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Market-Based Environmentalism and the Free Market Substitutes or Complements?

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PETER J. HILL

Roy Cordato has presented an insightful critique of market-based environmentalism. His analysis provides several reasons why one should be suspicious of recent attempts to shape environmental policy through the use of “market-based” rules. Four of Cordato’s criticisms are especially telling.

First, environmental problems exemplify not market failure but institutional failure. The lack of well-defined and -enforced private property rights causes the voluntary interaction of individuals to produce undesirable outcomes.

Second, people err by characterizing environmental problems as the overuse of certain resources, independent of whether such use harms people’s ability to formulate and execute plans. Thus, many efforts to reform public policy amount to attempts to keep certain resources from being used, whether or not such use represents an infringement of anyone’s rights. Humans cannot inhabit this planet without using resources. The relevant question is: What sorts of rules facilitate human cooperation and the

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satisfaction of human desires? Of course, such desires may include the preservation of certain species or resources, but a well-functioning market allows individuals to satisfy these desires only if they make acceptable payments when they use other people's property for such preservation. Unfortunately, when government coercion is involved, people can use the political process to achieve ends for which they are unwilling to pay.

Third, it is difficult to implement appropriate market-based environmentalism because the political process does a poor job of measuring subjective costs and benefits. Instead, people with their own agendas can pervert the process to achieve ends that impose substantial costs on others. Statists, bureaucrats, or radical environmentalists can use many of the market-based environmental proposals to accomplish purely political ends. Economists often act as if choosing the optimal tax level or deciding how many tradable pollution permits should be created is a straightforward matter easily accomplished through the political process. They give little consideration to the influence of the special-interest groups who capture the process to achieve their own purposes (Mitchell and Simmons 1994).

Fourth, Cordato correctly identifies the hubris of much environmental policy. Such policy presumes that the solutions are known and need only be implemented, thus ignoring the importance of the discovery process. Having frozen environmental policy into a particular configuration, people have little capacity for adaptation as they learn of and encounter changes in preferences and resource availabilities. Although market-based environmentalism (MBE) can be more adaptive than command-and-control techniques, it remains less flexible than a true market order.

Cordato's insights are valuable, but he does not go far enough. He identifies the solution to environmental problems as well-defined and -enforced private property rights, but he does not provide a theory or evidence of how such property rights come into being. Without a framework for such analysis, we can only make categorical statements that are not very constructive. But we need to assess whether particular policy innovations are helpful or harmful in moving us toward a more effective structure of property rights. Cordato closes his paper by saying,

The primary choice is not between command-and-control and market-based policies. Instead, it is between free-market policies, based on clearly defining and protecting property rights, and socialist—or, perhaps more precisely, mercantilist—policies, based on furthering the societal and personal goals of politicians and special-interest groups. The latter includes both command-and-control policies and those labeled “market-based.”

But exactly what are these free-market policies based on clearly defining and protecting property rights? Do such policies involve any role for government? If so, what is it? Cordato criticizes economists who use the nirvana model of perfect competition to analyze “market failure” and make policy prescriptions. However, Cordato himself may have slipped into nirvana thinking by urging a regime of pure private property rights but giving no attention to the transaction costs inherent in the definition and enforcement of those rights. While recognizing the importance of Cordato’s insights into some of the problems of market-based environmental policy, one who takes a transaction-cost approach may view MBE somewhat more favorably.

Transaction Costs and the Role of Government

Market solutions are superior to coercive ones because voluntary exchange offers the assurance that social interactions are mutually advantageous. However, transaction costs prevent some potentially profitable voluntary exchanges from taking place. Through the use of appropriate rules, government can provide feasible alternatives. In the standard examples of roads and national defense, the transaction costs of individual exchange are high and the free-rider problem substantial. Thus, there is at least some potential for using tax-financed provision of these public goods as a corrective mechanism. Of course, government provision of public goods is fraught with numerous problems, and one ought not be overly optimistic that government will get it right. However, we should not automatically rule out all government intervention.¹

An even more telling example of not relying completely on voluntary contracts under well-defined and -enforced private property rights pertains to common-law proceedings. Although parts of the common law (contract and property law) are designed to facilitate voluntary transactions, another part (tort law) amounts to using the coercive power of government to enforce solutions that simulate, but do not completely capture, the essence of exchange solutions.

