to be solved, regardless of the objective. Cases in which a regulatory issue is subject to considerable, irreducible uncertainty are common, yet these are treated no differently from cases in which information is relatively complete and of high quality.[1] In both types of circum-

[1] For example, see P. Joskow, "Approving Nuclear Power Plants: Scientific Decisionmaking or Administrative Charade?" Bell Journal of Economics and Management Science V (Spring 1974).

stances, the agency is expected to use its expertise in identifying a "best" solution.

The aura of expertise is important for an agency to maintain, for it is one of the main weapons (the other is the development of a constituency) an agency uses in the process by which it obtains approval for its budget and legislative program.[1] Consequently, for both

—/ See A. Wildavsky, The Politics of the Budgetary Process, Little, Brown and Co., 1964.

theoretical and practical reasons, an agency has powerful reasons to convey the image that it has solved problems. Yet, as more information becomes available, the "best" solution to a policy problem will change, if for no other reason that less uncertainty will be attached to the problem and hence there will be less reason to act conservatively and to maintain numerous options for future action. But to change the policy explicitly through time is to create doubt about one's expertise. Consequently, the agency has an incentive to keep old policies in place even after the information base is sufficient for experts to know that the original policy was an inferior choice.

Examples of this tenacious clinging to outdated policies abound in regulation. Recent examples include:

- the ambient oxidant air quality standard of the Environmental Protection Agency, which was set in 1971 at .08 parts per million on the basis of an arithmetic mistake in calculating the threshold at which damaging health effects could be observed; EPA has known about the mistake since no later than early 1973, by early 1976 had not yet changed the standard to an appropriate figure based on correct calculations (the standard should be between .15 and .20, and the difference would cause about a 75 percent reduction in the costs of meeting the standard)—/

—/ P. Downing, "Implementing the Clean Air Act in Los Angeles," mimeo, Department of Economics, Virginia Polytechnic Institute, 1975.

- the commitment by the FCC to the development of UHF television as the principle means of increasing competition in the broadcast industry was based upon engineering testimony in the early 1950s that technical parity between UHF and VHF was only a few years away; however after 25 years UHF is a financial disaster area, while its signal quality is still poor for homes more than a few miles from the transmitter, yet the FCC is still committed to UHF rather than to cable television, satellite to home broadcasting or spectrum reallocation.—/

—/ See Noll, Peck and McGowan, op. cit.

A final difficulty with regulation is that Congress has a strong incentive to do too much of it. A recent study of the cause of a dramatic increase since the mid-1960s in the frequency with which incumbent Congressmen of both parties are successful in being reelected identifies government regulation as playing a major role.—/ The principal finding is that Congressmen are

—/ Morris Fiorina, "The Case of the Vanishing Marginals: The Bureaucracy Did it," Social Science Working Paper #100, California Institute of Technology, 1975.

reelected on the basis of their role as ombudsman for constituents that are deep in a morass of Federal red tape, of which a regulatory proceeding is one example. Successful Congressmen campaign on the theme that they are "Your man in Washington who can help you" and allocate most of their staff to locations in the home district where they devote most of their time to dealing with citizen complaints. The Congressman's stand on issues and his general ideological persuasion are of decreasing importance to his reelectability.

The theoretical basis for this development is the idea of "rational ignorance" in economic theories of voting behavior.—/ A voter has essentially no effect on election outcomes, and so has no incentive to put forth effort in learning about the issue positions of candidates. Furthermore, even if he does obtain information about each candidate, he can also observe that few Congressmen have real, identifiable power in Congress and that rarely does a single Representative's vote carry an issue. All other things being equal, a voter may vote for the candidate nearer his own persuasion on issues but for the foregoing reasons his commitment to that behavior is slight. On the other hand, as more and more economic activity becomes regulated, the chances increase that any given citizen will find it useful to have a Congressman intervene on his behalf in some administrative proceeding. In this role the Congressman is not one or 436 Representative and 100 Senators, but a single individual with undiluted influence. At some point in the growth of government regulation, a reputation for helping citizens in shepherding their way through administrative processes will dominate issue positions

