Proceedings
Western Agricultural Economics Association Meetings

July 10–12, 1983
Laramie, Wyoming

Market Versus Political Allocations of Natural Resources in the 1980s

B. Delworth Gardner

The extinction of any desire on the part of mankind, however vicious and destructive, the abolition of any established practice, however vile, will throw a certain number of men 'out of work' .... If all the world turned sober, it would indefinitely increase its well-being, but countless publicans, brewers, distillers, and hop and vine growers would be thrown out of employment. If universal peace were secured, and armaments were reduced to the vanishing point, there would be many an Othello to mourn that his occupation was gone. If a really successful unpuncturable tyre were put on the market, there would be a great increase in collective happiness, clerical and other appointments would be kept with notably increased regularity, profanity at least in cultivated society, would tend to be more clearly restricted to its natural preserves on the golf links, but there would be a procession of unemployed assistants of bicycle repairers .... If the sanitary habits of the public suddenly improved, there would be a slump in the business of the undertaker, and if no one committed murder, the hangman would be out of a job. (Philip L. Wicksteed)

From its early moorings in Adam Smith and his successors, modern economics has been enmeshed in a deep morass of conflicting ends, values, and mores. Its most prominent imperatives, economic efficiency and distributional equity, have been discussed, compared, and related ad nauseam. The simple fact is, however, that we have a paradigm that is analytically powerful in prompting welfare improvements in the case of efficiency whereas in the case of equity we only salute its relevance in principle (Varian; Baumol). For

B. Delworth Gardner is Professor in the Department of Agricultural Economics, University of California, Davis.

Much of the material in the sections of this paper dealing with divestiture of the public lands was taken from the author's chapter, "The Case for Divestiture of the Federal Lands," appearing in *Rethinking the Federal Lands*, edited by Sterling Brubaker, Resources for the Future, Washington, D.C., in press.

Western Journal of Agricultural Economics, 8(2): 215–229

lack of a comparable paradigm we relegate equity to the domain of sociologists, psychologists, and theologians, who rarely do more than pontificate about its importance.

I raise this thorny subject here only to remind us that applied economics is a policy science. As such, we must deal with "should it be" and "can it be" as well as with "is it" and "why is it?" The normative questions appear to be even more urgent when the economy is mired in recession, operating far below capacity, and unemployment forces some to curtail their standard of living more than others. Nearly all, however, become aware that improved economic efficiency that raises average productivity and net output is desirable and that, in general, improved efficiency will also lead to greater equality in the distribution of income and wealth as the unemployed regain their jobs.

The economy of the Western United States has many features that distinguish it from the rest of the country. Some of the more important are (1) land and labor intensive crops are grown that require irrigation, with some of the water supplied from federal projects at highly subsidized prices; (2) much of the land mass has been reserved by the federal government in national parks, national forests, Indian reservations, and the public domain, creating complex and intricate fiscal and management relationships between the federal government and state and local governments; and (3) because of its more recent development, the "public" uses of its wildlands, the richness of its resource base, and even the specialized nature of much of its agricultural production, the region is a significant exporter of primary products to the rest of the country. The region's citizens believe that they are quite powerless to influence the terms of trade in these products. Whether it is water, grazing, timber, mineral, energy fuel, or recreation policy, the heavy hand of the federal government dominates local interests to a degree not experienced by other regions of the country.

One approach to this paper would be to present and discuss a laundry list of resource issues that are expected to be significant in the region in the 1980s. I rejected this option because of the number and complexity of these issues and the inherent problems of treating them adequately within a framework that economists might find rewarding. Alternatively, I have elected to present briefly a few thoughts of a methodological character and then to discuss at some length one of the issues that has existed for nearly a century but has been resuscitated since the election of President Reagan; namely, whether or not the federal government should dispose of the public lands in the West.

Fundamentally, this issue is quite similar to many other important resource issues and revolves around the question of using markets in the private sector as a substitute for political allocations of natural resources necessitated by public ownership. I have written elsewhere about the potential for water markets (Gardner 1983) and political controls on the use and disposition of prime agricultural lands (Gardner and Nuckton). The same philosophical, theoretical, and empirical problems arise in these and many other resource issues, and therefore I believe the discussion presented here may have broader applicability.

The Neoclassical Theory and Some Implications for Efficient Natural Resource Use

The most utilized paradigm for assessing economic efficiency continues to be the neoclassical theory of the firm and the household. De Alessi (1983) has recently provided a most succinct and useful summary of the salient principles as follows:

> According to neoclassical theory, the individual consumer maximizes a single

valued, convex, twice-differentiable utility function subject to a budget constraint. The budget constraint is determined by the prices of the rights to the use of the (homogeneous) commodities in the individual's choice set and by income. Income, in turn, is determined by the quantity and by the (derived) prices of the rights to the use of the (homogeneous) resources which the individual owns, including the fractional ownership of business firms. The individual is typically a price taker both as a buyer of commodities and as a seller of resources. The state of nature constrains the stock of resources, whose initial distribution is given, and the state of the arts constrains how business firms may convert resources into commodities. Production functions are convex, twice-differentiable, and eventually exhibit decreasing returns to scale. Each business firm maximizes profits subject to its demand and cost conditions. To derive and test implications of this theory, therefore, it is both necessary and sufficient to identify the variables which enter utility and profit functions, and to indicate how changes in constraints affect the appropriate opportunity sets.

