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Looking Before Leaping: Land Use Legislation and the Need for Economic Analyses*

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> "I think strip mines are fun. They are lovely. What is the matter with strip mines? It is the most interesting country. . . . People go 2000 miles to Arizona to see a natural strip mine"
>
> --K. Boulding [2, p. 311]

If present trends continue, there will soon be a legislated necessity for extensive land-use planning. The recent demise of first Senator Jackson's and then Representative Udall's land use policy bills seem to have been more a product of Watergate politics than a reversal in legislative direction. It also appears that the states will have primary authority for developing land use controls; policy makers will have need of fundamental information as to the impacts of various land use control measures. Economics as a discipline should have an advantage in the provision of some of this information.

Yet, so much of what is purported to be land use control in the good of public interest seems to be nothing more than one group's value system imposed on another's. Economics as a discipline has never claimed to be interested in refereeing such interpersonal squabbles. Therefore, it is appropriate to examine the contribution that can be reasonably expected from economics analyses of issues relevant to land use controls.

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Economic analysis can be thought of as contributing to land use planning processes through at least two dimensions: (1) predicting the consequences of alternative property rights allocations and (2) designing new institutions to achieve politically determined goals of land use. Each of these two research objectives contain several components.

For example, predicting the consequences of alternative property rights allocations, could be thought of simply as benefit-cost analysis of various land use legislation. In reality, however, the prediction of consequences is multidimensional involving not only the difficult task of estimating the magnitude of the benefits and costs, but also identifying the incidence of these costs and benefits.

The importance of analyzing redistribution effects of land use controls becomes apparent once one recognizes that the institution of property functions to distribute benefits and costs from resource use [19, p. 95]. Property is not a physical entity; it is a legal (and/or cultural) entity. Thus viewed, property is the legally (and/or culturally) sanctioned opportunity or freedom to buy, sell, and utilize resources. Therefore, what expands the options of one individual, normally contracts options of another. Protection against trespass by others also limits others' options to trespass, i.e., utilize some resources. One person's benefits become another person's costs, although not necessarily of the same magnitude.

"One Man's Externality is another Man's Income" [14]

For example, the recent Virginia Wetlands Act limits development in Virginia's tidal marsh land areas. The Virginia's Wetlands resources yields benefits to a diverse group of individuals, located throughout the state. Indeed, many of the ecological benefits from preserving wetlands accrue to non-Virginians. The costs of such preservation, in contrast,

are largely borne by another public, the landowners situated in the designated critical areas. And, to the extent preservation restricts tax revenues, local governments also sustain losses. The distribution of the gains and losses from this new definition of wetland's property rights is obviously uneven. If economists are to predict consequences of alternative property rights allocations, then, research must examine behavior--the aggregate effect of individuals reacting to the imposition of a new set of property rights and interrelationships.

One would not, for example, expect the owners of Virginia wetlands to be enthusiastic in their compliance with the spirit of the law, particularly since no compensation for foreclosed options was offered, and this has indeed been the case; the Wetlands Act as well as Virginia's Critical Environmental Areas Act have become ineffectual pieces of legislation due to the failure of the Commonwealth's General Assembly to provide mechanisms for establishing enforced procedures and standards. Yielding to the property owners' resistance was apparently the politically expedient course of action.

Another illustration of the importance in prediction of identifying beneficiaries and cost-bearers of land use legislation is provided by Florida's recent attempts to designate 1.2 million acres within the proposed Big Cypress National Fresh Water Preserve as a critical Watershed Area. [4] Much of this acreage was to be put under public ownership, but there was 650,000 acres to be protected by regulation with no assurance of compensation to the restricted landowners. Property holders were outraged. One frustrated farmer summed the feelings when he shouted the question, "If my land belongs to all the people, then why the hell am I paying taxes on it?" [11] Enough people shared these sentiments so as to politically out-

number the Division of Planners. A new and less ambitious plan was formulated. Resistance to the new plan remains, and it is easy to understand why; the landowners are acting to protect their perceived self-interest, not withstanding the fact that the Cypress watershed may be critical to Florida's future water supply.

