"Environmental Policy at the Crossroads"
from the book:
Environmental Politics: Public Costs, Private Rewards

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> The cynics are probably the least frustrated, for they never expected public problems to be solved in ways that satisfy the common good. Those who have other expectations expose themselves to greater hazards than that threatened by even the most hazardous product.[1]

It has always been with us, and it always will be. Dealing with it requires good judgment and a sense of balance; it involves degrees of uncertainty and, invariably, an element of danger. Dealing with it politically is quite another matter.

It is risk. This collection of essays has illustrated the ways in which, and the extent to which, the Environmental Protection Agency's risk management policies have gone astray. Some of EPA's failures—clean fuels regulations that benefit ethanol producers; a Superfund program that has created a vast pork barrel-conform to the traditional political pattern of favoring special interests under the guise of serving the public interest. Other failures fall in the category of misguided risk selection: The Clean Water Act requires enormous investments to abate so-called pollution that has no discernible effect on water quality, while Superfund mandates extravagantly expensive "permanent" treatment options, with the result that hundreds of sites remain entirely untreated.

The challenge to improve on this performance is evident and urgent. According to the EPA, America now invests well in excess of $100 billion per year in environmental protection. We should seek to ensure that these vast resources are directed to abate genuine risks and that they are used as efficiently as possible.

However, inefficiency and misguided risk selection may not be the EPA's most serious failures. As disappointing as these outcomes are, they are not altogether surprising in light of our experience with grand social schemes in general. When it comes to inefficiency and misdirection of resources, there is no great difference in principle between the war on poverty and the war on environmental risk. Rather, the distinctive, and most fateful, consequence of environmental regulation has been a complete transformation of public expectations regarding risk. We expect insurers to mitigate the effects of unfortunate events, not to prevent their occurrence, and w expect doctors to cure diseases (most of them anyway), not to make us immortal. Not so with governmental risk managers: We have come to expect that the EPA—and, for that matter, the Food and Drug Administration (FDA) and other "social" regulatory agencies—will eliminate risk. This expectation is as much the *result* of modern environmental risk management as it is its source: As described by several contributors to this volume, statutes such as Superfund, the Clean air Act, and the Clean Water Act incorporate binding commitments to zero risk and an absolutely clean environment.

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[1] Harvey M. Sapolsky, ed., *Consuming Fears: The Politics of Product Risks* (New York: Basic Books, 1986), ix.

By promising the impossible, though, government sets itself up for failure. The result is an environmental version of Gresham's law: Utopian but horribly flawed regulatory schemes drive out more realistic, imperfect, but acceptable, policies. Having been promised, and having come to expect, a totally clean environment, the public is not readily persuaded that it must make do with less. The utopian pretensions of environmental programs, and the public misperceptions induced by those pretensions, pose a most serious obstacle to environmental policy reform.

One may be tempted to conclude that the combination of government-sponsored ignorance and entrenched interests may doom any prospect for more sober, realistic, and effective environmental risk management. However, growing disenchantment with current "command and control" policies may create a basis for reform. Moreover, one can at least hope that the dynamics of inflated public expectation will, in the long run, do more to undermine than to sustain the demand for comprehensive regulatory schemes. Government cannot possibly succeed in attaining the unattainable, and as the real and perceived failures multiply, we may eventually begin to address the question of what has gone wrong with the seriousness it deserves.

Broadly speaking, the reforms now under discussion fall into two categories. One of these comprises managerial reforms such as an emphasis on sound science, improved risk assessment procedures, and better interagency cooperation. As I will argue below, such reforms can remedy the more fundamental flaws of environmental regulation only to a limited extent and only if they change or at least counteract the political and institutional incentives that currently produce inefficient regulation and biased risk selection. The second category of reforms contains "incentive-based" or "market-based" regulatory tools, such as emission fees and tradable emission permits. Such devices represent a welcome departure from the exclusive reliance on command and control regulation, and some of them might result in more efficient, less wasteful environmental regulation, which is a worthy goal. However, as I shall argue, incentive-based environmental regulation is no panacea and may even exacerbate some of the defects of command and control regulation. The fundamental problem of market-based regulation is that risks would continue to be selected and regulated on political grounds, with all the attendant opportunities for special interest mischief, political abuse, and false promises.

For this reason, the case for *private* environmental risk management deserves consideration. Reconsideration would be the more accurate term: Until not so very long ago, risk management was considered predominantly a private responsibility. Most significant resources at risk were privately owned, and their owners protected them—in the extreme case, through use of the courts—against trespass, theft, and other risks. Individuals negotiated on risk matters, typically through contractual agreements. Private parties paid to shift risks to private insurance firms; private rating services provided information about the nature and level of risk in countless fields.

Today, however, private risk management devices are frequently dismissed as impractical or as objectionable for other reasons, at least in the environmental context, and such dismissals are usually accepted as soon as they are voiced. America seems to have fallen in love with political risk management. How did this romance start?

SOURCES OF POLITICAL RISK MANAGEMENT

The beliefs that government must manage and even eliminate environmental risk, and that only government can do so, can be traced to two sources .First, and most obviously, America had become obsessed with risk. Americans are among the healthiest, wealthiest people in history. And yet, we worry.