De Alessi (1983) states other characteristics (assumptions) of the neoclassical theory: (1) transaction costs are zero, (2) adjustment costs are zero, (3) all resources are fully allocated and privately held, (4) owners allocate resources to productive purposes purely in response to pecuniary incentives, and (5) the entrepreneur's choice between income and leisure is independent of income (this assumption rules out shirking of owners and employees, and profits of business firms are maximized).

Equilibrium in this neoclassical world satisfies all conditions required for Pareto efficiency under both competitive and monopolistic market structures. All producers would expand along their least-cost expansion path and would discriminate perfectly among consumers, selling each additional unit at exactly the maximum price that each consumer would be willing to pay until, at the margin, price would equal marginal cost (De Alessi 1983).

To the extent that most economists are willing to say anything at all in the normative sense of "better" or "worse" or even "more efficient" or "less efficient" they rely on the neoclassical paradigm. Of course, any real world application of this abstract and purified model should critically evaluate the extent to which the model fits the real world circumstances, to what extent the model should be modified, and, what the modification means in terms of the model's explanatory and predictive power and its normative usefulness.

This matter is of critical importance when the paradigm is applied to natural resource problems since real-world departures from the idealized model are so apparent and substantial. For example, the property rights in natural resources are often *not* fully allocated and privately held, giving rise to a host of "externality", "public good", and "common property" market failures so familiar to resource economists. Transaction and adjustment costs may be significantly different from zero and produce inefficient outcomes as Coasian bargaining attempts to mitigate external neighborhood effects of private actions.

The conventional reaction by economists to market failure described above is to advocate corrective intervention through the political process. Parties affected by private action will pressure surrogate political representatives to internalize these impacts and regulate the economic system in a socially optimal manner. The public choice theorists have demonstrated, however, that the political system seldom works in this idealized fashion, and that these political fixes are themselves susceptible to several types of

efficiency failure (Niskanen; Buchanan and Tullock). Whether or not the political intervention is more or less efficient than the unregulated market becomes an empirical question that must be resolved by the evidence of each individual case.

Recently, property rights theorists have broached this problem by handling property rights imperfections as a model constraint. To quote De Alessi (1983):

> Neoclassical theory, however, can be generalized to eliminate some of these limitations. A major step is to end the dichotomy between the theory of consumer choice and the theory of the firm by extending the utility-maximization hypothesis to all individual choices, including those made by business managers and government employees. Another step is to broaden the concept of the limits on individual choices to include institutional (the system of property rights) as well as more of the constraints (for example, including transactions and adjustment costs) imposed by nature and the state of the arts.

The loss of efficiency of these property rights imperfections and transactions and adjustment costs is relative to the assumed idealized neoclassical model. But suppose that transaction costs are, for example, positive and rise at the margin. It is then profitable for the firm to allocate some resources to acquiring information and to drafting and enforcing contracts. The firm will operate off its neoclassical least-cost expansion path and will be inside its neoclassical production possibility curve. Nevertheless, given the constraint of positive transaction costs, the solution must be efficient. The same type of argument can be made with other types of market failure, such as attenuation of property rights. On this view, "... efficiency conditions are seen as the properties of a determinate (equilibrium) solution implied by a given theoretical construct .... A system's solutions are always efficient if they meet the constraints that characterize it" (De Alessi 1983).

Ownership and Management of the Federal Lands

Introduction

Continuing ownership and management of the wildland of the West by the federal government have become increasingly controversial in the last decade. The total acreage is about 742 million acres, about 32 percent of the total land area in the United States (US Department of Interior). Forty-four percent is located in Alaska and 92 percent is in the 12 Western states including Alaska and excluding Hawaii. Five of the 12 states have over 50 percent of their acreage in federal reserves, and only Washington has less than 33⅓ percent.

The reasons for the recent flap over control are not hard to find. Until the last two decades and the rise of the environmental-conservation movement, use control of the public lands resided largely in the regional commodity users: ranchers, miners, loggers, and irrigators. Favorable policies were produced by pressure brought to bear on political surrogates in Congress and the executive branch. As the demand for amenity goods increased and as recreational and environmental interests also learned how to manipulate the political allocation process, it was perceived by the commodity interests that the balance of power had shifted to their detriment. It was not only that the AUM's of grazing were sharply reduced and the allowable timber cut diminished. In general, there was a paralysis of policy that greatly increased uncertainty. Most significant development proposals, and often even trivial resource allocation decisions, were delayed for years in court actions and bureaucratic regulations that greatly increased operating costs. The environmentalists developed a national constituency that could play hardball with most

uncompromising rules. There were also some large economic rents from energy development to fight over. Since most of the monetary and environmental costs of development were borne locally, it was only fair that a larger share of the revenues should be captured by state and local governments. This disaffection with federal control culminated in legislation in many Western states to assume state ownership and control.