When I drive my car on the road, we could be more assured of “correct” solutions to all interaction problems if I had contracted with everyone I might potentially harm in an accident. Such contracts would specify the different types of accidents, the various degrees of harm, and the appropriate compensation of those harmed. Obviously, were such contracts required

1. Some have suggested that public-good problems are not significant enough to warrant government action (Friedman 1973), but a more mainstream position allows at least some positive potential for government involvement in environmental problems. For instance, Anderson and Leal (1991) offer a program of free-market environmentalism that relies on appropriate, limited government actions.

before entering the public roadways, the transaction costs of identifying and contracting with all who might be affected by one's driving would be so high as to preclude most people from using automobiles. Therefore, we have adopted an alternative solution: tort law holds me responsible if I dent the fender of your car.²

Under common-law rules the problem of subjective cost is ignored and a coerced solution mandated. I will have to compensate you for the damage I cause to your car, but the amount of compensation will be determined by a third party who cannot know your subjective costs. Nevertheless, such a "market-based" solution has many advantages. It lowers the transaction costs of certain types of human interaction, allows us to be involved in useful activities and, despite its shortcomings, forces people who harm others to pay damages, even if the payments do not precisely correspond to the true costs of the harm.

One may offer a similar defense of market-based environmentalism. A more benign reading than Cordato's of the efforts to introduce market-based solutions is that the transaction costs of defining and enforcing rights in some cases are very high and that the coercive power of government can be used productively to give us solutions that are better than not taking any action at all.

Whence Private Property Rights?

It is not very helpful simply to suggest that the answer lies in well-defined and -enforced private property rights without indicating how we get those rights. In the remainder of this paper I shall present and discuss some preliminary observations about how property rights come into being. I shall also suggest how one might assess the involvement of government in that process.

Four hypotheses about the development of private property rights are as follows.

1. Property-rights definition and enforcement are themselves economic activities that respond to perceived benefits and costs (Anderson and Hill 1975). The incidence of benefits and costs is crucial to the process: those who can reap the gains from such activity are more likely to undertake it. In other words, the potential for appropriation of the profits is as important here as elsewhere.
2. The transaction costs of defining and enforcing rights depend on culture, norms, and group size. Small, culturally homogeneous groups

2. Also at issue is the more complicated question of whether the rule of negligence or strict liability should apply. For a discussion, see Epstein (1995, chap. 5).

have the best chance of success in developing effective rights structures. However, when the resource in question is mobile, the local community may be unable to provide effective governance.

3. Government can facilitate the definition and enforcement of rights. Coercion is a powerful means for reducing free-rider problems; thus, it can improve the institutional framework within which private decision makers act.

4. Government can also interfere with the development of effective property rights. For reasons well stated by Cordato, no one should look upon government action as a panacea for all property-right problems.

Events in the American West illustrate well the influence of benefits and costs on property-rights development. When settlers first came to the West, they devoted few resources to defining and enforcing rights because, given the scarcity of people and the abundance of natural resources, claimants rarely came into conflict. They published announcements in newspapers, directly informed potential neighbors, or used simple devices of demarcation to define their rights to land. However, as more settlers came and property became more valuable, people devoted more resources to the definition and enforcement of rights.

Costs of defining and enforcing rights also changed. The development of barbed wire in the 1870s—an entrepreneurial response to the high costs of wooden or stone fences in the Great Plains—dramatically lowered the cost of defining and enforcing rights to land in that region.

Ability to appropriate profits crucially affected the development of workable rules. In 1862, the first Homestead Act mandated a laborious system of establishing property rights to unclaimed federal land. Under this and later statutes, activities required to establish ownership included living on the land for a specified number of years, plowing acreage unsuited for farming, planting trees, and carrying out irrigation. However, settlers developed alternatives. To govern property rights, land claim clubs established local rules quite different from those mandated by federal legislation (Anderson and Hill 1983). Because those designing the rules for the clubs stood to gain by reducing the dissipation of resources in the process of defining rights, they chose much more sensibly. They did not require inefficient farming practices, and they dramatically reduced residency requirements. As this example shows, local institutions for defining and enforcing rights are more likely to generate productive rules.