This is not a paradox: The taste for zero risk is one in which only the richest and most advanced societies can indulge. Indeed, our growing wealth and health are partially responsible for the growing discontent over the remaining residual risks we face: Having attained much, we want it all. We want no changes that entail risks. We are no longer content to take the bitter of uncertainty with the sweet of progress; instead, we insist on having the sweet only and rely on government to protect us in advance from the bitter.

However, as Aaron Wildavsky has shown, the effort to "have it all" is both paradoxical and futile.[2] It is paradoxical because societies become safer only by replacing the old with the new. Familiar products give way to newer ones that turn out to be safer (commercially canned foods instead of home canning) and less polluting (electric heating instead of wood stoves).This is itself a risky course; it involves reliance on such engines of change as science and technology, and it requires us to overcome our fears of the unknown. At the same time, we underestimate the extent to which scientific progress and increased economic wealth have made us safer and healthier; nostalgia has a way of concealing the unpleasant aspects of the past. When we think of travel by horse in the pre-automotive era, we tend to forget the huge disposal problems created by horse wastes and carcasses. When we think of man's effect on nature, we forget nature's often cataclysmic effects, and we underestimate the extent to which material progress has enabled us to temper those effects.[3]

The effort to have it all is futile because attempts to eliminate risk are both tremendously expensive and, quite often, self-defeating in unexpected ways. "Playing it safe, doing nothing, means reducing possible opportunities to benefit from chances taken, and can hurt people."[4] Prometheus, the god of technology, brought fire—a fearful and very risky new technology. However, these new risks—of burns and asphyxiation, for instance—produced far fewer casualties than had the earlier risks of exposure to the elements, vulnerability to wild animals, and starvation. Thus, the introduction of fire compares favorably to the contemporary approval process for pharmaceutical drugs, which requires manufacturers to spend years of expensive research and studies to prove that the new drug will be "safe and effective". The possibility that the new drug, though dangerous, might be less dangerous than the remedies now extant—which may be none at all-receives little consideration. The resulting "drug lag" has made the United States a far more dangerous place.[5]

Once society demands the elimination of risk, government gains a vast advantage over private risk management. Only government would even purport to pursue the utopian goal of eliminating risk; only government has the power and the resources to make such a claim remotely credible. Only the political process makes it possible to compensate losers—with no regard for their own co-responsibility—by raising revenues from less visible and less powerful sources. Only politicians promise "free" health care, "zero" pollution, and "zero" risk.

The desire for zero risk dovetails with a general distrust of markets and corporations. The underlying notion is that the profit motive encourages businesses to cut corners and sacrifice safety and the environment for profits. This notion either presupposes that neither consumers nor their "middlemen" (such as insurers, rating agencies, or purchasers somewhere along a product's distribution chain) can adequately assess the riskiness of a product or service; or else, it presupposes that most private actors are "one-time players" who are indifferent to the prospect of obtaining repeat business.[6] One cannot otherwise explain how the knowing endangerment of one's customers could be a profit-maximizing strategy.

Of course, private parties make mistakes. Pipes leak, containment dikes give way, and control or treatment technologies fail unexpectedly. Private systems are not immune from sabotage or error either.

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[2] Aaron Wildavsky, *Searching for Safety* (New Brunswick, N.J.; Transaction Books, 1988)

[3] Mary Douglas and Aaron Wildavsky, *Risk and Culture: An Essay on the Selection of Technical and Environmental Dangers* (Berkeley, Calif.: University of California Press, 1982) have noted that values determine what people choose to fear. Individuals focus on risks that validate and reinforce their values. Modern intellectuals, who distrust free enterprise, focus on the risks of economic and technological change and weigh natural risks much less heavily. For example, environmentalists give little attention to the massive quantities of chlorine, particulates, and acidic material spewed forth by volcanoes, while attaching great significance to the CFC residues from aerosol containers.

[4] Wildavsky, *Searching for Safety,* 2.

[5] See Sam Peltzman, *Regulation of Pharmaceutical Innovation: The 1062 Amendments* (Washington D.C.: American Enterprise Institute, 1972).

[6] The fact that "external" environmental costs are not always fully reflected in the price of a product or service, thus permitting the producer to ignore those social costs, is discussed below.

For those who are predisposed to distrust markets, oil spills and drug poisonings come to signify the inevitability and catastrophic consequences of environmental failures in free and unregulated markets. It appears, therefore, that individuals cannot be trusted to concern themselves adequately with the risks created by their activities.

However, *all* private transactions pose a risk of market failure in the (non-technical) sense that they may produce, individually or in the aggregate, social results that are widely considered undesirable. Private transactions may perpetuate social inequality; competition destroys once-flourishing businesses. Still, we have, on the whole, become rather skeptical of attempts to remedy such ills by replacing private arrangements with grandiose regulatory schemes. It is only when it comes to the protection of health, safety, and the environment that alleged market failures are considered irrefutable evidence of the need for drastic government intervention. Government regulation seems singularly compelling in the environmental area.

In part, this is the case because many private activities do produce environmental *externalities*—that is, costs that are not reflected in the price of a product or service. Factories and cars do pollute the air, and as long as the air they use is "free", there will be too much air pollution.

