

## ***Farmland Protection Policy: An Economic Perspective***

by  
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### ***Background and Conceptual Overview***

Public actions to encourage retention of productive farmland are firmly established on the policy agendas of all 50 states and most local governments (Sorensen). Approaches cover the full spectrum of government authority, from regulations enacted in the name of public health, safety and general welfare, to various manipulations of the tax code designed to encourage farmers to continue active farming, to programs that acquire the land use discretion necessary to retain open lands. Protecting farmland requires directing the pattern and pace of development. The two distinct sets of policy, farmland protection and growth management, are like blades of a pair of scissors. Both are needed but neither makes much of a difference on its own.

The purpose of this paper is to introduce some of the subject matter of farmland protection policy and to draw upon the discipline of economics for the rationale for such policies, to explain conditions surrounding the farmland market, and as a basis for identifying successful farmland policies.

***The Federal Presence.*** While land use planning and control are essentially state and local matters by legal and cultural tradition, the feds have influenced farmland policy evolution and have taken a direct role in regulating certain defined "critical resources." Senator Henry Jackson from the state of Washington proposed a national system of support for state land use planning and growth control in 1970. Its intent was to encourage systematic attention to development patterns and to bring some consistency to state efforts. The bill passed the Senate but died in the House, perhaps an indication that the prevailing political wisdom of the time preferred that such matters be left to the states with little or no federal oversight. Federal laws indirectly affecting farmland retention include the Endangered Species Act of 1973 requiring protection of species habitat, the Clean Water Act of 1970 that includes provisions for control of farm-generated nonpoint pollution and the Coastal Zone Management Act of 1972 that encourages state regulation of coastal lands. The 1985 Farm Bill introduced the notion that farmers should protect wetlands and erosive soils to be eligible for price and income supports and the 1996 Federal Agricultural Improvement and Reform Act retains key conservation provisions of the 1985 and 1990 versions and adds authorization for federal funds to be used for purchase of development rights on farmland. Of course the biggest kid on the federal block is the 1956 Interstate Highway Act which provides nearly all funding for America's expressways that encourage people to live in the countryside and work in the city or suburb (Nelson, pp.305-311). Transportation policy in general seems designed to accommodate people's lifestyle preferences, directly affecting the pattern and pace of farmland conversion.

***Why Protection?*** Economics may help with the "why" of farmland protection policy. In theory, optimal allocation of land or any other input resource is achieved when value of the increment of output attributed to an increment of input is the same for all production options. For any given enterprise or land use, the rational land owner will invest units of land to the point at which marginal value product of land (e.g., agriculture) is equal to the return to that land in an alternative use (e.g., house lots). Aggregation of that reasoning helps explain land use patterns for a region, state or nation. Barlowe (1986) discusses land allocation in terms of margins of transference among uses based on land rents accruing from those alternatives. The assumption is that land use choices are based on discounted present value of expected future returns to the product or service for which the land is an input. Transition among owners through the market facilitates use patterns consistent with available returns. We know that in fact farmers are motivated by more than income; they are stewards of the land tied to the land both by principle and inertia. But while some may wish it were otherwise, profit maximizing behavior is a far more reliable predictor of land use patterns than is any other alternative.

Since food supply is so fundamental to human life, why is its importance not reflected in returns to the farmer such that he could compete for land? The market does not distinguish between "nice to have" and "need to have" in the absence of scarcity. We do know that demand for food is less price elastic than most other products, but until there is real scarcity, consumer price of food will not produce enough rent to enable the farmer to compete with any other land user. In fact, food is in surplus in the United States and farm income support programs have tended to keep consumer prices low by reducing supply and price fluctuation. While the land market could act to bring land back into food production when prices get high enough, the transaction cost would be high and any lag could be deadly. We can do better than that.

It is clear that returns to the farmer include none of the external benefits frequently associated with active farming. Included are recharge of a groundwater aquifer, processing of wastes, habitat for wildlife, various values associated with fragile ecosystems, farmland as a hedge against future food scarcity and farmland as scenic countryside. Some people support farming as an intrinsically superior way of life, a relationship between people and nature that is inherently preferable to those that more fundamentally reconstruct nature. While any of us might argue with the validity of these social benefits, the fact remains that people care about these services and will argue or vote to get them through farmland protection programs.

