
Readings

Deregulation by Means of Antitrust Divestiture: How Well Has It Worked in the Telephone Industry?

After the Breakup: Assessing the New Post-AT&T Divestiture Era

edited by Barry F. Cole
(Columbia University Press, 1991), 480 pp.

After the Breakup: U.S. Telecommunications in a More Competitive Era

by Robert W. Crandall
(Brookings Institution, 1991), 180 pp.

A Review Essay by Paul W. MacAvoy

Seven years after the breakup of the Bell System by the antitrust court, consumers of telephone services still await the rate reductions and service enhancements that were supposed to follow. Antitrust action was to lead to competition that would displace regulation, and that was going to lead to many new companies with cheap technologies pounding on the door. Indeed, there are many more separate company credit cards, none of which works in the pay phones at the airport. Long-distance rates to larger businesses are much lower, and local charges to small households are much higher. Anyone can get alternative, flexible bids for her patronage by specialized carriers if she spends more than \$100,000 annually on telephone calls. The university and policy research centers have now begun to issue voluminous studies explaining those results. The most interesting two studies recently published, both entitled *After the Breakup*, are reviewed here in an attempt to explain what did not happen.

In fact, there has been more policy-mandated change in the structure of the telecommunications service industry in the past ten years than in any

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other industry. In 1980 the Bell System provided end-to-end service on 80 percent of the access lines in the country, but the conditions of service on those lines included charges and availability determined by federal and state regulatory agencies. Now seven regional Bell operating companies provide local and intrastate long-distance service, each in a different section of the country, while AT&T and dozens of other specialized carriers provide long-distance service, as do thousands of private-line systems that are owned by the corporations that use them. That fragmentation, except in private-line systems, followed in good part from the Washington, D.C., federal district court's approving the 1984 breakup of the Bell System in settlement of a federal antitrust case against AT&T and its subsidiaries.

State and federal regulation has certainly not disappeared as a result. The state utility commissions still regulate entry and rates for local and intrastate long-distance services. The Federal Communications Commission now finds itself sharing decisions on the service offerings of interstate long-distance carriers with the district court administering parts of the AT&T divestiture. The postdivestiture remains of AT&T continue to be regulated by the federal commission. Only the increasingly more numerous specialized and self-owned companies in long-distance and private-line services are not regulated.

Such restructuring has been part of regulatory reform initiatives in other industries. There are now more independent electric power producers and more gas buyers at the wellhead than just the regulated pipelines as a result of reform at the Federal Energy Regulatory Commission. The policy differences have been both in the magnitude and the rationale for divestiture. The antitrust settlement broke the Bell System into eight separate companies, any one of which is larger and has more market power than all the emerging vertically separated and deregulated energy companies collectively. Even so, the intent was to enhance competition and thereby to reduce the need for regulation in at least some of the important various markets for telephone services. Rather than deregulation's changing market

structure, the deliberately fragmented corporate structure was to bring about deregulation.

Of course, that was not viewed in the same way by all parties. AT&T was not very forthcoming on its reasons for divestiture, other than that it would reduce the burden of litigation on management. But that the company proposed divestiture in settlement of the antitrust suit makes sense given that divestiture was the means to rid the company of even more burdensome operating divisions that had to provide regulatory-mandated unprofitable local service throughout the country. The Justice Department prosecuting the antitrust case sought to bring an end to AT&T's alleged monopolizing of long-distance services. The Antitrust Division sought divestiture rather than some other remedy because divestiture alone could result in competition that would lead to removal of excessive regulation. The federal antitrust court accepted the divestiture solution offered by company and prosecutor, given that follow-on court surveillance—regulation—required in the “final judgment” would assure competition in most long-distance and some local services. The “managed” competition of the court would itself replace the regulatory agencies.

Divestiture took place in 1984, so that those results could have been expected over the past seven years. The two books on the telecommunications industry after the breakup have analyzed and evaluated the consequences of radical reconstruction that have appeared. And have they been what was sought by all those policymakers?