Appealing as the market failure argument may seem, though, it is too facile. The fact that markets are imperfect does not, in itself, demonstrate the superiority of political strategies; rather, it calls for a balanced comparison of the respective ability of private and political institutions to advance the public good.

More fundamentally, the market failure argument proves far too much. If the mere existence of externalities were a sufficient basis for government control, political intervention would be appropriate in virtually every economic decision: Practically every private transaction has *some* effect on outside parties or resources. In the end, externalities are limited solely by our ability to detect and measure them.

This threat of boundless externalities, every one of them requiring political intervention, is not imaginary. Until not so long ago, the EPA regulated only a handful of bulk pollutants emitted from a few major sources—for example, large factories belching smoke and urban sewerage flowing untreated into the sea; now, environmental statutes mandate the control of substances at concentration levels that could not even be detected a decade ago. The EPA is rapidly gaining central planning authority over the entire U.S. economy. Six years ago, Richard B. Stewart, a law professor and member of the Board of the Environmental Defense Fund who, under the Bush administration, became Assistant Attorney General for Environment and Natural Resources, observed that environmental regulations and statutes had "created an elaborate system of Soviet-style centralized planning for the production of a clean environment."[7] Stewart's observation predates the 1986 Superfund Amendments, the 1987 Amendments to the Clean Water Act, the 1990 Clean Air Act Amendments, and various other enactments that vastly expanded the existing centralized planning schemes. In contrast to the Soviets, who at least had the wisdom to declare victory with the failure of each five-year plan, we seem to use defeat as a springboard for intensified folly.

Unless we want to march mindlessly down the road mapped out by the market failure paradigm and pave the road to serfdom with green bricks, we must begin to take the task of environmental reform seriously. In the remainder of this conclusion, I will argue that managerial and regulatory reforms may play a useful role in this endeavor. In the end, however, meaningful reform depends on our ability to recognize that the failures of environmental regulation are rooted not in markets but in their *absence.*

BETTER MANAGEMENT OR INSTITUTIONAL REFORM?

The increasingly widespread recognition of the failures and follies of environmental policy has prompted increasingly urgent calls for reforms of the EPA's decision-making processes. Once confined to a narrow circle of economists, the chorus for reform has been joined by political scientists, policy analysts, and

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[7] Richard B. Stewart, "Economics, Environment, and the Limits of Legal Control", *Harvard Environmental Law Review 9* (1985):10

recently, by the EPA itself.[8] The reform agenda encompasses proposals such as improved scientific and risk assessment procedures, increased public participation in the agency's decision-making process, and government-sponsored public education on risk and environmental matters.

While these and other proposals merit consideration, they are ultimately unlikely to address the serious failures of environmental regulation. Those failures do not occur randomly or, for that matter, as a result of bad management (although this may occasionally be the case).Rather, they stem from deep-rooted institutional and political incentives that systematically bias the EPA's decisions. Better science and risk assessment procedures, public participation, and civic education, in and of themselves, do little to counteract these biases, and may exacerbate them.

Science will not automatically inform the policy debate. Scientific findings reach decision-makers only through the distorting prism of political power, and they are used in a political context. The examples of the political use and abuse of science are legion. A recent and particularly dramatic instance, briefly discussed by Jonathan H. Adler in his contribution to this volume, is the fate of the National Acid Precipitation Assessment Project (NAPAP), a massive 10-year study of the effects of acid rain. The study, which was released in early 1990, failed to confirm earlier suggestions that acid rain might be creating major damage to lakes and forests throughout America. By that stage the Bush administration and congressional leaders had already committed themselves to an extravagantly expensive acid rain program. The NAPAP study was shelved by the EPA and never received a full hearing in Congress. It is safe to say that the NAPAP study would have received quite a different treatment if it had confirmed the worst fears about acid rain and, thus, lent credibility to the legislation then under consideration. In short, the extent to which science informs policy depends largely on its political acceptability and usefulness.

Enhanced public participation, another item on the reform agenda, is similarly incapable of counteracting the incentives that bias political risk management. Almost invariably, participation is not "public" but highly selective. For the public at large, the costs of obtaining sufficient information and setting aside sufficient time to participate in a meaningful way are prohibitive. The likely participants are either business interests, who can easily bear the cost of the attorneys and lobbyists that the regulation game entails, or the leaders and attorneys of ideological public interest groups, who systematically favor comprehensive government intervention and whose views have consistently been found to be highly unrepresentative even of the membership of those groups, never mind the public at large.[9] In effect, then, public participation shifts power from the uninvolved majority to intensely concerned interests, and it increases the likelihood of political over private resolution of environmental issues. As a result, public participation has a tendency to exacerbate an already existing bias against the new and for the old; for entrenched interests and against the as-yet unidentified producers and consumers of improved products.

This is also the case with civic education, a proposal that has been advanced by both policy analysts and by the EPA. It is unquestionably true that the public is often inadequately informed or positively misinformed about the nature of environmental risk.(This very chapter calls for a radical revision of the way in which we as a society think about risk—a civic education project of monumental proportions.)However, civic education is an undertaking fraught with perils, especially when it is done by government.