After all, cattlemen and farmers have chosen to invest in property. The farm or ranch may be the owner's insurance policy, his pension fund and his children's education fund. [9] He rested secure as he witnessed the urban advance that when the time was right he would capitalize on those stored values. It is no wonder, then, that the landowners gather all possible political forces to resist a redefinition of their property rights.

One of the most difficult tasks ahead for governments will be the balancing of opposing interest groups, the deciding of whose values are going to count, and the determining of which public will form the public interest. These are questions that may lie largely outside the realm of pure economics. And, it may well be that some of the most important questions in land use are not the ones that will be answered through the tools of economics.

It has been suggested with regard to property institutions that "what appears to be needed are criteria against which a given situation may be judged to determine whether public or private decision-making is more likely to lead to 'desirable' results." [5, p. 546] That is the issue of course. However, the development of appropriate efficiency criteria is only one dimension of the development of optimum criteria.

In this search for criteria to analyze the impact of land use controls, economics does provide a framework for analysis of the impacts of this type

of land use control although it does not offer legitimization to any of the participants affected. It is obvious that the functioning of the present markets of land exchange coupled with the current definition of property rights have resulted in various land uses distinguished, in part, by externalities that impost costs on others. The landowner often has no incentive to alter the use of his property because he will receive only a fraction of the benefits from controlled land use and bear all of the costs. Whether or not the property owner should be forced through legal mechanisms to acknowledge these costs is, however, a political question.

In the Florida case, it is probable that the marginal social benefits of protecting the watershed exceed the marginal social costs of the loss of some individual's development rights, ceteris paribus. That the gains outnumber the losses is not, however, a sufficient condition for public intervention. Captured in the ceteris paribus is the existing pattern of income (as well as power). Efficiency measures, of course, are defined for given income (and power) distributions, which is another way of stating that efficiency is a function of the existing configuration of property rights. A non-ethical ranking of various land use policies is not possible without first establishing an income (and power) distribution as a norm. In other words, analyses to provide economic rationales for land use controls in terms of "internalizing externalities" ignore the fact that externalities are ubiquitous. Altering and redefining property rights through land use controls to "internalize externalities" impose a new set of externalities on a different group of individuals, and society is left with the problem of choosing between externalities. [14] The problem is political, and there is no value-free way of accomplishing such a selection.

Impacts of Land Use Controls

If the political process is to effectively pursue the illusive target of public interest, however, it needs information. Just because one does not like the results emanating from the present pattern of land uses, does not imply that one will prefer the outcome resulting from new land use property rights. What are the short run and long run consequences of land-use legislation? How will such legislation redistribute rents and to whom; how will such legislation affect production?

For example, industrial compliance with the present and foreseeable land use controls will be an expensive process for those engaged in private businesses. Long before the firm celebrates grand opening, impact statements will need to be prepared, plans will need to be approved, expensive adjustments to stipulated land developments made. And these early development costs are likely to be equally as high for the smaller firms. Farmers, for example, have already encountered increased costs in meeting water sedimentation and pesticide controls. These and future costs are not likely to be directly proportional to the size of the farm. For this reason it can be argued [12, 14, p. 124] that some land use controls are a form of discriminatory tax on small businesses, and that this 'tax' could eventually mean the demise of these small firms. Land use controls, in other words, may force an evolution toward the large size firms and may concentrate land holding among fewer hands. Domination by large firms is not the conscious objective of the regulatory policies but it could be the end result nevertheless. In a society which has from its beginning highly valued a wide disperson of land ownership and control, how will such potential effects be viewed?

An example of just such an evolution is provided by the impacts of the Clean Water Act. The Environmental Protection Agency estimates that new pollution guidelines for the nation's 20,000 electroplating shops could add 15% to plating costs by 1977 and another 8% by 1983. They reluctantly conclude that hundreds of small shops will have to close. [15]

Even the level of decision-making implementing land use controls may be significant in determining the ultimate outcome. For example, Holmes makes a convincing argument that state legislated controls on energy facilities could result in restriction of energy production to a level that is less than optimal when considered from a national interest perspective. [8] The oil-rich states are reputated to have bumper stickers which proclaim "Let the Bastards Freeze." Should the control of energy uses of lands be left to state agencies, then? Yet undoubtably there are land use problems that are best left to the state authorities just as there are problems best solved at the local level. It has been said that "the federal government has a corner on the money, states have a corner on legal authority, and local governments a corner on unique problems."[1/] The impacts of such a division of resources and problems are unclear; but these impacts will undoubtably be affected by the specific issue of interest.