The election of President Reagan weakened, if not eliminated, the rebellion, at least temporarily. He was a Westerner; a conservative who believed in both development and states-rights. He and Secretary Watt would reverse the pro-environment, anti-development policies of the Carter administration. Perhaps the water, grazing, and recreational subsidies and the sharing of public land revenues with the states were not so bad after all.

Recently, the focus seems to have shifted to the alleged mismanagement of the public lands, how serious it is, and what to do about it. The most compelling case for inefficient federal management was raised by libertarian and public choice economists, who argued that mismanagement is endemic with public ownership and can only be eliminated if decisions are placed in the private hands of efficient utility and profit maximizers (Stroup and Baden 1979; Baden and Stroup 1981a). Although this might be partially accomplished by long-term leasing of the public lands and by the use of market processes in resource allocations (such as open auctions for grazing, timber, energy fuels, and minerals), the most simple and most effective cure would be divestiture of the public lands.

Those who agree in principle that federal disposal is a good idea may disagree on the degree. The Reagan administration's "asset management" program contemplates limited land sales. The President stated in his 1982 Budget Message: "We will move more systematically to reduce the cost of holding surplus land and real property, (since) some of this property is not in use and would be of greater value to society if transferred to the private sector. In the next 3 years we would save $9 billion by shedding these unnecessary properties while fully protecting and preserving our national parks, forests, wilderness and scenic areas" (Hanke).

Some economists have advocated large-scale disposal of the forest and park lands as well (Smith), and some believe the proceeds should be used to retire the national debt (Hanke; Tullock). I believe it is instructive to review in some detail their arguments as to why political allocations fail to be efficient.

To quote from Sowell, "An economic system is a system for the production and distribution of goods and services. But what is crucial for understanding the way it functions is that it is a system for *rationing* goods and services that are inadequate to supply all that people want. This is true of any economic system, whether it is called capitalism, socialism, feudalism, or by any other name." This reminder of the basic function of an allocative system is a fruitful point of departure for comparing production and distribution decisions under continuing federal land retention with those that would likely exist if federal divestiture occurred.

Non-Price Political Allocations

As a general proposition we can characterize decisions under private ownership as market-oriented, whereas those under continuing federal ownership and management are primarily administrative and political. If the federal lands were in the private sector, political considerations would not be entirely absent, however, since private resource use is often constrained (regulated) by government. Still, at bottom, private owners can be expected to be sensitive to the amount of wealth they own, and the allocation criteria they

use will generally be consistent with maximization of their wealth.

Given the fact of scarcity and the need to ration, the allocation problem is greatly affected by the method of denial utilized in regulating access to goods and services and natural resources (Sowell). It seems obvious that private entrepreneurs would use *price* as the mechanism of denial to the extent that they can. Otherwise, they must sacrifice wealth. It is equally obvious that public land managers, for the most part, do not use price to deny access. Other rationing processes and criteria are utilized instead.

This is not to say that public managers are not subject to pressures that attempt to influence their decisions. Clearly they are. But in a market, price is what the buyer gives up to acquire a unit of the good or service. Price is also the compensation received by the seller. In the public decision arena, the potential recipients of the benefits from a decision may pressure, cajole, and otherwise attempt to affect the decision. They expend resources in the process. In the absence of bribery, however, the public manager receives no monetary payoff that resembles a price. He may receive approbation, good will, and support for his continuing employment from those on whom he bestows his favors. But there is no reason to expect that he will receive monetary benefits equal to the "value" of his decision.

Free and competitive prices convey *information* essential to efficient allocation. If consumption of goods and services was denied only by price, then price would represent the marginal valuation of all agents consuming the good or service. If the market is in competitive equilibrium, price would also represent the marginal opportunity cost. How can allocation be efficient with price equal to marginal cost without this essential information?

One answer that has been given is that in a representative democracy the purpose of government is to advance the public interest, however defined. Political decision makers operate in political markets where costs and benefits are considered, and they generate "implicit" prices in the form of votes, lobbying, campaign contributions, etc. But how do we know that this political market is economically efficient in producing the bundle of multiple products from the public lands and in stimulating investment in resource maintenance and improvement? The answer to this question relies partially on *a priori* reasoning on the nature of political decisions and partially on empirical studies of government management.