The farmland conversion process exhibits classic symptoms of what psychologists refer to as a "social trap" (Cross and Guyer). Farmers, local officials and taxpayers are enmeshed in a complex of seemingly rational decisions that produce a result that no one favors. A real case we have examined in southeast Wisconsin is representative of a much broader set. A 44-year-old farmer and his wife run a mixed livestock operation that has been in his family since 1840. They enjoy farming but acknowledge that the future is at best uncertain. The town has no zoning ordinance of its own but falls under the county land use plan that defines prime agriculture as large uninterrupted areas of at least five square miles (3,200 acres). The county had recently changed from 35 acre minimum with at least 100 contiguous acres to the five square miles to acknowledge that active farming requires large blocks of land without houses scattered everywhere. Very reasonable, good thinking, but scattered development had already occurred under the old rules leaving few areas eligible for prime farm designation. The rest is largely rural residential with one or three acre minimum lot size and transition agriculture with some 35 acre "farmettes" as earlier permitted. New housing is sprouting in various spots throughout the county. In the townships near where the farmer lives, all rural homes are on private wells and septic systems. The county prefers that all new development be contiguous to an existing municipality on a central sewer. But in Wisconsin, the townships prevail.

With development popping up in a scattered discontinuous pattern, the possibility of selling for development is on every farmer's mind. Our farmer says he has been unable to purchase or rent more land because other owners are playing the time-honored game of real estate roulette. He doubts very much that his farm will continue beyond his own retirement. Their son wants to farm, but neither parent would in conscience urge him to stay on the home place. Township officials argue to protect the farmer's right to do with his land what he wishes. Rural residences raise the land value and tax base, which seems like progress. What they may not realize is that even without central sewer and water these units in rural subdivisions cost the town more to service than they produce in revenue. It is a pretty area of Wisconsin, with sparkling lakes and gently rolling terrain, accessible to Milwaukee and even Chicago on limited access highway.

Wisconsin has a statewide farmland preservation program that is supposed to reduce the tax burden on farmers sufficiently to keep them active and viable. The eligible farmer can receive a credit on his state income tax for the amount by which his property taxes exceed a threshold percentage of household income. The catch is that the farm must be located in a township or county exclusive agriculture zone. That requirement makes sense, of course, to assure that the farmer is committed to agriculture in return for the tax break. But when the town fails to enact such regulations in the interest of protecting full property rights for the farmer, the farmer cannot qualify for tax protection.

Our farmer does not want to quit farming and will continue until retirement. But his thoughts are already moving in that direction. He is distracted by the uncertainties of the future in his area and the possibility that he might hit it big, sell the family homestead and move to Florida or someplace. He would go with a sense of sadness at loss of the old homestead but with the feeling that the system was

somehow stacked against him. The town is frittering away the beautiful countryside that has made it attractive, while with a sense of neighborly loyalty protecting their farmer friend's right to sell whenever he and his wife prefer, thus reducing their resolve to continue farming. The son would like to continue farming the home place, but will likely take his parents advice and move elsewhere. No one is particularly happy about the situation, but all seem paralyzed, dealing with immediate short term symptoms, unable to see the complex whole.

Economics is a behavioral science, dealing with human response to incentives. The incentives in the Wisconsin land use case lead to a predictable result as individuals rationally respond to the circumstances they face. While policy makers had hoped for a different outcome, the rules surrounding the land market inexorably lead to a system performance contrary to the stated purpose. Economics can help the analyst understand current performance and devise incentives to change that outcome.

### ***The Basis for Land Value***

The farmland protection issue is centrally concerned with the land market and conditions under which buyers and sellers who are both willing and eligible to negotiate will do so. Land has value to people for several reasons. First, land is an input to various production processes that generate income. Thus, the price a buyer is willing to pay depends on the income anticipated over some reasonable planning period, discounted to reflect risk over time and alternative returns to those dollars. Land is essentially the factory for food production, bringing water, organic matter and minerals together in a growth medium. Parts of the land may be extracted and sold, dramatically altering the utility of that land in the future. Gravel, oil, minerals, even native grasses that may be processed through cattle are examples. Secondly, land is location where the value one gets from land depends more on where it is relative to other economic activities than on the intrinsic character of the land itself. Thirdly, land may be a consumer good, valued for its own sake not for the income it can produce. Some people just like to own things and get utility from the land title itself. Others value the land for its scenic character, as habitat for the wildlife they enjoy watching or just knowing about, or as an escape from the crunch of other people. In this case, land may be "consumed" without reducing its availability for others. It is part of the character of a place, a true "public good" in the sense that no one may be excluded from enjoying those services and marginal cost of an additional user is zero. All three forms of value, usually in combination, are important to people and establish the basis for a bid or petition against others in competition for that available utility. Because of its physical scarcity, land also has value as an immobile asset that may increase or decrease in value over time.