In a very real sense, ignorance may not only be bliss but may also be rational: It serves as a filter that tends to screen out remote and exotic risks, thus leading individuals to occupy themselves with more substantial ones. It may seem desirable that individuals be made aware of *all* environmental dangers,

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[8] See Science Advisory Board, Environmental Protection Agency, *Reducing Risk: Setting Priorities and Strategies for Environmental Protection* (Washington D.C.: EPA, 1990). This report, which contains the results of an extensive study conducted by the EPA's Science Advisory Board, has been favorably received by the EPA leadership. Perhaps the best discussion of "managerial" and institutional reforms of the EPA is Marc K. Landy, Marc J. Roberts, and Stephen R. Thomas, *The Environmental Protection Agency: Asking the Wrong Questions* (New York: Oxford University Press, 1989).

[9] See Robert Lichter and Stanley Rothman, "What Interests the Public and What Interests the Public Interest?" *Public Opinion 6* (April/May 1983):44-48.

including those posed by minute trace amounts of carcinogens. Realistically, though, people have no way of comparing these risks to anything in the real world; they become subject to information overload and scare campaigns.

To be sure, scare campaigns would be staged with or without government-sponsored civic education, and there might be a real role for the EPA in countering shrill but false fire alarms and calling attention to genuine risks. However, experience shows that we cannot trust government to correct public misperceptions. The line between education and propaganda is not always very clear, and it is crossed with particular ease when the issues are highly uncertain, as they typically are in the environmental context, and when a political agency has an incentive to emphasize risks that fall within its jurisdiction, as does the EPA. As Marc K. Landy has shown in his coauthored contribution to this volume and at a greater length elsewhere, the enactment of Superfund was accompanied by an intense EPA public relations campaign aimed at persuading the public that the agency's public health programs were necessary to abate immediate and mortal risks.[10] The campaign was plainly motivated by a desire to build political support for an expansion of the agency's mandate and budget.

The purpose of these admittedly sketchy deliberations is not so much to question the usefulness of better science, public participation, and civic education in general and under all circumstances but, rather, to show that institutional context within which they are utilized. It is that *context*, which produces biased and misguided decisions, that needs reform. While this is not the place to outline a master plan for reform, we can state the general principle that any reform should satisfy and provide a few examples of promising proposals.

The general principle is to introduce reforms that simulate and institutionalize the competing and conflicting considerations that should inform the management of environmental risk. Currently, some of these considerations enter into the EPA's decisions only in a highly distorted form; others are ignored altogether. Decisions are made centrally and far away from those who incur their costs and benefits, thus practically ensuring that they will be influenced more by considerations of regulatory feasibility—and by national lobbies—than by the concerns of those who have to live with the results. The costs of regulation enter the decision-making process largely in a conceptual form: The agency may consider costs, but it does not bear them. Moreover, the EPA's mandate to preserve the environment and to protect the public naturally incline it toward regulation and against technological innovation, as the fact that the potential beneficiaries of products and processes that are yet to be introduced and invented are unrepresented in the decision-making process .Institutional and procedural reforms should counteract these and other incentives that create a regulatory fantasy land.

To an extent, such reforms can be accomplished within the existing regulatory structure. The EPA has, on occasion, experimented with regional, decentralized risk management and encouraged participation by those directly affected by regulatory decisions. For example, the EPA effectively suspended the imposition of a clean air technology standard that would have shut down a copper smelter in Tacoma, Washington, and held local meetings with the goal of having local residents determine the appropriate level of pollution control and to make the trade-off between jobs and clean air. (The smelter closed for unrelated reasons before the experiment was concluded.)

The Superfund reform scheme proposed by Marc K. Landy and Mary Hague in their contribution is a variation on this theme of decentralization and greater local control. Their proposal would allocate a fixed sum to each state for Superfund cleanup. Each state would then face the decisions now made by the EPA, such as the selection of sites and cleanup options. This proposal would bring the decision closer to those concerned; it has the added and considerable advantage of introducing real-world concerns of economic scarcity and of destroying the illusion that toxic site cleanup is free. As Landy and Hague show, it is this illusion—which is carefully nurtured by Superfund's beneficiaries and by their congressional patrons—that has made Superfund an ineffective and wasteful program.

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[10] Landy, Roberts, and Thomas, *Asking the Wrong Questions.*

In order to counter the EPA's institutional and political bias against innovation, jurisdiction over industries and technologies that have not yet clearly been assigned to an agency (for an example, biotechnology) should be conferred on agencies having both a regulatory and promotional policy role, or at least should be designed to strengthen the role of promotional agencies in the interagency regulatory review. Biotechnology regulation would much better be managed by the U.S. Department of Agriculture than by the EPA, or, for that matter, the FDA. Since the Agriculture Department is charged both with protecting food safety *and* with improving agricultural productivity, it is far more likely to weigh the benefits of bovine growth hormone as well as its potential risks than is the EPA, which has no promotional role.

This jurisdictional solution is not a serious option with respect to regulatory responsibilities that have already been clearly established; the EPA is highly unlikely to relinquish its powers. Accordingly, we should consider establishing an Office of the Technology Advocate—a sort of devil's advocate agency which would be charged with making the most compelling case possible *against* regulatory impositions in the environmental risk area.[11]The Technology Advocate's Office would receive a fixed percentage of the EPA's budget, which would protect the office against political pressures, and it would obtain access to all agency data. In addition, the office might be permitted to pocket, for its own operations, some percentage of the projected cost savings of its activities. The office would provide an access point for—and might actually seek to mobilize—constituencies that are currently frozen out of the regulatory process or that are unlikely to participate but likely to bear the costs of regulation, such as small businesses, non-unionized workers, and economically disadvantaged groups that suffer disproportionately from particular regulations.