Governments *per se* don't make decisions, people employed by the governments do. As the public choice theorists have long argued, agency people are like the rest of us and can be expected to make decisions consistent with their self-interest. This does not rule out altruism if being altruistic adds to individual satisfaction (Becker). It is almost tautological, however, to argue that the success of an individual employed in a bureaucracy is inextricably linked to the success of the bureau itself, defined in terms of bureau size, budget, power, and influence. Contrary to what occurs in a private firm, a political decision maker is seldom in a position to gain personally from reducing agency cost or selling a product to those who value it most highly. Both are essential to economic efficiency (De Alessi 1969). The incentive structure in government decisions is not even remotely compatible with efficiency norms.

It is useful to think of agency decisions about the public lands as a "commons" that is accessible to all, but access is proportional to influence and power. Those who are allocated products at subsidized prices or for no price at all tend to be relatively few in number and are generally located conveniently to the public lands. Since what they get is worth more than they pay directly, their economic surplus is likely quite large, and they find

it in their interest to economize in order to keep the surplus as large as possible. We observe them mobilizing into special interest groups, investing in lobbying, making political campaign contributions, and using propaganda to increase the probability of decisions being made in their favor. The nation's interests become synonymous with their interests, or so they claim. It is commonly observed that if an agency official holds out against these interests, sufficient power usually exists to see that he will be replaced by another who will be more cooperative (Stroup and Baden 1982).

This process is inimical to efficient allocation. One reason is that groups competing for products and resources often see themselves as antagonists whose uses are incompatible and mutually exclusive. This has two significant consequences: (1) pressure is exerted for decisions that tend toward single rather than toward multiple uses that may be more efficient and even though the latter may be mandated by statute, and (2) as happens in the other commons situations, the competition for capture of the allocation decision results in a "beggar-my-neighbor" strategy, where investment in influence by all parties increases to the point where much of the economic surplus is lost. This is a deadweight social loss, since the resources expended in the struggle for agency capture could have been utilized for alternative beneficial purposes.

In other circumstances, clientele groups may conspire to work together to influence policy in their mutual favor but against the "public" interest.

At the other end of the public land management spectrum is the group providing the bulk of the resources for public management, the taxpayers. Because user fees are seldom set at competitive levels and often are at zero, management costs for recreation, forestry, and grazing, for example, are much higher than revenues, which implies taxpayer subsidies. Then why don't the taxpayers do something about it? Because as a group they are located far away from the public lands, and as individuals they have a comparatively minor interest in the public lands. Given that the costs to them as individuals of becoming informed about these complex problems are immensely higher than the small benefits captured, they remain rationally ignorant and uninvolved. This makes it easy for the concentrated special interests to have their way and for the subsidies to continue.

The legislation of recent years, as implemented by the public land agencies, does not require efficient management, despite the interpretation of some observers to the contrary (Krutilla and Haigh). The 1974 Renewable Resources Planning Act, the 1976 National Forest Management Act, and especially the 1976 Federal Land Policy and Management Act may stress the importance of scientific management, and may compare costs and benefits from investment in resources, and other practices that seem to be directing the agencies toward efficiency objectives. In reality, however, the supreme management goals repeatedly stressed in the legislation are multiple-use and sustained-yield with public input.

If multiple-use were construed as producing that combination of multiple products that maximizes the net aggregate joint value of these products through time (assuming the tools and data were available to value all products), the concept would have an efficiency ring to it. But, without prices, how can these valuations be made? What costs should be netted out in estimating net value? Valuation of both outputs and costs presents tremendous difficulties for an agency managing the public lands. In practice, multiple-use is simply a recognition that several classes of users have a valid claim to the public land, regardless of the economic efficiency merits. It is the stamp of approval for political allocations that do

not force the public managers to face the hard efficiency decisions. Perhaps that is why miners, energy producers, timber harvesters, and graziers like the concept. It is their license to use a parcel of public land whether or not that use is economically efficient. In fact, the Federal Land Policy and Management Act (Section 103) seems to specifically reject economic efficiency norms by defining multiple use as ". . . the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; . . . . with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output."

Sustained-yield is equally lacking in economic substance. It is usually taken to mean that the resources should be managed so that the level of biological yield of the resources is constant through time. It would be easy to provide examples showing such a policy to be economically inefficient. Efficient economic yields through time will vary in physical quantities offered depending on rates of the physical yield of the biological resources through time, expected prices over time, expected real interest rates, taxes, and other factors. In some cases, it may be economically efficient to use up the entire biological stock and then grow another, a policy that is anathema to the philosophy of sustained-yield (Krutilla *et al.*).

Generating an efficient level of capital for investment in resource conservation and improvement is no less a formidable problem for the federal land agencies. Discretionary investment resources originate from two sources: appropriations and user fees. Economic efficiency criteria are seldom, if ever, utilized by Congress to appropriate investment funds. Log-rolling and pork-barrelling are mostly political activities, and marginal benefits and marginal opportunity costs of alternative projects and levels of investment have little relevance. It is true that some user fees are directed to resource conservation and improvement, but there is little evidence that the allocation process is based on economic criteria, despite some improvements in recent years (Gardner 1981). To make matters even worse, during the Nixon, Ford, and Carter administrations, the agencies were most often openly hostile to any private investment in range improvement.