Another example pertains to salmon fishing in the Pacific Northwest. Contrary to popular perception, salmon have not always been overexploited. Local Indian tribes evolved excellent rules to govern access to migrating salmon and their spawning grounds (Anderson and Leal 1996). Only with

the imposition of modern institutions by the white settlers did these property rights break down (Higgs 1982).

In contrast, the tribe was not an effective decision-making unit for governing the overall rate of use of buffalo, and overexploitation occurred. It is often assumed that white hunters caused the near destruction of buffalo on the Great Plains, but there is evidence that American Indians, once they had the horse and the rifle, overexploited the resource because of the difficulty of securing adequate agreement among different tribes as to the appropriate rate of use (Anderson 1995). Numerous other case studies make the same point: local groups can often devise effective rules for governing the use of resources, but sometimes these communities do fall victim to the tragedy of the commons.

The cultural homogeneity of groups, the existence of moral constraints, and the willingness of individuals to identify with the group affect significantly the development of property rights (Anderson and Simmons 1993). High transaction costs impede social interactions among people who do not share a common cultural or religious heritage or who do not develop trust by interacting repeatedly. In traditional societies of small local communities, established multidimensional relationships increase the likelihood that effective private property rights will evolve to govern the use of most resources and also that institutions will develop for controlling the use of the commons (Leal forthcoming). However, when shocks, such as the arrival of a different cultural group, hit the society, its ability to maintain effective rules suffers.

Because of the difficulties of securing voluntary agreement, government can often reduce transaction costs. There are economies of scale in the production of information, and the use of coercion can overcome certain barriers to the definition and enforcement of rights. One of the most effective ways government can intervene is by measuring and monitoring property rights. For example, although settlers in the West relied a great deal on localized institutions for governing the use of resources, statewide brand registration laws were passed quickly. Because cattle could be moved from community to community, requiring centralized registration of brands as legal proof of ownership reduced the transaction costs of monitoring theft. Likewise, requiring the recording of deeds in the county courthouse lowers the cost of contract enforcement and facilitates using real property as collateral for loans.

But government action is a two-edged sword, with both benefits and costs. The use of coercive power can lower transaction costs, but it can also substantially increase them and obstruct the development of private property rights. For instance, instream flows of water have become more valuable in many western states. Because of an increased demand for recreation,

fishing, and other amenities, leaving water in the streams generates far more benefits than it did previously. However, in most western states, private parties cannot own water left in the stream; they must divert their water or lose their rights to it. Therefore, transferring property rights in recognition of shifting demands has been difficult.

Government action has also raised transaction costs in environmental law. The replacement of common law by statute law after the establishment of the Environmental Protection Agency has slowed the evolution of common law (Meiners 1995). Application of the doctrine of nuisance has substantial potential for solving environmental problems, but statute law has preempted much of the common law of nuisance. Again, government has stood in the way of the development of appropriate private property rights.

What Should Government Do?

The transaction-cost approach to environmental problems points to a somewhat different solution than that suggested by Cordato. He sees the choice as between markets and socialism (or mercantilism). Granted, the lack of well-defined and -enforced private property rights lies at the root of environmental problems. But because transaction costs prevent the complete specification of property rights, it is helpful to have an evaluative framework by which to judge government involvement in environmental matters. Government can do three basic things under the rubric of market-based environmentalism to facilitate the definition and enforcement of rights.