—/ A. Downs, An Economic Theory of Democracy, Harper and Row, 1957.

as the determining factor in voter behavior. Even a legislator who continually favors more regulation of the kind that generates citizen complaints will not pay much of a price for taking this position if he does a good job servicing the complaints, since his vote establishing the new domain of regulation usually will be unknown to some and, in any event, uncritical to the passage of the legislation, whereas his performance as ombudsman is easily observable and undiluted. From the point of view of the legislator, the process generates an incentive to secure one's reelectability even more by passing laws that will increase the demand for an ombudsman in Washington.

From the preceeding recitation of some natural inefficiencies of regulation, the findings that regulated industries do not approach the competitive norm should hardly be surprising. Nor does it prove that regulation is never justified. The principal point is that regulation is a rather blunt instrument of economic policy that should be adopted only if the alternatives are quite undesirable.

ALTERNATIVES TO REGULATION

Unfortunately, neither scholars nor politicians have been particularly creative in generating alternatives to the often unsatisfactory choice between regulation or unfettered markets. Yet alternatives do exist, some well-known and some not. Since the most promising ideas vary according to the type of regulatory problem, several classes of regulatory activities will be considered separately.

Natural Monopoly

The task of regulating industries in which economies of

scale and/or integration are present raises an additional inherent problem. The economic calculus provides us with no workable method of setting prices in industries with average costs that decline as output increases. If price is set equal to the additional costs incurred in producing the last unit of output, the industry will not generate enough revenues to cover costs. Any practical method for recovering total costs -- through prices based on average costs or through a tax-subsidy system -- creates inefficiency. Furthermore, unless one is willing to adopt a separate price structure for each individual, in general one can not even make unambiguous judgments about which of numerous price structures is superior, including the much-maligned cross-subsidization practice of public utilities commissions.—/

—/ D. McNicol, "A Critique of the Debate on Deregulation," mimeo, Department of Economics, University of Pennsylvania, 1975. For the traditional wisdom on cross-subsidization, see R. Posner, "Taxation by Regulation," Bell Journal of Economics and Management Science II #1 (Spring 1971).

Public utility regulation adds another problem to natural monopoly pricing. About the only way to regulate prices is on the basis of costs, and any attempt to peg profits to costs generates an incentive to increase costs whenever revenues can be increased by raising prices.—/

—/ See D. McNicol and A. Phillips, "Theoretical Models of Rate Regulation: A Survey and Critique," Fels Center of Government Discussion Paper No. 77, University of Pennsylvania, 1975.

Since deregulation of public utility monopolies seems quite attractive, the dilemma of regulation or nothing is particularly tragic in dealing with natural monopoly. Alternatives should be welcome.

The literature provides some ideas. One proposal is to have firms bid competitively for monopoly franchises of fixed duration.—/ While as stated this is unattractive because it "solves"

—/ H. Demsetz, "Why Regulate Utilities," Journal of Law and Economics, Arpil 1968.

the monopoly problem simply by transferring the monopoly rents to the government (the monopoly prices remain), in slightly altered form it holds some promise. Government could specify a standard of performance and offer the franchise to the firm promising to meet the standard at the lowest price. Or government could ask each firm to submit a bid that combined price and service specifications, and select that which in combination appeared most a attractive. In practice, this has been the mechanism adopted by most local governments in granting franchises for cable television systems. It has two problems. First, a firm that errs on the low side in estimating costs will probably win the franchise and proceed to fail financially, during which time service will probably be degraded as the firm fights for survival. Second, in cases in which capital assets have very long lives -- railroads, electric utilities, gas companies -- either the duration of the franchise has to be quite long or some provision must be made for reimbursing the original owner for the value of the capital remaining after his tenure as franchisee has expired. While neither of these problems is particularly grave for cable television -- service degradation is annoying

but hardly threatening to the foundations of society, and systems last about ten years -- they may be fatal for some other utilities. But it could work in some cases. Feeder airline routes are an example.