As part of its duties, the office might conduct a "post-regulatory approval audit", estimating the public health and economic costs accrued to the delay of approval for such products as pesticides and other agricultural products. Sam Kazman has proposed such an audit for the FDA which, like the EPA, is highly biased against the risks of innovation and largely indifferent to the risks of stagnation and delay. Kazman's proposal would have the FDA (or possibly a third party) prepare detailed estimates of the public health costs of the "drug lag"—that is, delays in the drug approval process.[12]A requirement for public, official acknowledgments of risks that are now largely ignored in the regulatory process would eventually encourage a more balanced decision-making process. It would begin to simulate, albeit crudely, real life for agency decision-makers.

MARKET-BASED REGULATION

As the inefficiencies of command and control regulation and centralized ecological planning have become more evident, proposals have proliferated to replace planning with more flexible, market-based approaches, such as pollution taxes and tradable emission rights.[13] Such schemes seek to replicate the efficiency of normal markets by introducing pollution costs as a factor in private investment and production decisions. Proponents see such devices as means of internalizing the external costs of pollution and, thus, of encouraging more ecologically sensitive behavior.

In principle, such market-based schemes do offer several advantages. They reduce the regulators' need for information and technical expertise. Regulators need determine only the overall price or quantity of pollution; the pollution sources themselves then decide which firms would clean up to what degree. Since

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[11] Its explicitly "partial" role and mission distinguish the Office of Technology Advocate from existing institutions that examine the impact of EPA regulations, such as the Office of Management and Budget and the Office of Technology Assessment.

[12] Sam Kazman, "Deadly Overcaution: FDA's Drug Approval Process," *Journal of Regulation and Social Cost 1* (September 1990): 35-54

[13] There is a vast literature on this topic. See, for example, T.H. Tietenberg, *Emission Trading: An Exercise in Reforming Pollution Policy* (Washington DC: Resources for the Future, 1985).Recent applied efforts have paid more attention to the nuances of these ideas and have sought to relate them to specific policy goals. See, for example, Robert Stavins, "Clean Profits: Using Economic Incentives to Protect the Environment," *Policy Review* (Spring 1989): 58-63.See also my response to that article, Fred Smith, "Lets' Pretend Markets," *Policy Review* (Summer 1989): 94-95; and Stavin's reply in that same issue, 95-96.

these sources know more about their respective cost structures and technology options, they are more likely to identify least-cost compliance methods. Market-based schemes also offer greater flexibility; productive (though polluting) activities are not banned outright, but instead can continue where they are most valuable. Moreover, in contrast to mandated technology approaches, market-based schemes improve the visibility of pollution control costs, which may encourage greater attention to the costs and benefits of each particular pollution control program or, at least, reduce the tendency to view environmental protection as a "free" good. Finally, if the charges or financial burdens of emission rights schemes are imposed directly on polluters and in proportion to their actual pollution output, they will tend to produce long-term improvements in the availability and selection of pollution-reducing technologies and operating policies.

Still, market-based schemes have serious flaws, which stem from the fact that all such schemes embody the fundamental assumption that the socially desirable level of pollution must be determined politically.[14] Even so-called pollution rights are *not* private property but solely a function of politically predetermined goals. Thus, the initial allocation of pollution entitlements or taxation levels will be subject to the very same political influences and systemic biases that now distort government decisions on risk. This is true, for instance, of the acid rain "emissions-trading" program in the 1990 Clean Air Act Amendments, which has been widely hailed as an efficient and innovative program.[15]Surely the real tax code—in many ways, a compendium of special interest provisions—inspires no confidence that a pollution tax code would be designed in accordance with objective environmental criteria as opposed to being determined by political clout. Moreover, the predetermined goals and, hence, the "rights" remain subject to political intervention and revision. Some groups will always find current standards too permissive, and firms may find themselves stripped of legitimately acquired emission rights. The desire to maximize revenue may soon drive out attempts to impose financial burdens in proportion to the actual externalities produced by each polluter. Highway user fees have taken this route: Trucks with very heavy axle loadings pay far less than warranted by the road damage they cause, while cars driving during off-peak hours are heavily overcharged.

Further, while incentive-based schemes may make regulation more efficient in a technical sense, but they may also make it *easier*. For example, EPA and Congress shun plant closures; for that reason, they seek to impose the toughest requirements on solvent firms while going easy on firms facing economic difficulties. Such strategies—which bear no relation to the actual amount of pollution output but take "from each according to their ability"—are difficult to implement through technology-based standards (although he EPA has managed to accomplish the feat); they become much easier via taxing schemes, which can be set at a level just low enough to persuade the firm to continue operations.[16]

Finally, and most seriously, taxes and emission rights emphasize means rather than ends. However, as noted earlier, EPA's primary problem is its inability to set well-defined, environmentally sound priorities. Focusing on implementation, rather than goals, would thus address the wrong first question.