This is by no means a complete enumeration of the reasons why government public land decisions are *expected* to be inefficient. But let us move on to investigate what the empirical studies show about the efficiency of land use decisions by the government.

Space limitations require that this paper be brief. The empirical studies are uniformly critical of agency management decisions when measured by economic efficiency criteria. The national forests are "underharvested" (Bruner and Hagenstein; Dowdle; Hyde; Clawson 1976) and yet there is "overinvestment" in cultural practices to grow new timber and to construct roads to make harvest possible (Dowdle). Overgrazing of the Indian reservations is pervasive and results from a failure of the Department of Interior and the Tribal Councils to enforce property rights and adopt a program to limit grazing (Libecap and Johnson). Grazing permits issued to ranchers at fees below the value of grazing are misallocated because of eligibility requirements that militate against economic efficiency (Gardner 1962). Range improvement practices, particularly rest-rotation widely utilized by the BLM (Kremp) and chaining used by the Forest Service (Lanner), generally are not cost-effective. Multiple-use managerial constraints on the National Forests are so serious as to "dissipate all opportunity

for timber managerial discretion and optimization" (Fight *et al.*). The list could be extended almost *ad infinitum.*

Surely, the case is a very strong one that agency decisions are inefficient under public land ownership. But could private owners do any better if divestiture occurred? How significant would market failure be under private ownership? It is to these issues that I now turn.

Divestiture and Market Allocation

The essential notion of divestiture is to grant private property rights to own and control the land itself, fee simple, and thus internalize the significant external benefits and costs that under government ownership are a commons that result in inefficient production, investment, and distribution decisions. This is a large order since private ownership does not necessarily mean private decisions unfettered by governmental regulations. Land use is often tightly controlled, and we must be clear here that privatization means putting fundamental control of land use, parcel size, land transfers, harvest decisions, productivity improvement, etc., into private hands. What would be the expected results? Since there has been little divestiture in recent years, very little recent empirical evidence is available. However, we can logically infer some expected results.

Divestiture would create incentives for allocative efficiency in production and exchange for those outputs that can be profitably traded in markets. Equity issues would arise since those now using the public lands on heavily subsidized terms may expect their income and wealth to be affected. Unless transaction costs were prohibitive, privatization would imply that denial would be accomplished by price. This does not mean, however, that resource users would necessarily be worse off, as I shall show later. Once this initial redistribution effect worked itself out, equity would cease to be so important an issue with market-traded goods, since presumably no free market exchanges would occur unless both buyer and seller believed the trade would make them better off.

Under private ownership the multiple-use problem would not exist, except in the case of public goods. Pure public goods are those where consumption is not exclusive and where access is difficult and prohibitively costly to control (Samuelson). When these conditions obtain, price cannot be used as the rationing vehicle and the market will not provide for efficient supplies. Investment resources cannot be acquired, and "free riding" by consumers is observed since nonpayers cannot be excluded from consumption. The question is: how prevalent are pure public good uses on the lands under discussion? Solid empirical studies are needed so that opinions can be better informed.

For market goods, owners will maximize their wealth in the resources by matching their production with the preferences of consumers for various products. Price is the coordinating vehicle in providing information. Efficient product diversity would be forthcoming as producers respond to the purchasing power of all consumers who demand diverse products at different prices. I have no doubt that products would be more diverse, prices (fees) would be more variable, and many more consumers would be served under private ownership than are currently being served under public ownership. Consumers and taxpayers would have better information and greater incentive to acquire it, and their current rational ignorance would be displaced by an active knowledge of the available products and prices.

Management decisions would be fully accountable and constrained by the need for revenues to cover costs in the long run.

Resource productivity could be expect-

ed to increase and enhanced conservation would occur. "Underinvestment" exists now because public agencies cannot obtain adequate funding, and private funding is either prohibited or is constrained by excessive risk as argued above. Privatization would soon correct this situation. The private capital market would supply the resources for all supramarginal investments. Significantly, the risks associated with current political management would disappear. Various types of agreements, covenants, easements, and other instruments would clearly define property rights and reduce risk.

Baden and Stroup (1981b) have demonstrated why private management is superior to public management in conserving resources. Part of the reason is that in establishing guidelines elected officials do not see much beyond the next election. Furthermore, future generations are not here to vote their interests. Bureaucrats are whiplashed by political forces that have great urgency in the present (Demsetz). By contrast, privately-owned resources will tend to be owned and controlled by those most optimistic about the future. Present wealth in land and renewable resources is the market's expected value of the discounted flow of valuable future products. Optimists see higher future values than pessimists do and bid away resources. Future generations *are* represented by entrepreneurs who profit from conserving resources for their expected use.

These appear to me to be the principal merits of divestiture and they are formidable. What about the demerits?