Another alternative is public ownership of utilities. Public ownership has several attractive features. It would not, presumably, be motivated solely by profits, and hence might not attempt to capture monopoly revenues. It avoids the costly and time-consuming regulatory process, which paid off to municipal utilities during the energy crisis. Municipals were able to adjust prices to changing fuel costs and the generally rising costs of new generation facilities more rapidly than were regulated private companies.

The main liability of public ownership is that municipals have less of an incentive to produce at lowest cost. Because they lack pure profit motives, they have some incentive to incur unnecessary costs that improve the welfare of employees, that secure political advantage for incumbent politicians, and that pursue interesting but probably uneconomic technical ideas of intellectual interest to management.

One little noted research paper suggests a policy that might capture the benefits of municipal ownership, of profit orientation, and of competition. Of course, it entails a small sacrifice -- the eschewing of the scale economies of natural monopoly! The findings of the research paper are that in forty-odd cities across the country electric utilities actually compete for customers, and that when they do, both prices and costs are lower.—/ These situations are all duopolies, and all involve one

—/ W. Primeaux, "A Reexamination of the Monopoly Market Structure for Electric Utilities," In A. Phillips (ed.), Promoting Competition in Regulated Markets, Brookings, 1975.

private and one public firm. In each case parallel electric lines are strung in the areas of competition, and households can buy service from either firm. Apparently natural monopoly does exist, for the average costs of these firms decline with increased output; however, monopoly firms tend to operate less efficiently. In cities over about 25,000 population the monopolists' average costs are enough higher that two firms without full exploitation of scale economies are more efficient than one with all scale economies captured.

Safety Regulation

This particular class of regulatory activities covers controls over the hazards of products or employments that are visited directly upon the participants in the market -- e.g. on consumers of the product or employees engaged in its production. It excludes policies to reduce the effects on third parties, such as regulation of pollution or radiation.

The principal alternative to safety regulation is not the absence of any intervention; persons damaged by products or employments have resort to civil litigation to recover damages owing to producer negligence. In the age of doctor strikes over medical malpractice insurance rates, the problems of using legal remedies need hardly be belabored. Basically, civil remedies have two major problems: they are expensive (lawyers claim as much as half of the take, and the judicial system is expensive to operate), and the damage awards have little relation to actual damages, especially if the defendant is insured and the case is tried before a jury. As with natural monopoly, the alternative to regulation is not very attractive.

In order to generate superior alternatives for safety regulation, the source of the political demand for this type of intervention must be explored in greater detail. One source is surely the inefficiency of the judicial system as a mechanism for protection. Another is the cost an individual faces in acquiring sufficient information to make good choices among products. Product information comes in two ways: casual experience through purchases and observations of the consequences of purchases by others, and study of the information on product quality produced by journalists, consumer organizations, and government. If a product is inexpensive, purchased frequently and much studied by others, quality information is relatively easy to obtain; however if a product is purchased infrequently, is expensive, requires considerable technical sophistication to understand, and is not widely discussed in the media, information about its quality is expensive. In this case, an individual has an incentive to delegate the assessment of product quality to an expert. It is duplicative for every person to absorb all the relevant information on every product, and hence learning costs can be saved if some people trust the judgment of others. Even if people differ sufficiently in tastes that they would make different selections with identical information, delegation can still be optimal if the inefficiencies of delegation are small compared to the costs of acquiring the ability to make an informed selection.

The preceeding discussion suggests two important points. First, if information becomes cheaper, fewer decision will be delegated and more information will be acquired and processed. The greater the diversity of tastes on a safety issue, the greater

ought to be the reliance placed on information rather than regulation. For example, many issues of food purity are more matters of aesthetics than of health. This suggests that mandatory labeling of, say, percent insect parts and rodent hairs is preferable to a universal standard.

