decision making, organizational issues, development planning, forecasting, inflation and short-term adjustments. Part two is more administrative, and reviews structural aspects of budgets, innovations since around 1960, cash management and other implementation questions, and accounting and financial information systems. Part three is very short, with just two somewhat superficial chapters on public enterprises and other autonomous agencies, and relations between different levels of government. A twenty page bibliography is followed by a good index.

The book is valuable because of its scope. Examples and illustrations are drawn from a large number of countries, although British and American experience is probably alluded to most frequently. This is very valuable for two reasons. First, it reminds the reader constantly that there are many different ways of going about all the various tasks involved in running the economic side of government. This is useful because of the tendency that is common to overlook alternatives we have never heard of. Second, the wide range of examples make a plausible case for one of the author's main positions, namely that many problems and difficulties encountered in practice on the economic side of government are problems inherent to the task, not necessarily results of particular contexts and processes amenable to solution by simple "technical fixes". Some of the examples are quite striking: on p. 492 it is alleged that "the system of Rate Support Grants in the United Kingdom relied on the statistical technique known as stepwise multiple regression analysis, which led, among other things, to excessive spending by groups of authorities with similar characteristics, leading to further increases in the amounts of their grants," as an illustration of how a formula for grants between levels of government should not be regarded as fixed, even when very sophisticated. The scope also extends both to consideration of a wide range of economic ideas, from traditional public finance to public choice, and from older Keynesianism to both newer versions and variants of monetarism, and to frequent insertion of administrative concerns into economic discussions and vice-versa.

However, as noted, the book is highly personal. This produces some further strengths. The author is highly literate and well-read, and the text contains a good many literary allusions and subtle puns. In addition, we are reminded that few ideas if any are new: Alfred Marshall, we are told, urged indexation on a Royal Commission in 1887. But at times the author perhaps displays his erudition a little too openly; a reference to an issue being an "ontological question" on page 72 sent this reviewer to his dictionary, and would surely not enlighten many students. More limiting in terms of how well the book succeeds in its objectives is the high incidence of obiter dicta, conclusions and judgments that are plausible and reasonable but are not clearly supported by the argument and evidence of the text itself.

This is perhaps inevitable. To have had a survey of this scope which came to no conclusions on the issues where opinions differ might well have been even less satisfying. But a somewhat mandarin style, creating the impression of judicious conclusions coming down from the lofty mountains of the IMF, does eventually make the numerous conclusions that seem at best weakly supported somewhat irritating.

Overall, the book should be in libraries as a valuable reference. Dipping into sections of it would be valuable for both graduate students in public finance and all professional economists concerned with government behavior: at least they may be reminded that the real world often involves much greater ambiguity, messiness, administrative compromise, and sheer inertia than the tidy models of economic theorists suggest. It is too personal, too superficial on many issues, and too poorly referenced for use as a textbook. Although anyone reading the whole book would surely learn at least one new thing, it is hard to envisage a true audience for the book as an entirety; different chapters are probably most useful as introductory surveys for those not specialists in the aspects covered in those chapters.

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Natural Resources: Bureaucratic Myths and Environmental Management.

By Richard L. Stroup and John A. Baden. Cambridge, Mass.: Ballinger Publishing Company, 1983. Pp. xvi, 148. \$25.00.

This book is a volume in the Pacific Studies in Public Policy series sponsored by Pacific Institute for Public Policy Research, San Francisco, California. The series is "designed to broaden public understanding of the nature and effects of market processes and government policy," and has as its aim "to ensure that

alternative approaches to currently problematic policy areas are fully evaluated, the best remedies discovered, and these findings made widely available" (p. v.). This particular volume addresses the issue of efficient management of the nation's natural resources. The authors approach the issue in an episodic fashion, the last five chapters comprising illustrative examples in the areas of energy regulation (ch. 5), groundwater legislation (ch. 6), pollution control (ch. 7), land management (ch. 8), and timber harvests (ch. 9), which serves to dramatize their thesis that public management of our natural resources is inherently inefficient and that the alternative of privatizing these resources would promote economically efficient management. While I am in general agreement with the authors' indictment of governmental mismanagement of our natural resources, I do not believe that this book will substantially broaden public understanding of the issues involved, nor does it fully evaluate the various alternatives that may foster greater efficiency.

Drawing on a highly selective and profusely libertarian bibliography, Stroup and Baden develop their thesis in the initial four chapters. Their writing style is clear and colorful, unfettered by the usual jargon, graphs, and mathematics that one encounters in the natural resource literature, and is well-suited to the intelligent layman. Unfortunately, students and practitioners in economics may find their style somewhat discomforting, since a lack of rigor in form can often conceal a lack of rigor in substance. This is, in fact, the case in this book.

Chapter 1 develops the basic model for the analysis. Essentially, economic agents are assumed to decide among competing activities involving the use of scarce resources on the basis of optimizing some criterion of self-interest, subject to limited information. To the professional economist these assumptions conjure up some formal model of decisionmaking under uncertainty. Aside from brief mention of the effect of risk behavior on the decisionmaker's choice of groundwater inventory (ch. 6, pp. 79-82), uncertainty is never discussed in the book. This omission is not only surprising but also misleading in later discussions. For example, the presence of uninsurable risks seems relevant to the discussions of government subsidization of alternative energy development (ch. 5, pp. 60-63) and of government regulation of environmental pollution (ch. 7, pp. 86-89). It is now commonly accepted that one can make a theoretical argument for government intervention in these cases when such risks are considered. This is not to say that government intervention is a Pareto-superior policy to a market solution. That argument must be made on empirical grounds. It is incorrect to suggest, as the authors do in these cases, that the argument rests on purely deterministic, a priori grounds.