In the end, market-based regulatory schemes are not genuine markets but market knockoffs. They are the ecological equivalent of the Eastern European experiments with market socialism during the 1970s and the 1980s, which also sought to attain politically determined objectives by means of incentives and without establishing private property rights. The markets that resulted from these experiments were mere caricatures of real markets. Prices were artificial constructs and failed to provide information and

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[14] The basic arguments for and against market socialism were exchanged in the 1930s between F.A. Hayek and Oscar Lange. See F.A. Hayek, *Collectivist Economic Planning: Critical Studies on the Possibilities of Socialism* (London: Routledge Press, 1935); and F.A. Hayek, *Individualism and Economic Order* (Chicago: University of Chicago Press, 1948).See further, Donald Lavoie, *National Economic Planning: What is Left?* (Cambridge, Mass.: Ballinger Publishing Company, 1985).

[15] See Francis S. Blake, "Tilting the Marketplace", *Regulation 13* Summer 1990): 5

[16] Robert A. Leone, Richard Startz, and Mark Farber, "The Economic Impact of the Federal Water Pollution Control Act Amendments of 1972 on the Paper and Pulp Industry", National Bureau of Economic Research, Inc., report prepared for the National Commission on Water Quality, 15 June 1975.

incentives needed to equilibrate supply and demand. Market socialism failed to invigorate innovation and productivity; eventually, it proved only marginally more efficient than Soviet-style command economies.

Command and control regulation is an attempt to produce environmental goods in the way in which the Soviet Union produced (or failed to produce) shoes. Market-based environmental regulation is an effort to produce environmental goods in the way in which Hungary produced shoes two decades ago. This is a small step forward. We can, however, do better: Just as some Eastern European countries are moving aggressively to privatize their economies, we can begin to reacquaint ourselves with producing environmental goods through property rights and private, voluntary arrangements.

PRIVATE RISK MANAGEMENT

We have become so used to the idea that the socially acceptable levels of environmental risk and pollution must be determined politically that we find it hard to even contemplate the alternative. The very concept of "free-market environmentalism" seems oxymoronic.

However, we have this reaction only when it comes to *environmental* risk. We do not normally believe that the government should determine and enforce socially acceptable levels of private activities—even if these activities create substantial risks and negative externalities for third parties.[17] The most instructive example is economic competition, which entails the risk, and often the reality, of business failures job losses, and sometimes, the ruin of entire cities or regions. It is true, of course, that the political landscape is littered with laws and regulations aimed at sheltering particular firms and economic sectors against the forces of competition and that the antitrust laws are intended to guard against unusual breakdowns in the competitive process. But such protectionist measures and government guarantees have lost much of their intellectual respectability, as well as a large measure of public support; we have come to understand that they help special interests but hurt the public at large. Nobody would maintain that the United States government, should, as a general matter and for reasons of public welfare, determine and enforce a socially acceptable level of competition.

There are two reasons why we generally tolerate the externalities of competition. First, we understand that economic competition is a process of creative destruction, and that we cannot prevent the externality of destruction without losing the benefits of creativity and innovation. Second, and perhaps more important, we understand that the alternative to centralized political management is not anarchy; it is private, decentralized risk management. We all seek to regulate our behavior—to anticipate the consequences of our actions and to act accordingly. In fact,

[Centralized political} planning owes its popularity largely to the fact that everybody desires, of course, that we should handle our common problems as rationally as possible and that, in so doing we should use as much foresight as we can command. In this sense, everybody who is not a complete fatalist is a planner, every political act is (or ought to be) an act of planning, and there can be differences only between good and bad, between wise and foresighted and foolish and shortsighted planning….But it is not in this sense that our enthusiasts for a planned society now employ this term….The dispute between the modern planners and their opponents, is, therefore, *not* a dispute on whether we ought to choose intelligently between the various possible organizations of society; it is not a dispute on whether we ought to employ foresight and systematic thinking in planning our common affairs. It is a dispute about what is the best way of so doing.[18]

The question, in other words, is not whether risks should be managed, but who should manage them.

Private and political risk managers face many of the same problems: They must review the data, assess the level and nature of the risks involved, and determine the appropriate response. The case for *private* risk management rests on the proposition that the information on which such decisions should be based

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[17] The exceptions, of course, are force and fraud, which are *criminal* activities.

[18] F.A. Hayek, "The New Confusion about Planning", in Hayek, *New Studies in Philosophy, Politics, Economics, and the History of Ideas* (Chicago: University of Chicago Press, 1978), 234.

is far too dispersed and fragmentary to permit central planning. The political authority must make decisions for millions of individuals; since the “optimal” level of risk is largely a function of private, idiosyncratic preferences, the political risk manager would have to aggregate those preferences and, ideally, weigh them in some proportion to their intensity and their proximity to any given risk—a task for which even the wisest official is thoroughly ill-equipped. Moreover, even if he could somehow achieve this incredible feat, the political risk manager would still face the even more daunting task of motivating millions of people to act in accordance with his decrees.

One might argue that the accurate aggregation of private preferences is too demanding a standard to require of the political decision-maker. The point, though, is that *private risk management allows us to approximate that standard*: Myriads of voluntary transactions register private risk preferences and tolerances far more accurately than even the most informed and open political process.