To some extent answers differ because of contrasting methodologies. Robert Crandall's *After the Breakup* is an applied economics monograph that uses price theory to describe recent policy and undertakes an analysis of how divestiture has affected quantities and prices after 1985. The work has a singular focus that allows only passing reference to the concurrent impact on recent market performance of important improvements in transmission and switching technology. Crandall does not analyze the antitrust court as a regulatory organization controlling the service offerings of the Bell operating companies. He does not delineate the extent to which the self-provided service by large user corporations determined the changes sought in regulatory reform. The spectre is there of user systems' bypassing the network to obtain lower prices, and Crandall is quite ingenious in determining the large relative capacity growth rates of those systems. But he does not determine the

magnitude of their impact on market competition.

In contrast, Barry G. Cole's *After the Breakup* consists of an eclectic set of essays and rejoinders presented at a Columbia University conference in March 1989. Industry analysts of all persuasions develop political, economic, and technical hypotheses for explaining the current condition. For example, Glen Robinson's excellent essay on “Regulatory and Institutional Change” assesses the results from changes in market structure, technology, and public regulation that, because of their sheer abundance, prevent a clear-cut test of only divestiture's effects. But we can compensate for the narrowness of Crandall's “event study” economics by gathering up the unfocused explanations in Cole's compendium to determine what has happened. There are four assertions: divestiture initiated competition that has reduced regulation; the restructuring of prices attributable to competition has benefitted consumers; productivity gains following from divestiture and competition have been substantial; thus, antitrust has developed effective relief from monopoly and its regulation.

Divestiture and Competition. Crandall finds that interstate long-distance markets are “much more competitive today than before the AT&T divestiture” (p. 9), given that the revenue shares of the major long-distance services have become less concentrated since 1984. But Bruce Egan and Leonard Waverman state in Cole that “data on shares do not capture the full flavor of the degree of competition (or lack of it) in any market. Market share is but one descriptive statistic of the nature of competition” (p. 126). They find that AT&T still dominates “the low profit end”—rural, low-volume, and short-haul services. Two or three firms have more equal shares than they did before 1984 in markets where price-cost margins were previously quite high—business, high-volume, and long-haul services. But lower revenue concentration does not make those latter services “competitive.” Two or three firms do not engage in systematic strategies to undercut each other to take prices down to anywhere near competitive levels. Instead, they reduce prices when and where AT&T is authorized to do so by the Federal Communications Commission.

Competition could not break out in those long-distance markets because regulatory restraints prevent just that from happening. As Lee Selwyn indicates, “the level of dominant carrier rates is far more heavily influenced by regulatory action than by any competitive pressures. The 40 percent reduc-



"I'M GETTING ALONG FINE. HOW DID THE PHONE COMPANY BREAKUP AFFECT YOU?"

tion in interstate message toll service rates is not attributable either to divestiture or to the entry of competition per se; it is instead the direct result of shifting [access line charges to local subscribers] and of the Commission's requirement that AT&T pass through all reductions in such access charges to end users of its toll services" (Cole, p. 157). The reductions have been in response to the commission's plan to reduce profit margins of both regulated and unregulated common carriers where they are vulnerable to revenue loss from the bypass of self-owned business systems.

Rate reductions should have taken place across all classes of switched long-distance service if divestiture had initiated "procompetitive" policies in the FCC and the antitrust court. But as Almarin Phillips concluded, "[a]ll one needs to do is spend an hour or so studying FCC decisions under the rules of Computer Inquiry III or its handling of pricing issues in AT&T Tariff 15 to know that we are a long way from deregulation and open competition" (Cole, p. 213).