Chapter 2 describes a system of nonattenuated property rights and illustrates its importance to the efficient allocation of resources in a market economy. The theoretical discussion is pivotal to the later analysis of public management of natural resources. This discussion is woefully inadequate. There is, for example, no mention of the importance of transaction costs and income effects in the allocation of resources under alternative property right assignments. There is no mention of the problem of preference revelation in the allocation of public goods. There is no mention of second-best problems, decreasing-cost monopolies, reciprocal externalities, and international jurisdictional constraints. These inadequacies hardly serve the purpose of broadening public understanding of the issues involved. Everything seems to be argued in either-or terms. Either property rights are completely nonattenuated, in which case resources are efficiently allocated by competitive markets, or they are not, in which case resources are inefficiently allocated. The noneconomist reader may naïvely accept this false proposition, but even he will be asking how the requisite institutional changes will come about. The authors never address this problem. Indeed, it is not until the reader nears the end of Chapter 6 on groundwater allocation that he finds: "The procedure for actually assigning the rights would be judicial. In terms of economic efficiency, how the rights are initially allocated is irrelevant. The initial allocation, however, would result in potentially large awards of wealth to those who actually gain the water rights. The courts could make this decision based on historical, equitable, or other considerations. But that is not for us to decide here" (p. 82). Glib remarks such as these hardly provide a full evaluation of alternative institutional arrangements that may foster economic efficiency. The reader is simply left to ponder how it is that judges - who, like bureaucrats, lack any internal check on efficiency, are equally prone to special-interest groups, and are buffered by an institutional bureaucracy from any external checks on efficiency - may know better than politicians how best to achieve an efficient allocation of resources.

Chapters 3 and 4 provide interesting anecdotes that lend support to the authors' view that public management of our natural resources is *inherently* inefficient. This results from an institutional bureauc-

racy having a system of rewards and incentives that is incompatible with efficient resource management. Nevertheless, an anecdotal account is no proof of this proposition, and their frequent use of such tainted expressions as "legitimized by the coercive power of the state" (ch. 4, p. 44) tends to punctuate the lack of analytical rigor. The choice of anecdotes seems purposely selective. The authors argue that the historical response to environmental problems in this country is the inevitable response of bureaucratic decision-makers. It would have been useful to the reader if a thoughtful discussion had been undertaken on possible bureaucratic changes that might remedy this situation.

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The Effectiveness of Antitrust Policy towards Horizontal Mergers.

By David B. Audretsch. Ann Arbor, Michigan: UMI Research Press, 1983. Pp. xiii, 148. \$39.95.

This book presents a cost-benefit analysis of antitrust policy toward horizontal mergers since the passage of the Celler-Kefauver Act in 1950. The merit of this book is that it concentrates on horizontal mergers while other well-known empirical studies, such as those by Gort [1] and Steiner [4], did not distinguish between different types of mergers and were concerned primarily with the determinants of merger activity. Although any study of this type necessarily entails some arbitrariness in the specification of the empirical models, the author manages to traverse this rough terrain in a fairly satisfying manner by presenting several sets of results corresponding to alternative specifications. This approach, however, significantly lengthens the exposition.

After two preliminary sections dealing with background information on the antitrust statutes and on previous empirical studies of mergers, section Three presents the algebraic formulae used to estimate the direct and indirect benefits from precluding concentration-increasing horizontal mergers. The direct benefits are the welfare loss and surplus redistribution avoided by disallowing a merger, while the indirect benefits are those resulting from mergers deterred by the precedential effects of the case. A variation of the Harberger [2] approach is used to characterize welfare loss, while the redistribution rectangle is calculated using the well-known empirical relationship between price-cost margins and the four firm concentration ratio derived by Preston and Collins [3].

Section Four attempts to estimate the deterrent effect of antitrust enforcement. Two basic approaches are used. The first estimates the relationship between merger activity and variables indicating general economic activity prior to "effective" enforcement of the Celler-Kefauver Act. Deterrence is measured by the difference between actual mergers and those predicted by the model. The second approach includes several variables related to antitrust enforcement in the estimate of merger activity and deterrence is the residual between actual merger activity and that predicted by the non-antitrust variables in the estimated model. In all, nine alternative empirical specifications for merger activity and their implications for deterrence are presented.

The Fifth Section addresses the cost of horizontal merger enforcement. Most of the author's effort is spent trying to ascertain the proportion of the Federal Trade Commission and Department of Justice budgets expended on horizontal merger cases. Although this process of cost assignment is disturbingly imprecise, one cannot readily envision a better way of doing it. Also, the issue of private expenses in antitrust suits is relegated to one paragraph at the end of the section, where such costs are arbitrarily assumed to be five times the costs incurred by the public sector.

Of more pressing concern, however, is that the author completely ignores one obvious cost of antitrust enforcement — that of foregone economies of scale. Throughout the analysis, production costs are assumed to be invariant to horizontal merger. Since scale economies are the only potential efficiency rationale for horizontal mergers, omission of these foregone gains biases the results. If we could assume that there were no scale economies to be had, mergers could be outlawed a priori without any efficiency loss while saving the cost of antitrust enforcement. Given the tentative nature of the cost estimates used in this work, even an imprecise measure of foregone economies would be appropriate.

The most interesting portion of the book is Section Six, which contains estimates of the benefits resulting from seventy horizontal merger cases challenged between 1954 and 1975. These benefits are