Even those impacts which are known are not well advertised and unfortunately, "People seem to choose sides in support of organizational reform largely in terms of the institution's own internal truth and beauty rather than with knowledge of substantive performance." [16, p. 899] Knowledge of substantive performance may, however, be the crucial issue to a society that professes to be a pluralistic society.

[1/] Raymond T. Olsen, Director of the Minnesota State Planning Agency as cited in [p. 127].

This is because a society that values freedom also will value a wide diffusion of power. And one of the main components of power in our society is the ownership of resources and the property rights thereto. Because property rights define who has the "right to benefit or harm oneself or others," [7, p. 347], the existing property rights allocation also defines at least one dimension of the existing power allocation. Therefore, the altering of the distribution of the rights to property implies the altering of the distribution of power. If land use controls that encourage and result in concentration of ownership are imposed, then the distribution of power is narrowed and freedom has been restricted.

A disservice is done if economic analyses obscure these distributional impacts. Unfortunately, the state of the arts is such that, with rare exception, the distribution of the costs and benefits of public policies is unknown and often unasked. [3, pp. 49-61] This ignorance is a direct result of neglect, perhaps due to an unjustified reliance on such principles as the Kaldor-Hicks compensation criterion. The differential impacts of policies such as land use control may ultimately be the most important in influencing the future structure of the economy. In other words, the distribution of rent gains is important not just in terms of equity, but also in terms of the type of product that results. [17]. This distribution resulting from reassigning property rights may influence the economically viable size of a firm, the ability of a landowner to provide non-income producing aesthetics, or even the stability of the political system.

Empirical Analysis

The difficulties of empirical analysis are formidable. What are the benefits and costs that result from redefining property rights? Who are

the gainers and losers? Zoning, for example, presumably reduces incidents of non-compatible development of adjacent lands and results in increased land values through the isolation of various uses into homogenous blocks. Risk and uncertainty associated with future revaluations of land is reduced. A measure of the redistributional effects would be the capitalized value of the increase in land values due to zoning, a windfall gain to present owners. Offsetting this is the capitalized value of uses foreclosed to owners due to the imposition of zoning. Excluded from these measures, however, are the valuations by non-owners of the improved aesthetics or the utility (positive or negative) received from the availability of homogenous neighborhoods. These are extra market transfers that could be of considerable significance.

Are the sum of these net transfers equivalent to net social gain? To what extent has the imposition of zoning altered production of goods and services? It is quite possible that market prices of land are not appropriate measures of productivity due to speculation, income tax distortions, social forces, etc. [1] The differences between sets of markets prices with and without controls, however, may provide acceptable measures of the market priced aggregate benefits of such controls. These benefits are essentially those of reduced uncertainty of expectations concerning future land values. [19] Other benefits include the extra market values previously mentioned. Empirically evaluating these requires resolutions of the familar problems of measuring non-priced benefits. Market valued costs are the productive uses and services of the land foregone due to zoning restrictions. But, zoning has been used to maintain economic, racial and cultural segregation. How much of this discrimination has been an income and power distribution from the disadvantaged to the advantaged, and how much of this has resulted

in loss of productive services is difficult to say. Neglecting these costs probably results in biasing any net benefit estimations in a upward direction, although one might reasonably argue that such economic discrimination would have existed with or without the aid of land use controls. The same argument would not apply, however, to production foregone due to concentration of ownership.

A final complication concerns the suitability of analyses of aggregated net benefits for policy formation. The relevant question for most policies is when do the marginal rates of return from (additional) land use controls fall below the marginal costs. How many acres in "open space" are enough? A political question to be sure, but one that requires some fundamental information for knowledgeable decision-making.

Economists and Institutional Design

In addition to provision of such impact information, there is another area that involves economic research opportunities: the designing of new institutions to achieve politically derived goals of land use.