Consider the risks associated with transporting waste materials across private property. Under a private system, the shipper would require the approval of the property owner to transit the property and would likely agree to pay a fee for that privilege. The parties would reach an agreement on the procedures to be followed in the event of an accident. Both would seek ways to shift their residual risks, and private insurance firms would evolve to meet that demand. Specialized risk managers might well be trained by one or all the parties to the transaction. The exact agreements would differ depending on the perceived riskiness of the transportation activity, the nature of the cargo, the extent to which the property would be harmed in the event of an accident, the property owner’s attitude toward risk, and other considerations. Private arrangements, in other words, would take full account of the parties’ concerns (but *only* the parties’ concerns: Third parties might comment on private arrangements, but they would have no power to modify or influence them).

Although, of course, some parties will “get it wrong” and underestimate the risks involved in such a transaction, one can expect the private actor to generally outperform the political actor on a one-to-one basis. However, the proper comparison is not between the political risk manager and the average private actor but between the politician and the one marginal private actor, who, among millions of others, gets it right: His decision will soon dominate the market.

A political risk management regime, on the other hand, will produce outcomes different from those that would be agreed on by private parties; that, indeed, is the purpose of the exercise. Negotiations of transit rights over politically controlled rights of way will involve public hearings which, as we have seen, selectively empower groups with an intense economic or ideological stake in the decision. Established economic firms may well use the occasion to restrict competition; for example, barge operators will lobby for high transit fees for truckers and railroads so as to raise their rivals’ costs. Environmental groups, none of them with a genuine interest in the controversy other than an ideological one, may oppose transit rights on any conditions. In the end, the outcome may reflect no one’s risk preferences.

Finally, private risk managers are far more likely than political institutions to consider risks in an unbiased fashion. Risks are ubiquitous; any decision will increase some risks and reduce others. The question is whether any given decision will raise or lower overall risk. Consider the question of whether a new technological process or product should be approved: The risks of innovation are heavily weighed by both private and political agencies. Change is dangerous, and no private or political actor wishes to assume the liabilities associated with approving a harmful innovation. On the other hand, stagnation and doing nothing are also dangerous .If only for competitive reasons, a private firm will take the risk of stagnation seriously. Few political risk managers, in contrast, experience any pain by delaying or even blocking change. The victims of inaction are statistical artifacts of a healthier and safer world that might have been; rarely do they weigh significantly in the political process.

MARKET FAILURES RECONSIDERED

Admittedly, the preceding section was based on somewhat idealized assumptions. Notably, it did not deal with instances in which private parties can impose external costs on society and avoid paying.

While such situations are common, they are not caused by the existence of markets but by their *absence.* Market failures might, therefore, best be addressed by extending market arrangements to the widest possible array of environmental resources. As the economist Ludwig von Mises stated:

It is true that where a considerable part of the costs incurred are external costs from the point of view of the acting individuals or firms, the economic calculation established by them is manifestly defective and their results deceptive. But this is not the outcome of alleged deficiencies inherent in the system of private ownership of the means of production. It is on the contrary a consequence of loopholes left in the system. It could be removed by a reform of the laws concerning liability for damages inflicted and by rescinding the institutional barriers preventing the full operation of private ownership.[19]

Rather than viewing the world in terms of market failure, we should view the problem of externalities as a *failure to permit markets* and create markets where they do not yet—or no longer—exist.

As a practical matter, we may wish to begin by experimenting with private risk management solutions in limited areas where the case for them seems especially compelling. Current American law, for example, prohibits ownership of endangered species. This is the environmental equivalent of prohibiting the adoption of orphaned and abandoned children. A procedure whereby environmental organizations or even for-profit enterprises were allowed to adopt endangered species would appear to be a plausible alternative to the current practice of prohibiting the development of areas that are designated as endangered species habitat. Private organizations such as Ducks Unlimited, the Nature conservancy, and the Audubon Society acting in a private ownership capacity have proven far better stewards of natural resources than the government, and they have proven wiling and able to arrive at agreements with private parties to permit limited economic development in environmentally sensitive areas. Such mutually beneficial arrangements have proven difficult to attain in the political sector.[20]

Although the project of creating markets may seem similar to market-based regulation, the differences are substantial—and all-important: A genuine market based on property rights privatizes not only the *how* of risk control but also the *what* and the *how much.*

A comparison with the ordinary risk of trespass illustrates the significance of this difference. We do not have a Federal Bureau of Trespass charged with defining the socially optimal level of trespass (certainly not one charged with *eliminating* trespass).The decision as to whether a trespass has occurred is left to private property owners, who also determine whether the benefits of punishing any given incident of trespass are worth the costs. Casual transit is likely to be ignored by all but the misanthrope, as will the occasional windblown litter and the smoke from the neighbor's fireplace; more serious events will trigger more serious responses. Pollution is no different in principle. (In fact, many landmark legal cases that defined the law of tort and trespass involved pollution.)

It is often objected that private arrangements are infeasible for practical or technical reasons. Emissions may be too small to constitute trespass, but, in the aggregate, they may do a lot of harm. Moreover, private property requires proof of trespass, and in many cases, the nature of the pollutant and the distances involved make such proofs difficult.