The Restructuring of Rates. The road on which it is "a long way" begins with reversing the policy of disproportionate recovery of the telephone system's joint and common costs from relatively high prices just on long-distance services. The Ozark Agreement between federal and state agencies on AT&T rates before divestiture provided for the recovery of more than 25 percent of fixed costs in prices for interstate

service although the interstate calling volume was only 7 percent of the total (Crandall, p. 25). The high price-cost margins on long-distance services induced entry by specialized carriers not burdened with the joint long-distance, local-plant costs of the national system. But rather than allow entry to reduce price-cost margins, the agencies mandated first a freeze on regulated rates and then selective reductions that accommodated some shift of cost recovery away from those to other categories of service. As noted by Glen Robinson, "[t]he character of regulation has changed; the emphasis shifted from regulating AT&T's monopoly rates to regulating its competitive rates" (Cole, p. 86). Susan Fendell finds that "since divestiture long-distance rates dropped 33 percent while local rates increased on an average of 47 percent" (Cole, p. 227). The increase in local rates completed the shift of joint and common costs to be paid by local consumers for access to the national system.

Then where are the gains in price rationalization from new policy? Crandall credits part of the reductions in long-distance rates for larger business users to divestiture and the resulting emergence of competition. His position is that "competition, the repricing of access, and technological progress provide impetus for lower real interstate telephone rates" (p. 59). But the reductions on long distance were in turn exceeded by increases in local rates in the postdivestiture period for the rest of the customers (Crandall, p. 59). In the extreme, local rates rose by 17 percent in 1984 and 9 percent in 1985, as indicated by Roger G. Noll and Susan R. Smart's "Pricing of Telephone Services" (Cole, p. 190). More of a problem is the fact that divestiture was responsible for even larger local rate increases than accounted for by shifting joint cost recovery from long-distance service. According to Noll and Smart, the court's settlement required identical access to switches for local distribution for all the new long-distance carriers that cost billions of dollars to be recovered in local rates (Cole, p. 192). And there were further increases attributable to the changes in market structure. After divestiture the Bell operating companies were able to exact increases in local rates from the regulatory process not previously attempted by the Bell System. According to Noll and Smart, their demands for rate increases to increase their profit returns before the state regulatory agencies added more than \$5 billion to local service revenue requirements in 1984 and 1985, long before the new costs for equal access had been incurred. Indeed, the agency allowances went too far,

since \$2 billion had to be given back in regulatory-required reductions in 1987 and 1988. The divestiture unleashed the price-setting power of the Bell operating companies that had previously been held in place by limits on long-distance rates—that is, by FCC long-distance tariff increases contingent on limited local rate increases. Reviewing the two books, one comes away with Selwyn's conclusion that telephone charges were still determined by regulatory policy except in local services, where they were now determined by the market power of companies specifically created by the breakup of the Bell System.

Productivity Gains from Divestiture. Even if there were no salutary effects from restructuring rates, the results from divestiture could still be positive. The fragmented system could be more efficient, while still under the yoke of regulation, so that lower costs would be passed through to consumers in lower rates on both local and long-distance service. Crandall finds that productivity growth rates were twice as high in the postdivestiture period after taking account of business cycle and input factor price changes (p. 69). Responses by Ishaq Nadiri and William Brock to an early version of Crandall's analysis indicate problems with his data series and with his interpretation of the results from capital investment—investment declined but productivity increased (Cole, p. 419).

The basic problem is that the statistical findings on productivity after 1984 change with respect to model specification and data series. Crandall's argument is that divestiture brought forth competition that in turn increased productivity growth. But his narrative supports equally well the assertion that new technology induced the entry of competitors that in turn generated the antitrust claims leading to divestiture. And further data analysis has reversed his statistical findings. In testimony before the Canadian Telecommunications Commission on the issue of whether competitive entry in Canada would have the same salutary effects as in the United States, William Diewert concluded that after divestiture there have been substantial declines in productivity growth rates in U.S. telecommunications. Diewert's testimony compared productivity growth rates from 1952 to 1977 with those from 1978 to 1987. In addition, he estimated a cost function to assess simultaneously the extent of returns to large system scale and productivity change. He found that the average productivity growth rate for the period from 1952 to 1977 was 2.97 percent per year, while that