Even when the issue is health, individuals can differ in their attitudes towards risk, particularly when the costs of risk-avoidance are high. For example, lawn mowers are known to be an important source of fairly serious injuries. Studies of the source of injuries and the costs of avoiding them indicate that a substantial proportion of injuries could be avoided by adding a few design features to lawn mowers that would increase their costs about $40.—/

—/ "Economic Impact of Proposed Lawn Mower Safety Standards," mimeo, Consumers Union, 1975.

The data are sufficient to print on each lawn mower the probabilities of serious injury for machines with and without the safety features, leaving the decision about which to buy up to the consumer.

When resort is made to setting standards, it should be kept in mind that the object is to diverge as little as possible from "representative" informed behavior. An expert body for assembling and judging information about alternative standards surely has an indispensable role, since the very cases for which the demand for standards is greatest are those involving the most sophisticated, complicated products. Yet experts, by their decision to take up careers in the prosecution of safety policies, are probably atypically concerned about safety issues.

The obvious alternative is to dispense with the decision-making power of the expert, and with the procedural requirements

as well. Safety rules would still be propounded by expert bodies, but without regard to administrative procedures. And safety rules could be appealed not to the courts but to Congress. Congress would then adopt the proposed new standards, establish new ones, or just fail to act. In the last case, the expert body could, of course, promulgate a new set of standards. In the event the expert body established standards to which no appeal is made in some reasonable period of time (a few months), the standards would become binding legislation.

Many variations on the preceeding theme are possible, but the basic idea is to separate the process for evaluating information from the ultimate policy responsibility and to free the former from the inherent weaknesses of the administrative process without sacrificing anyone's rights. The resulting process is rather like zoning by local government, in which planning commissions do most of the work but city or county councils make the tough decisions. By placing the rule-making responsibility in Congress, the present philosophy of procedural review of regulatory decisions would be replaced by a substantive, political review. It would also prevent Congressmen from being unaccountable for the costs of regulation while reaping political rewards through their role as ombudsmen. Congress, not some executive or independent bureaucrat, would become the source of the red tape that generates citizen complaints.

This mechanism is likely to be significantly more flexible than is the administrative process. Generally speaking, Congress seems more inclined to repeal or amend legislation than agencies are inclined to change standards. In the area of safety regulation, Congress has occasionally left to itself the job of setting regulatory standards, notably in dealing with automobile safety. The enactment and then, in the face of widespread criticism from both

industry and consumerists, repeal of the automobile ignition-seat belt interlock to prevent driving without use of belts illustrates the point, standing in stark contrast to EPA's tenacious devotion to its oxidant standard.

All of the above arguments suggest that making Congress the standard-setter reduces many of the costs inherent in the regulatory process. Of course this approach will not lead to the bliss of the perfectly competitive equilibrium, and hence will generate economic studies detailing its costs. Nevertheless, these costs are likely to be less than those incurred through the administrative process.

Environmental Regulation

The class of regulatory policies falling under this rubric includes controls on third-party effects of economic activity. While air and water pollution and noise abatement policies are obvious examples, also included are nuclear safety regulation and land-use planning.

Environmental problems provide the strongest argument for government intervention in private market decisions, yet they pose probably the most difficult policy problems. They arise because some economic activities impose uncompensated costs on parties that are not engaged in the production or use of the product of the economic activity. Such circumstances arise because the political and legal system has not defined enforceable property rights that can be transacted in markets. In most instances, the absence of tradable rights is tracable to high costs of defining and enforcing them. For example, the rights of each person to his "fair share" of air, which can be maintained in a

pure state or traded to a rendering plant, cannot be defined in a way that conveys to each person an independent, tradable property. In the absence of a market for air, firms have an incentive to use it intensively as an input to production processes -- it is a free yet productive resource. Consequently, firms that follow cost-minimizing strategies will pollute long past the point at which the benefit of pollution to the firm begins to fall short of the cost of pollution to its receptors.