Thus, in a real sense, access to land is a commodity that may be bought, sold or otherwise transferred within the structure of rights and obligations that define a land market. Competition for land has no meaning outside of that institutional infrastructure that is part of the market. The mix of rules and incentives that affect options for land buyers and sellers will change over time reflecting values and preferences of the population.

### ***Effects of Farm Income and Wealth on the Value of Farmland***

As suggested above, a farmer's willingness to pay for the rights to use farmland will be conditioned by expected future income from that land and its anticipated asset value. Similarly, a willing seller will establish a reservation price based on his or her current income, perceptions of future income and the possibility of purchase offers based on that future income. The seller's willingness to take a chance on getting a higher offer will affect both the timing and the nature of the sale. There is always an element of uncertainty about future economic and policy conditions that will serve to discount expected future returns and the seller's offer. The farmer is essentially comparing expected appreciation in land value to alternative returns to those dollars (see Gertel and Atkinson). While there are frequent assertions that rampant speculation in future income potential results in escalation of land prices beyond reasonable income potential, Tegene and Kuchler found no such divergence between capitalized rent and price in their analysis of farmland prices during the 1970–80 period of rapid increase (1990). Tavernier, et. al. have concluded that given higher risk aversion among farmers than among other farmland owners, programs designed to retain farmland with tax reductions or other means of improving farm incomes will be more successful with non–farmer owners than with farmers (1986). Farmer–owners may be less willing to take a chance on future farm viability than will the non–farmer for whom the farmland is but one part of a more diverse portfolio, or who realize non–monetary returns from the land.

There is a substantial literature examining the relationship between income levels and land price. Actual land prices have been linked to lagged income (Alston; Burt), cash rents (Robison, et al) available credit, credit policies and interest rates and a more complete decomposition of economic factors affecting expectations of those in the land market (Just and Miranowski). The effects of new production technologies on income expectations have been analyzed (Herdt and Cochrane).

### ***Effects of Policy on Land Value: A Review***

Any land market is nested in an institutional set. Land market decisions are made in the context of various rules that determine eligible competitors for rights to particular parcels and the terms under which those rights may be traded (see Runge, 1995). Some rules determine uses to which land may be legally put, as with a land use zoning ordinance, deed restriction or development rights contract. Others affect land use by influencing net income of the owner or potential buyer. The use value tax incentive, for example, is supposed to encourage the farmer to continue farming by lowering her business cost; the farm commodity program is designed to reduce price and income uncertainty for the owner affecting land use patterns indirectly by making life easier for the farmer. Income tax provisions may encourage the farmer to buy more land to take advantage of differences between taxes on income and capital gains or defer capital gains taxes on a farm sale by purchasing another farm. Subsidized credit or crop insurance will influence land decisions by the farmer and therefore the price of farmland. Rules to protect environmental quality may require the farmer to shift to more expensive production practices, to essentially take on some of the external cost of farming. While environmental and tax laws are not targeted at land use patterns, they influence land use through the decision process of the farm manager.

***Farm Policy Impacts on Land Value.*** Whenever farm policy is up for revision, there is much attention to the potential impacts of such changes on eligible farmers. Featherstone and Baker estimated that 20 percent reductions in farm program payments under the 1995 Farm Bill would depress land values by 2 percent to 3 percent in the Corn Belt (1996). Johnson and Van der Sluis project 2 percent to 5 percent per year reductions in the price of Midwest farmland as commodity supports are phased out over seven years under the 1996 Farm Bill. Featherstone and Baker made similar predictions about likely effects of simulated movement from controlled to market prices as policies change (1988).