for the period from 1978 to 1987 was 2.86 percent per year. Diewert estimated that the average rate of technical progress in the decade before 1977 was 1.7 percent per year, but that in the decade following 1977 it declined to .14 percent per year. His results support the position that divestiture has been associated with lower rates of productivity growth. Diewert does, however, qualify his own conclusion along those lines because it is difficult to separate the effects of increasing returns to large system scale in the Bell System from the effects of technical progress. And the reader's suspicion is that the (only) consistent data series is so flawed that alternative model specifications could imply significant but contradictory conclusions.

Summary Views. Then can we be satisfied with using divestiture to reform regulation? Crandall's response is positive: "he finds that the divestiture has improved productivity in the industry [but given that] the telecommunications sector remains highly regulated . . . problems [can be expected to] occur in regulated competition" (preface by Bruce MacLaury, president of the Brookings Institution, Crandall, p. bii). That position is difficult to sustain with problematic evidence on postdivestiture improvements in productivity growth. On the other hand, those who initiated divestiture are less sanguine. In the most extraordinary section of his book, Cole provides the views of the initiators of divestiture as to the results. Charles Brown, who as chief executive officer of AT&T was the first proponent of divestiture, found that "the relatively slow pace at which Federal and state regulation is decreasing is a disappointment and a major factor why the divestiture setup has not worked as well as it might" (Cole, p. 21). William Baxter, the assistant attorney general for antitrust who accepted Brown's divestiture proposal, agreed: "It definitely was my hope and expectation that once AT&T was severed from the local loops, it would expeditiously be deregulated and be regarded as being in the competitive sector. I see no reason why that could not have happened, and I believe it should have happened" (Cole, p. 23). But the last word belongs to Harold Greene, the author of the court judgment approving settlement and the judge in the antitrust court that regulates the service offerings of the successor Bell companies: "I regard it as very unfortunate that the public has been inconvenienced . . . by the establishment of several telephone companies in place of the ubiquitous Bell System. . . . I also regard it as a failure [that] the majority of the public has apparently not

become convinced the emergence of competition is yielding benefits that outweigh the inconvenience, and a significant degree of public dissatisfactions therefore persists" (Cole, p. 49). If the public were to read the evidence in these two books, it would be very unlikely to change that position.

Purchase these books and join the crowd, Judge Greene. Much the same is recommended to readers of *Regulation* except that, since they are knowledgeable about regulation generally, they conceivably would not only reject antitrust as the antidote for regulation but also reject regulation as the antidote for antitrust. And then where would we be?

Promising Approaches to Reducing Highway Risks

Regulating Traffic Safety

by Martin Friedland, Michael Trebilcock, and Kent Roach

(University of Toronto Press, 1990), 211 pp.

Reviewed by Robert W. Crandall

In an era in which an inordinate amount of attention and resources is devoted to controlling exposure to even the most miniscule risk of cancer, it is refreshing to find that research continues on much more serious threats to human health and safety, such as those from motor vehicle accidents. Despite considerable progress in highway and vehicle design, there are still nearly 50,000 highway deaths in the United States every year. The annual death rate per mile driven is about the same in Canada and in the United States, considerably higher in Western Europe, and much higher in developing countries.

Regulating Traffic Safety is part of a larger set of studies on compliance with Canadian laws and regulations in variety of areas ranging from securities regulation to family violence. Written by three University of Toronto law professors, this book offers no new basic research results. Rather, the authors review and evaluate the existing body of research on the determinants of traffic accidents and fatalities and offer suggestions for promising approaches

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to further improvements in safety. The result is a brief but readable and nontechnical account of an extensive literature. For the most part, the authors are faithful reporters, but their implicit and explicit policy conclusions are likely to be at least mildly controversial.