Some Criticisms of Divestiture and Market Allocation

A significant problem is the potential for fraud and for special and discriminatory treatment in the disposal process itself. If political *allocation* cannot be efficient, why should we believe that political *disposal* will be either efficient or equitable? The government has a long history of fraudulent and inequitable distribution of land and water. This is a legacy that will be difficult to deal with in trying to convince the public that it will be different this time.

One of the most obvious objections to private ownership and market allocation of products from the public lands is that market goods will be priced at competitive levels rather than received free or at highly subsidized prices as they are now under public ownership. It would appear that gainers and losers are easy to identify: (1) private owner-producers would presumably gain and the local economy would benefit from the extra income generated from better management as well as from the pricing policy; (2) present bureaucrats would lose and presumably would have to change jobs or move elsewhere; (3) local governments would gain or lose depending on whether or not local taxes were higher than current *in lieu* user fees; (4) national taxpayers would gain by eliminating costly public ownership and management; and (5) consumers of products would lose or gain.

How can consumers gain if market products are to be priced at competitive levels? The reason is that the products under public management are not free nor as subsidized as appears at first blush. Although free riding is common, someone must pay for those lobbying, campaign contributions, propaganda, and court costs that are incurred to influence public decisions. The funds probably come largely from dues to environmental organizations and commodity associations. This process is inefficient because these dues are not directly associated with consumption and, therefore, are not prices that regulate amounts consumed. It is conceivable that privatization and market allocation at a price would be both more efficient and

more equitable. Each consumer would pay for what he gets. Because resources would be more productive and product diversity would increase as products were tailored toward consumer tastes, the value of outputs to consumers would increase. Even if they paid a competitive price, it is conceivable, even likely in my opinion, that consumer surplus would increase.

Let me now turn to the significant sources of market failure: public goods and externalities. There do appear to be some problems with divestiture if public goods cannot be marketed and externalities are not accounted for in negotiated private decisions.

Examples of public goods from wildlands are open-space amenities and "existence" values. Knowing that a wilderness exists may have value to some people, even if they never visit a wilderness area nor intend to. But why is this value dependent on *public* ownership of the wilderness? A wilderness of comparable characteristics that was privately owned would have no less existence value. But would a private wilderness have comparable characteristics? It is the access problem that is critical. Several wilderness amenities such as hiking, backpacking, and some instream water recreation would be difficult to market because access is costly to control. To some extent also, consumption is nonexclusive. Although private lands currently supply large quantities of these public goods because it is simply too costly to forbid consumption, the private market will not efficiently supply these amenities. It must be granted, therefore, that the supply of public goods will be below some theoretical optimum under private ownership. But where is the evidence that the supply of public goods is closer to optimum under public ownership? Much of the argument presented earlier would lead to the *a priori* expectation that political allocations are also suboptimal. Only comparative empirical analysis can reveal whether public or private management would be more efficient in yielding public goods, and these studies have not been made.

Nevertheless, opponents of privatization (Bromley) have made much of the fact that some goods, especially amenity services, are not market priced and, thus, cannot be efficiently market allocated. Therefore, "collective" decisions and, by implication, government ownership and management are required.

Because price denial is not the rationing system used for allocating most products of the public lands, it is natural that market prices for these products do not exist. The right question is: could and would they be priced and market allocated under private ownership? The correct answer is *yes*, at least for all nonpublic goods, which would include all recreation where access can be cost-effectively controlled. Already we have a wide variety of private markets in hunting, fishing, camping, skiing, boating, swimming, etc.

Informal market transactions do not permit the interests of non-negotiating parties to be included. If it were costless to bring third parties into the negotiations they would be brought in, and no problem would exist (Coase). Unfortunately, the transaction costs are often prohibitive. To quote Sowell: "Political systems allow third parties to influence economic transactions from which their interests are excluded. Political decision making can lower transaction costs by allowing a relatively few surrogates to make and implement decisions reflecting the will of millions who have insufficient stake (or resources) to incur the huge costs of devising and transacting some of the decisions they believe in." Of course, how significant the external interests are and how well the surrogates (the politicians and bureaucrats) represent them in the political decisions are empirical issues. But in principle, it must be granted that private decisions will

not take these spill-over effects into account and political decisions just might.

Water constitutes an excellent example of a product where external effects may be significant. Most of the fresh water utilized for municipal and industrial purposes, irrigation, and recreation in the West originates from precipitation on the public lands. The condition of the watersheds is critical to runoff rates and water quality. Do not these facts imply that society has an overriding interest in these watersheds that mandate continued public ownership? I have my doubts for several reasons.

It is by no means clear that water yields and water quality would be lower under private ownership. This paper has already argued that timber production and range condition, both positively related to watershed yield, might well be superior under private rather than under public ownership.