These problems are real, but they require closer analysis. To begin with, tossing them into the political sector does not make them any less difficult; it simply changes the range of possible solutions—and possible error. Since the optimal level of pollution is not *no* pollution, it is possible to err in both directions. Under a private regime, proof problems and the like will sometimes cause a failure to abate pollution. The

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[19] Ludwig von Mises, *Human Action: A Treatise on Economics,* 3rd rev. ed. (Chicago: Henry Regnery Co., 1966), 657-658.

[20] Obviously, this is not the place to develop a full agenda for the creation of markets to protect the environment. A comprehensive treatment of the subject is Terry L. Anderson and Donald L. Leal, *Free Market Environmentalism* (San Francisco: Pacific Research Institute; Boulder, Colo.: Westview Press, 1991).

political manager, in contrast, can limit pollution even without proof of damage (although, as we have noted, politically preferred polluters may still escape controls).But this apparent strength of government is also a great danger: In the absence of identifiable harm to someone or something in particular, the costs and benefits of risk control become highly conjectural. Moreover, precisely *because* no showing of harm is required to justify regulatory intervention, the purpose of pollution control is eventually disconnected from *any* harm; the productive activity that generates externalities itself becomes the harm. This, precisely, is the logic of the Clean Air and the Clean Water Acts.

There is a second, equally fundamental point. The facile comparison between the private and the political ignores the innovative capacity of the market and the stifling nature of government risk management. The private market's response to enforcement problems is not paralysis; it is innovation. The invention of fencing technologies—such as the development of barbed wire that permitted the fencing of vast areas in the West—is one common response to the problems of enforcing property rights, as was the earlier creation of cooperative joint venture arrangements to protect grazing lands from roaming cattle. But innovation *depends* on property rights. A world without private property might never, or only belatedly, have developed locks, burglar alarms, fingerprinting, and other tools to protect property. Moreover, the great variety in people's sensitivities to pollution and other externalities suggests that a range of innovative solutions will be explored far in advance of the dramatic events that are typically needed to trigger political responses.

The fact that these technologies *were* developed shows that markets are not rigid, frozen arrangements unable to address emerging concerns. Private environmental risk management would create demand for monitoring and chemical fingerprinting, which could identify the culprits responsible for oil spills and toxic dumping. Environmental regulators, in contrast, have no incentive to promote or use such technologies and may even view2 tem as a threat to their authority.

One can concede that there are genuinely difficult issues for which private, voluntary solutions are difficult to imagine; global warming and ozone depletion come to mind. But one must suspect that these problems rank so high on the political agenda precisely *because* they seem to illustrate the failures of markets, *because* they seem to defy private solution, and *because* they seem to require comprehensive government interventions. In any event, it is one thing to observe that there are difficult and seemingly intractable environmental problems; it is quite a different thing to conceptualize *all* environmental issues from the perspective of those problems or to presume that a political approach will easily overcome these difficulties. The former is a useful observation; the latter, a dangerous mistake that forecloses innovative and effective private risk management options even where they are feasible and sorely needed.

CONCLUSION

A politically owned resource is a resource at risk, and a politically managed risk is a risk that is on the verge of unmanageability. These two precepts do much to explain the current state of EPA regulation.

They do not explain everything. EPA suffers from the usual panoply of bureaucratic failures: an urge to be seen as "doing something", a hankering for the dramatic, an inability to reject trendy pseudo-crises, and a disregard for the costs that it imposes on private parties. But no other agency shares EPA's ability to create and chase indeterminate and indeterminable hazards. No other agency operates with such a total lack, not only of performance criteria, but of even the *prospect* of performance criteria.

A move toward private ownership would mean little unless such ownership encompassed the rights to use and transfer one's property. Regrettably, the rights of property and contract have been seriously eroded by legislatures and by the courts. Contractual arrangements have been replaced with tort law which, in turn, has been almost completely socialized. Today, courts often award compensation to parties who have suffered no demonstrable damages while imposing liability on parties who have caused no harm.[21] In fact, modern tort law has become an even more ambitious and misguided effort to redress

[21] See Peter W. Huber, *Liability: The Legal Revolution and Its Consequences* (New York: Basic Books, 1988).

environmental harms than regulation; government regulators, at least, are subject to budgetary and political constraints that establish some minimal threshold of regulatory concern.[22] Civil liability is constrained by little other than the ingenuity of lawyers.

Nonetheless, reforming environmental policy is not a hopeless task—certainly not in comparison with the tasks expected of the EPA which, rather than simply being extraordinarily ambitious, are existentially impossible to accomplish. Our knowledge of how political entities operate is growing rapidly, and if we focus on EPA as an agency, rather than on its substantive goals, our task may become simpler. We should view political risk managers as risky in their own right. We should concentrate less on the problems of political risk management, and more on the nature of political risk.

Like disease, political risk is not a necessary element of life. Like disease, political risk can be managed, treated, and cured. We seem to be getting better at it, and both old and new disciplines, ranging from economics and history to public choice theory, offer a wide variety of tools for dealing with it. Life is inherently risky, but it need not be inherently political. A world without risk may be impossible, but one without political risk is not. A world with less political risk is now being created abroad. Why not here?

[22] George L. Priest, “The New Legal Structure of Risk control”, *Daedalus* (Fall 1990): 208