The fundamental principle of self interest, or what Boulding calls models of advantage, provide some guidance for innovative approaches for design of such new institutions. If landowners are reacting with hostility and opposition to land use regulations because they perceive the costs of such regulations to exceed the benefits, can policies be designed in such a way as to alter the costs and benefits associated with the regulation, or alter the perception of the costs and benefits - so as to gain support and compliance? If speculators and developers have a profit incentive for circumventing, thwarting, or sabotaging designated land uses, can the process be de-profitized? These are some of the thoughts that have focused atten-

tion on use value assessment taxes, compensatory zoning, flood plain insurance, and the purchase of development rights, etc.

Substantial progress in this area, however, requires a fundamental understanding of how present institutions operate. Behavior models rather than advantage models are needed. What is the relationship of present ownership patterns to decision-making affecting resource use? For that matter, what are the present ownership patterns?

Property ownership information is so limited that it is difficult even to determine whether or not concentration of land holdings is accelerating because of land controls. Public records do not make it possible to determine the ownership and control of the land. Proof of this assertion rests in the existence of an enormous title insurance industry whose main function is to compensate for the lack of readily attainable property information. [19] This limitation compounds the behavioral researcher's problems since ownership information is essential in predicting reactions to and impacts of land use controls.

More needs to be known as to how various interests are represented in the political process. Low income inner city dwellers, for example, may not be participating in the formation of land use controls despite the fact that they will perceive private gains and losses from such legislation. For example, the Clean Air and Water Statutes are going to be very effective, if enforced, in influencing both existence and location of various firms. If some individuals have not obtained the American privileges of mobility that come from owning an automobile, and rely instead on mass transit facilities, they will definitely perceive gain or loss from various alternative locations of firms.

They are not, however, active participants in the political process. Apparently they have determined that the expected payoff from participating--the probability of success times the imputed value of success-exceeds the opportunity costs of participating. How has their lack of this group's participation affected the planning process and resulting policies? How has it affected their conduct in relationship to these policies?

An additional example of the issues involved in public participation may be found in the response to subsidized flood insurance programs in Virginia. Although 106 local governments have initiated the appropriate action to qualify their communities for Federally subsidized flood insurance, only 5,000 policies have been issued. Are flood plain dwellers ignorant of availability of insurance? Or do they perceive the cost of the limitations on the use of their property as exceeding the potential benefits from the insurance? If so, is that a proper calculation on their part, or are they underestimating the probability of a flood or the value of potential losses? Or do they simply doubt that they will be ineligible for Federal disaster relief?

Equally difficult questions involve identifying the externalities associated with local land use planning and control. What are the significant boundaries of land use problems? How does the provision of public services affect land use patterns? Frankly, we just don't know.

Boulding, in his writings on grants economies, suggests that when change is induced into a system what "adjusts is the adjustable and what is not adjustable has to bear the burdens (or benefits) of adjustment." [3, p. 53] Taxes and subsidies, in other words, tend to be incorporated into economic rent because economic rent arises from inelastic supplies. Thus, subsidies designed to influence land use, such as agricultural price sup-

ports, ultimately accure to the landowner and not to farm laborers. Similarly, use-value assessment, to the extent they result in lowered property taxes, will be capitalized into the value of the land. The challenge to economists relative to land use is to identify the adjustments that will take place following legislation, both in terms of magnitude and incidence. These are fundamental pieces of information essential for knowledgeable policy formation.

Failure to meet this challenge may prove to be very costly.

A Beginning. . .

The thoughts presented in this paper reflect some of the authors interests in investigating land use policies and regulations. We are presently conducting a research project with hope of analyzing some of the impacts of land use legislation. As part of this study, we have hired a law student to study existing legislation of thirteen southern states. Although six states have enacted statutes that may properly be termed comprehensive land-use programs, eight have not. These eight include South Carolina, Mississippi, Louisiana, Texas, Oklahoma, Arkansas, Tennessee and Kentucky. Upon completion of this student's work this summer, we hope to categorize various pieces of legislation in terms of effectiveness as well as by various incentive mechanisms: bribe, coercion, appeal, etc., upon which the legislation depends. This will form the kernel for beginning to confront some of these questions of ultimate impacts.

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