Perhaps even more important, mechanisms exist that would internalize much of this externality problem if it got out of hand. Appropriative water rights are separated from the land anyway and are determined by the date of filing. Most of the streams originating on the public lands are already fully appropriated and rights are sanctioned by state law. If private land owners disturbed these rights in any significant way, they would be liable under the law and subject to court action. My own guess is that conflicts over water rights might be far less serious if the public lands were privately owned than they are now under federal ownership. The threat of a lawsuit might deter private land owners from socially deleterious actions that do not phase public decision makers.

What about fugitive resources, such as wildlife, that cannot be circumscribed by private boundaries (Bromley)? Doesn't this mean that we must have a public landlord to internalize the externality? In some ways, the situation is roughly equivalent to the water problem, but people don't have rights in wildlife. Hunting and wildlife harvest, however, are reasonably site specific and access of hunters is controllable to some degree. Already in some places ranchers have found that user fees they charge hunters for crossing private land in order to hunt on public lands exceed income from ranching. They justify collecting these fees as compensation for wildlife grazing on their own private lands, which they also can't control. It may be that habitat for wildlife would be different under private than under public ownership. I'm not sure it would be inferior. It is conceivable that thousands of private entrepreneurs, marketing hunting and fishing privileges, might well manage the resources more efficiently to produce and retain wildlife in areas under their control.

It has also been observed that corporate bureaucrats in the large firms of the private sector are remarkably like public agency bureaucrats in the public sector and, thus, there would be few gains from trading one set for another. De Alessi (1969), has convincingly argued that this is not so. Private and public organizations differ in the cost of transferring ownership shares. An individual can change his "ownership" portfolio of public benefits only by moving from one jurisdiction to another. This is far more costly than buying or selling securities, his portfolio of private ownership. Thus, property rights in public organizations may be taken to be nontransferable. The owner's incentive to detect and inhibit undesirable managerial behavior is much weaker in public organizations than in private firms, and gives government decision makers greater opportunities to increase their own welfare relative to that of the owners.

De Alessi (1969) explores the implications of this theory and deduces many of the problems with public ownership earlier discussed. Motives, incentives, and

owner-imposed constraints on management are far different in the private than in the public sector, and the private sector more closely meets the requirements of efficiency norms.

Finally, objections to private ownership, even if it is efficient in resource allocation, have been raised because the resulting income distribution is unacceptable. These objections have been made without proof of any kind. What seems to be bothering people (Bromley) is that price denial rather than other forms allegedly discriminates against the poor who cannot come up with the funds to pay the price. The result of price allocation is to make the distribution of income and wealth more concentrated.

The point was made earlier that we have no scientific methods of comparing the social desirability of alternative distributions of income and wealth. Moreover, it is well known that the bulk of the users of the public lands, especially most recreational users, are not low-income citizens. As a rule, their incomes and discounted future incomes are higher than the average of all taxpayers. Thus, current public land allocation methods transfer income and wealth away from the poor and toward the nonpoor.

Conclusion

Because of equity difficulties that would inhere in any disposal program and because of a healthy public skepticism about the potential for fraud and give-away, I am doubtful that disposition on a large scale is politically feasible at the present time. But economists are often very poor at assessing political feasibility. Most of the efficiency gains are *prospective* and many of the beneficiaries do not even know who they are. Current users would be threatened by privatization unless the disposal policy were clearly favorable to them. For these reasons, I am doubtful that a significant constituency for disposal presently exists. In my view, we must have more evidence that an efficient and equitable disposal policy is available.

I propose that we begin with a small disposal program and be creative in trying alternative schemes. Perhaps long-term competitive leasing as proposed by Clawson (1982) should also be tried on an experimental basis. A public nonprofit corporation operating under a charter that would require it to raise and sustain private capital and that would permit it to make all managerial and investment decisions could also be attempted on an experimental basis (Teeguarden). At the very minimum, opportunities should be sought to price ration the products from the public lands after the manner now utilized for timber. This would be a significant, if limited, step to improve the efficiency of resource allocation.

References

Baden, J. and R. Stroup. "Saving the Wilderness: A Radical Proposal." *Reason*, 13(July): 3, 1981a.

Baden, J. and R. Stroup. "Transgenerational Equity and Natural Resources: Or, Too Bad We Don't Have Coal Rangers." *Bureaucracy vs. Environment*. Ed by J. Baden and R. L. Stroup, University of Michigan Press, Ann Arbor, 1981b, 203–16.

Baumol, W. J. "Applied Fairness Theory and Rationing Policy." *American Economic Review*, 72(1982):4 639–51.

Becker, G. S. *Treatise on the Family*. Harvard University Press, Cambridge, 1982, Chapter 8.

Bromley, D. W. "Public and Private Interests in the Federal Lands: Toward Conciliation." Address presented to a conference, "Federal Lands and the U.S. Economy: Striking a Balance in the 1980s and 1990s." Wilderness Society, November 15–16, 1982.

Bruner, W. E. and P. R. Hagenstein. *Alternative Forest Policies for the Pacific Northwest*. Forest Policy Project, Washington State University, June 1981.