In the introduction the authors sound a cautionary note. They had thought that the evidence on traffic accidents, their causes, and their prevention would be sufficient to allow them to publish a consensus of "what works and what does not work." But they were disappointed. They found that the statistics and the research are simply not good enough to allow such confident prescriptions. Other students of health and safety regulation might be surprised by this dour view—for it is quite clear that we know far more about traffic fatalities and their causes than about most other health-safety-environmental problems that the government addresses every day. For a different view of the quality of this literature, the interested reader is advised to consult Leonard Evans' more comprehensive and somewhat more technical, *Traffic Safety and the Driver* (New York: Van Nostrand Reinhold, 1991).

Regulating Traffic Safety is divided into nine principal chapters, most of which deal with different approaches to controlling the risk of death or injury from traffic accidents. The most important of these are: sanctions, civil liability and insurance, rewards, licensing, education, motor vehicle safety design, highway safety design, and postaccident injury care. The libertarians will not be happy with the authors' conclusions on the most promising approach (presumably in Canada and in the United States)—restrictions on groups or activities identified statistically as the greatest sources of current accidents. Those include an increase in the minimum drinking age or driving age, the imposition of curfews, and the suspension of licenses.

To be fair, the authors do not dismiss other approaches. They simply see them as potentially less effective, politically unachievable, or less well researched. For example, the authors doubt that further assaults on drunk driving through sanctions—or potentially unconstitutional searches of drivers for high blood-alcohol levels—are likely to be as effective as improved vehicle and highway safety design. Yet when we turn to the chapters on vehicle and highway design, we find that the authors are not very sanguine about those possibilities either. They correctly report that there is controversy over the effectiveness of the U.S. motor vehicle safety standards imposed since 1966, and

they are skeptical of the government's ability to carry out cost-benefit analyses of various highway-safety design improvements.

For some reason, the chapter on highway safety design is concluded with a lengthy disbelieving digression on "risk homeostasis"—the theory that individuals will fully offset any improvements in safety through increased risk-taking. The authors are not alone in their disbelief, but they are too skeptical of the evidence of such offsetting risk-taking behavior. They criticize John Adams, a British geographer and student of traffic safety, for concluding that the seasonal pattern in fatalities in Canada suggests substantial offsetting behavior. They argue that he does not account for the lower number of miles travelled in winter months. But Evans cites evidence from the United States showing that fatal accident *rates* per mile travelled are lower in winter months than in summer months.

Perhaps the most disheartening part of their review of the evidence is their ten-page chapter on liability, insurance, and deterrence—disheartening because it reflects how little attention has been given to inducing responsible driver behavior. We know a great deal about the causes of accidents. Young people, particularly males, are responsible for a disproportionate share of fatalities. Males under the age of twenty are more than *ten* times as likely to be involved in a severe crash per actual mile of driving as those above the age of forty.

Those most prone to risk others' lives in criminal activity are also most likely to place others at risk in traffic. The threat of a substantial loss of income or wealth as the result of an accident is associated with lower accident rates. Why, then, do we not attempt to confront drivers with first-party tort liability or experience-rated insurance premiums subject to large copayments or deductibles? The answer, alas, is political. Politicians act to protect those who expose us to the danger of early death by establishing "residual risk" pools through which state-regulated insurance companies must offer reckless drivers insurance at far less than its fair actuarial value.

Unfortunately, most of the research on the effects of automobile insurance regimes per se has been directed to analyzing various no-fault regimes. While an important issue, the no-fault insurance controversy has deflected attention from the most serious issue in accident prevention: how to confront the unsafe driver with the pecuniary consequences of his antisocial behavior.