Get Out of the Way

In many instances government simply needs to get out of the way of private efforts to define rights. When it makes sense to define and enforce rights, individuals will search for a way to do so. However, when government insists on maintaining control of the relevant resources, it will thwart such efforts. A prime example is big-game hunting on public lands. As hunting pressure has increased, the common-pool problem of hunters taking less-than-trophy-size animals has also increased. Hunters seeking trophies and those seeking meat increasingly come into conflict. Under state ownership of both the game and the land, no residual claimant (profit appropriator) can prosper by superior game management, preventing hunters from engaging in premature harvest.³ A few large ranches with resident game herds provide

3. A similar problem exists in fisheries. Where government insists on maintaining the rights of all comers to fish, many useful property-rights solutions to problems with fishery commons are prevented from evolving (Libecap 1989, chap. 5).

strong evidence that such management is profitable. Numerous creative property-rights solutions have also evolved on other private lands, such as the pooling of lands for hunting purposes and the selling of rights to hunt for trophy game. Likewise, private game management in Africa has prospered where private ownership of land and game prevails.

In other cases, higher levels of government should allow local communities the freedom to create and enforce rights. The likelihood that effective agreement can be reached is much greater in smaller, more homogeneous communities. Ellickson (1991) has found that viable communities of people engaged in numerous repeated interactions produce useful rights structures outside the legal system. Other case studies reveal effective local governance of fisheries where higher levels of government don't interfere (Anderson and Simmons 1993).

Government should not restrict trades of property rights. Grazing permits on federal lands and water rights are among the property rights not freely transferable because of legal impediments.

Legal doctrine or federal statutes can also stand in the way of the evolution of effective property rights. For instance, the public trust doctrine implies that government, acting as the agent of society, should have rights to many natural resources. Unfortunately, this doctrine has often been invoked to prevent the effective development of private rights.

Measure and Monitor Property Rights

Another potentially effective government action is to provide—and in some cases to mandate—basic registration functions. Cattle ranchers in the West turned to the states to register their brands. Similarly, government can use its coercive power to require the registration of potential pollutants. In Canyonlands National Park in Utah, effective monitoring and tracing of the pollutants from a particular source have been carried out by the addition of tracer chemicals to a smokestack (Crawford 1990). It would also be feasible to require all users of an herbicide to “brand” the product by adding a small amount of an inert chemical or radioactive isotope. If the brands were placed in a central registry, then, if the herbicide appeared in groundwater, the responsible party could be identified. It might be unnecessary for government to do anything more, particularly if the common law of nuisance were embraced.

Patience is in order. The definition and enforcement of property rights are evolutionary activities. Government can set the stage by removing artificial barriers and, in some cases, providing registration or monitoring facilities. However, if a solution does not ensue immediately, further government action is not necessarily indicated. Conflicts over the use of resources may not be sufficiently serious, or parties may need to develop new

technology. Devising workable arrangements takes time. A good general guideline is to permit numerous attempts to solve the problem. Localized solutions hold more promise than a centralized effort aimed at a single national remedy.

Taxes, Subsidies, and Pollution Permits

The most difficult issues of government involvement arise where problems extend across the boundaries of local communities. In such cases, removing government obstacles to the development of property rights, requiring the registration of potential pollutants, or relying on local, community-based solutions may be insufficient. Major problems of global climatic change and of pollution that crosses political boundaries are much more difficult to solve.⁴ Taxes, subsidies, tradable pollution permits, and treaties among political units may be appropriate to approximate markets and property rights. However, at this level, Cordato's criticisms of market-based environmentalism are the most telling. Attempts to use government to simulate the solutions of the marketplace will be plagued by both information and incentive problems. Thus, government ought to move with extreme caution in implementing solutions of this type.

In Sum

In assessing environmental problems and policies, I do not draw the line between government and the marketplace as sharply as Cordato does. Effective environmental policy making must center on an understanding of the process by which private property rights develop. Government can play both positive and negative roles in that process. We need an adequate theory of the creation and change of property rights to assess the government's involvement. Market-based environmentalism can be a smoke screen for statist and radical environmentalists who simply want to force their preferences on an unsuspecting public. However, it can also represent an intelligent effort by people who understand and believe in markets to facilitate the development of private property rights so that markets can operate.

4. Of course, one must be reasonably certain that such problems exist at a level worth attempting to ameliorate before plunging headlong into massive state solutions. Many of the supposedly substantial transboundary problems that have received a great deal of media attention have been found not to be serious at present (Bast, Hill, and Rue 1994).

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