Buchanan, J. and G. Tullock. *The Calculus of Con-*

sent. University of Michigan Press, Ann Arbor, 1962.

Clawson, M. "The National Forests." *Science* 119(Feb. 20, 1976):4227 762–67.

Clawson, M. *The Public Lands Revisited.* Unpublished review draft, Resources for the Future, 1982.

Coase, R. "The Problem of Social Cost." *The Journal of Law and Economics,* Oct. 1960, 1–41.

De Alessi, L. "Implications of Property Rights for Government Investment Choices." *American Economic Review,* 59(1969):1 13–24.

De Alessi, L. "Property Rights, Transaction Costs, and X-Efficiency: An Essay in Economic Theory." *American Economic Review,* 73(1983):1 64–81.

Demsetz, H. "Toward a Theory of Property Rights." *American Economic Review,* 57(1967):2 347–59.

Dowdle, B. "An Institutional Dinosaur with an Ace: Or How to Piddle Away Public Timber Wealth and Foul the Environment in the Process." *Bureaucracy vs. Environment,* Ed. by J. Baden and R. L. Stroup, University of Michigan Press, Ann Arbor, 1981, 170–85.

Fight, R. D., K. N. Johnson, K. P. Connaughton, and R. W. Sassaman. "Roadless Area—Intensive Management Tradeoffs on Western National Forests." USDA Forest Service, Western Resource Policy Economics Research, Portland, OR, 1978, pp 57.

Gardner, B. D. "Transfer Restrictions and Misallocation in Grazing Public Range." *Journal of Farm Economics,* 43(1962):1 50–63.

Gardner, B. D. "The Role of Economic Analysis in Public Range Management." Paper presented at a symposium organized by the Committee on Developing Strategies for Rangeland Management, National Research Council, Washington, D.C., Giannini Foundation Research Paper No. 626, University of California, 1981.

Gardner, B. D. "The Untried Market Approach to Water Allocation." Paper prepared for Symposium on the Colorado River Basin, Santa Fe, NM, May 25, 1983.

Gardner, B. D. and C. F. Nuckton. "Agricultural Lands in Transition." Paper presented at Conference, "Investing in Forestry's Future: Key Issues—A Symposium." Denver, CO, Jan. 17, 1983.

Hanke, S. H. "The Privatization Debate: An Insider's view." *The Cato Journal,* 2(1982):3 685.

Hyde, W. F. *Timber Supply, Land Allocation, and Economic Efficiency.* Resources for the Future, The Johns Hopkins University Press, Baltimore and London, 1980, pp 139.

Kremp, S. "A Perspective on BLM Grazing Policy." *Bureaucracy vs. Environment,* Ed. by J. Baden and R. L. Stroup, University of Michigan Press, Ann Arbor, 1981, 124–53.

Krutilla, J. V., M. D. Bowes, and P. Sherman. "Water Management for Joint Production of Water and Timber: A Provisional Assessment." Discussion Paper D-103, Resources for the Future, 1983.

Krutilla, J. V. and J. A. Haigh. "An Integrated Approach to National Forest Management." *Environmental Law,* 8(1978):2 413.

Lanner, R. M. "Chained to the Bottom." *Bureaucracy vs. Environment,* Ed. by J. Baden and R. L. Stroup, University of Michigan Press, Ann Arbor, 1981, 154–69.

Libecap, G. D. and R. N. Johnson. "The Navajo and Too Many Sheep: Overgrazing on the Reservation." *Bureaucracy vs. Environment,* Ed. by J. Baden and R. L. Stroup, University of Michigan Press, Ann Arbor, 1981, 87–107.

Niskanen, W. A. *Bureaucracy and Representative Government.* Aldine-Atherton, Chicago, 1971.

Samuelson, P. A. "The Pure Theory of Public Expenditure." *Review of Economics and Statistics,* 36: 387–89.

Smith, V. L. "On Divestiture and the Creation of Property Rights in Public Lands." *The Cato Journal,* 2(1982):3 663–86.

Sowell, T. *Knowledge and Decisions.* Basic Books, Inc., New York, 1980.

Stroup, R. and J. Baden. "Property Rights and Natural Resources Management." *Literature of Liberty,* Oct./Dec. 1979.

Stroup, R. and J. Baden. "Endowment Areas: A Clearing in the Policy Wilderness." *The Cato Journal,* 2(1982):2 700.

Teeguarden, D. E. "A Public Corporation Model for Public Land Management." Invited paper, Public

Lands Symposium, Utah State University, Logan, UT, April 1982.

Tullock, G. "The National Domain and the National Debt." Unpublished Paper.

U.S. Department of Interior, Bureau of Land Management. *Public Land Statistics*, U.S. Government Printing Office, Washington, D.C., 1979.

Varian, H. R. *Microeconomic Analysis*. W. W. Norton and Company, New York, 1978, Chapter 8.

Wicksteed, P. L. *The Common Sense of Political Economy*. 1910.