Finally, it is remarkable that the authors of this

volume give no attention to the effect of government mandatory fuel-efficiency standards on safety. Evans has pioneered much of the work in this area, and his book provides extensive documentation of the inverse relationship between car size and fatalities. Indeed, the authors of *Regulating Traffic Safety* even advocate higher fuel prices as one of the "exposure-limiting" countermeasures, presumably through their effects on vehicle miles travelled. The authors should caution, however, that higher fuel prices will induce smaller cars and at least a partial offset to the reduced fatalities that result from less driving.

For the uninitiated, *Regulating Traffic Safety* provides a concise, well-written introduction to the evidence on the causes and prevention of highway deaths. It reads well and is generally a thoughtful distillation of a very complicated literature. But the reader is warned that there is more to the story and that not all students of traffic safety would agree with the conclusions advanced in this volume. The thoughtful reader who wants more should consult Evans' excellent recent book for a more complete survey of the evidence, albeit one that is hostile to the type of econometric evidence favored by and even offered by this reviewer from time to time.

Tackling Environmental Problems

Free Market Environmentalism

by Terry Anderson and Donald Leal
(Pacific Research Institute, 1991), 192 pp.

Reviewed by Roger A. Sedjo

Terry Anderson and Donald Leal examine environmental problems and provide a fresh look at possible solutions from a free-market perspective. Their thesis is simple. Most environmental and resource problems can be better addressed by using markets in a regime of secure and enforceable property rights than by using systems of government regulation and control. At the intellectual level, Anderson and Leal will find few credible detractors for much of their argument. Recent events in Eastern Europe demonstrate the failure of command-and-control economics in producing goods and services. Why should command-and-control approaches do a better job

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with environmental and resource issues? In fact, of course, they have not done a better job. The East European experience demonstrates the prevalence of “government failure” in the environmental arena. Many of the most serious environmental problems are a product of command-and-control economies that ignore or otherwise fail to address environmental problems properly. By contrast, markets are increasingly replacing outmoded regulatory systems to facilitate allocation and reallocation of resources such as water and outdoor recreation.

Free Market Environmentalism clearly and assertively makes the case for free-market approaches to dealing with environmental and resource problems. In addition to conceptual arguments, the narrative provides many interesting examples of where markets and property rights have been able to deal effectively with environmental problems. Just as numerous are the examples of governmental failures in dealing with those same types of problems.

The market approach to environmentalism is not new to economists. Its origins go back to the work of the most recent Nobel laureate in economics, Ronald Coase, and to that of Harold Demsetz in the 1960s. Coase pointed out that damages from externalities could be mitigated by “internalization”

through bargains or contracts voluntarily struck by the affected parties. Demsetz noted that property rights could be altered to internalize external effects and thus could be incorporated by ordinary market transactions. This volume is particularly effective in describing and documenting how the evolution of technology and property rights in the United States has played a major role in the market’s adapting to changing environmental conditions.

Few of those arguments are new to those who have followed the development over the past twenty years of the school of free-market environmentalism, of which Anderson is one of the major intellectual voices. Parts of the volume have appeared in earlier publications, and the anecdotes may be familiar from op-ed pieces in outlets such as the *Wall Street Journal*.

The approach is predominantly focused on U.S. historical experience, and the volume does an excellent job of articulating the free-market point of view by bringing together chapters dealing with a wide array of resource and environmental topics, including rangelands, forests, wildlife, parks, outdoor recreation, energy, water, oceans, waste, ecology, as well as acid rain and global warming. Those topics are integrated in overview chapters that examine visions of reality and introduce concepts of markets and property rights in a coherent, intelligible manner. One need not be a trained economist to understand the examples or the message of this volume.