The problems of regulating environmental degradation are especially difficult. For the same set of reasons that environmental property rights are difficult to establish and trade, regulatory standards are very difficult to enforce. And because of the absence of direct markets for environmental resources, identification of the optimum degree of environmental degradation is, practically speaking, impossible, even if scientific knowledge were complete enough -- which it is not -- to provide an understanding of the relationship between emissions and damages.

The economics literature has focused on taxation as an alternative to standard-setting.[1] One advantage of emissions

[1] Generally, see W. Baumol and W. Oates, "The Use of Standards and Prices for Protection of the Environment," Swedish Journal of Economics V. LXXIII (March 1971). For a specific application, see O. Hausgaard, "Proposed Tax on Sulphus Content of Fossil Fuels," Public Utilities Fortnightly, September 16, 1971, and Senate Bill S3057, 92nd Congress, 2nd Session, 1972.

taxes compared to standards is that they require less detailed knowledge about the optimal abatement strategies for each class of polluter and less uniformity of treatment among polluters. Also

important -- and inseparable -- is the issue of who would set either tax rates or standards. For the reasons advanced in the discussion of safety standards, a case can be made for leaving to Congress the ultimate responsibility for setting either, for making the role of the expert more advisory, and for relaxing the requirements of the traditional administrative procedures that are imposed upon the expert body.

In addition, because environmental problems arise from a failure to define tradable property rights, more attention should be given to creating surrogate markets that would have the same effect on pollution as would a market for environmental resources. One such possibility is the creation of tradable pollution licenses, distributed to all citizens, which sum to the overall emissions standards promulgated by legislation.[1] Polluters would then

[1] For a detailed exposition, see W. Montgomery, "Markets in Licenses and Efficient Pollution Control Programs," Journal of Economic Theory V, no. 3 (December, 1972).

bid for these licenses to pollute, and abatement would be achieved at least cost without the government needing to investigate the technical and economic aspects of alternative abatement strategies. The advantages of this system compared to taxes are twofold. First, the government can directly determine the acceptable level of pollution without bothering to take on the impossible task of calculating the tax rate that would achieve it.[1] Second, the

[1] See J. Griffin, "An Econometric Evaluation of Sulfur Taxes," Journal of Political Economy LXXII, no. 4 (July-August 1974).

license system avoids conveying the mistaken impression that it is possible to set a tax that represents the cost to society of an additional unit of pollution. By reducing the information requirements for setting standards and the misplaced aura of scientific precision that surrounds them, the policy-making process is likely to be less costly and more flexible.

Conclusions

The purpose of this paper has been to contribute some perspective to economic analyses of the regulatory process by emphasizing that economically optimal institutional arrangements for coping with problems of market failure are not likely to be found and by pointing out that policy-makers and researchers have not treated seriously enough some of the alternative approaches to dealing with these problems.

In adopting regulatory policies, the policy-makers seem to have lost sight of the source of the objections to market outcomes that might justify intervention. The policy issues examined here -- decreasing cost industries, safety, and environmental protection -- do not arise because decentralized decisions are inherently faulty, but because some important feature of a well-functioning decentralized process is missing, eg., numerous participants in the market, cheap and reliable information, or tradable property rights. Regulation creates a centralized authority with the job of attempting to guess how decisions might be altered if these problems did not exist. It does not try to patch these holes in the market so that decentralized decisions can still be the primary determinant of economic outcomes.

The arguments in this paper constitute pleas for greater emphasis on the latter approach and, when that is not feasible, for less formality, greater dependence on the political system, and greater honesty about the precision with which "optimal" performance criteria can be established and enforced than is typical of regulatory processes.