Anderson and Leal are at their best when dealing with land-use issues of forest and range and with water issues. They proceed confidently with arguments and examples that are compelling. Clearly, the absence of well-defined property rights will result in the now familiar open-access, common-property types of overexploitation of forest, range, and water resources. The authors buttress their conceptual arguments with a plethora of examples, both historical and current. Attempts by government to regulate and control are counterproductive and often lead to perverse outcomes. By contrast, in a free-market environment, property rights have evolved and adapted to address pressing problems. Emerging technologies—perhaps induced by market opportunities—allow external effects to be internalized and thus to be incorporated in the various market transactions. Since resource exploitation and environmental degradation now bear real costs to the exploiter, the market provides incentives to limit damages.

The final chapter addresses “Tackling the Tougher

Problems." The authors do an exceptional job of laying out the problems of global warming. Their exposition of the science is correct and balanced. They articulate objectively what is known as well as where the science is speculative or simply unresolved. The chapter offers the reader a good grasp of the state of the scientific debate on global warming.

Free Market Environmentalism has some important omissions, however. The focus of both the book and the final chapter is predominantly on the United States. Although the scientific discussion of acid rain in North America is solid, the authors do not address the European situation. There is no discussion of the environmental problems of the Nordic lakes, which are far more severe than those in the U.S. Northeast. Similarly, the complex transboundary problems of Europe, where the prevailing winds drive pollutants from the industrial regions to the forests and lakes of the north, are left untouched. Also, the authors do not raise the controversial issue of tropical deforestation, nor do they consider the related controversy regarding the loss of biodiversity. In fact, they never use the term *biodiversity*. And although to some extent they touch on the biodiversity issue in the chapter on ecology and energy, where the problem of tradeoffs is well articulated, they do not address biodiversity preservation head-on. A reader of this book will have difficulty understanding the tropical deforestation controversy or the role that property rights may play in that controversy. Furthermore, the authors miss an opportunity to assist in their reader's education by addressing important property rights issues as related to tropical forests and wild genetic resources. Are tropical deforestation and the loss of biodiversity other manifestations of an open-access, common-property problem, or are they the result of the free market's moving toward the optimum land-use mix? Unfortunately, the book is silent on those issues.

The final chapter's discussions lack the confidence of the early chapters. It is difficult to envisage the evolution of property rights for international transboundary pollution, to say nothing of greenhouse gases, that presumably inflict a little damage on all of the residents of the globe. Although Ronald Coase's early qualification regarding the size of transaction costs as limiting the ability of markets

to internalize externalities comes to mind, we are left to search for "imaginative" solutions that are largely undefined. That is not intended as a fundamental criticism of the book. Those are difficult problems, and the authors cannot be faulted for not having all the answers. They do point out the difficulties and failures of international protocols to address those problems effectively. The thought of institutionalizing international bureaucracies to address global environmental problems brings shudders to most of our hearts. Nevertheless, for pressing current problems, the absence of operational free-market alternatives appears to offer little choice but to move toward politically determined international agreements that at least pretend to engage some very real problems that do exist. A case in point is the Montreal Treaty, which addresses the emission of ozone-destroying chlorofluorocarbons. The authors state that that issue is clearly less complex than global warming; but no operational property-rights solutions are offered for either problem.

The book does make reference, too briefly in my view, to some of the emerging proposals for tradeable permit schemes for dealing with various global environmental "bads," such as carbon dioxide and other greenhouse gases. To free-market environmentalists, those trading systems are better than the traditional regulatory approaches. Nevertheless, tradeable permit schemes do involve strong elements of regulatory command and control. The political or bureaucratic process establishes the allowable levels of pollution, distributes the rights to pollute, and monitors compliance. Are those really "free" markets? Regardless of one's view, market trading of pollution permits does allow a more efficient reallocation of pollution and hence is generally preferred to quantity regulation by most free-market environmentalists and most economists.

Despite some limitations, *Free Market Environmentalism* is a very useful and insightful volume. It is well written and makes a stimulating read, filled with interesting, often surprising, examples and anecdotes that give substance to the concepts. I highly recommend it to those who wish for an enjoyable way to become familiar with both free-market environmentalism and a broad array of both historical and current environmental and resource issues.