Value of the right to produce a given crop is quickly reflected in the price of the eligible land. Production acreage quotas are the most restrictive controls, accounting for up to 38 percent of land value for burleigh tobacco farms (Vantrees, et. al.), adding \$1.51 to the value of a pound of flue-cured tobacco and \$14,344 to the value of an acre of land in the early 1960s (Seagraves). Eligible crop base under recent farm legislation was worth \$200 per acre for Iowa corn farms (Herriges, et al) and \$98 an acre for cotton land where the whole farm was covered by cotton base (Duffy, et al). Publicly subsidized erosion reduction will protect land values, amounting to \$170 per acre in one Iowa county (Hertzler, et al). Draining wet soils, again through public programs and funding, generated an average 34 percent increase in farmland value in a 1989 study (Palmquist and Danielson).

***Tax Policies.*** Governments levy taxes to generate the revenue required to deliver the services demanded by citizens yet not feasibly produced by the private sector. As population increases and becomes more diverse, demand for services will increase. At the same time, more people means greater tax paying capacity, with little evidence that rate of taxation must necessarily increase with population demand (Oakland and Testa). Basis for a tax is either ability to pay (income tax, property tax) or benefits received (user fees, exactions). To the taxpayer, the amount of tax becomes a business or personal cost to be borne, thus affecting location and other decisions. Tax on land becomes the carrying cost of the current land use. If amount of the tax truly reflects land rent or income returns to land, it is an accurate reflection of ability to pay and should not affect the owner's land use choices (Ladd). In reality, the price that a buyer is willing to pay for a given parcel reflects expected future income as well as various nonmonetary services of land and thus may affect tax burden for the current owner (see Bourassa; Runge, 1993).

Market value is seldom the only variable used by assessors in appraising land for tax purposes, but it will have a major effect. If the land market indicates an income earning potential for a given parcel greater than current land income to the owner, taxes will rise, creating the incentive to increase land

use intensity to match the tax. Under those circumstances, taxes will clearly affect the land use pattern, whether or not that income potential is realized (see Bentick). A tax on expected rent reduces the incentive for speculation and improves economic efficiency of land use patterns (Tideman).

Changes in the tax law or differences in tax burden across municipal boundaries will be reflected in the price of land. The seller will attempt to capture the lower tax burden in his reservation price and a buyer may be willing to pay more up front to reduce her future tax burden. Taxes were negatively correlated with land prices in a study of Indiana farmland values (Scharlach and Schuh). Robison et. al. concluded that the increase in number of land transactions in the 1980s may be partly explained by increases in capital gains taxes contained in the 1986 Tax Reform Act. Since many farmers experienced capital losses during the 1980s, the increased tax rates would create an incentive to sell land to have those capital losses available to offset other income. The tax law changes essentially generated an additional return to land during that period for landowners with other taxable income. Differences in development impact fees, exactions and other special assessments across municipalities will affect investor decisions and will be reflected in land price and therefore the pattern of development (Altshuler and Gomez-Ibanez; Skidmore and Peddle). A developer may actually select a site based on differences in development exactions (Porter, p. 119).

Differential assessment laws in nearly all 50 states reduce the carrying cost of farmland by requiring assessments based on current agricultural use value rather than market value. The declared intent of such laws is to enable farmers to resist development pressure and stay in farming longer than they would otherwise. Whether such deliberate manipulation of taxes in pursuit of a land use goal is successful is open to question, but it undoubtedly affects the pattern of development. Nelson has argued, "Society thus induces inefficient urban sprawl by subsidizing speculative behavior among both speculators and farmers" (1990, p.128). Capitalized value of the tax reduction under the Illinois use value assessment law amounted to approximately \$1,000 per acre in a 1982 study (Chicoine, et al).

***Land Use Controls.*** Regulations designed to restrict use options available to owners or buyers in the interest of encouraging a certain land use pattern is a direct incursion into the land market. Some restrictions increase land values; others reduce the price the seller is able to attract. If those restrictions are meant to retain open land for farming, ranching or simply a scenic rural countryside by prohibiting more intensive uses that would return more income per acre, they would likely be price depressing for the owner. In some cases, however, proximity to protected open lands will increase the value of nearby houses or available land (Nelson, 1985). This may be aesthetic value associated with adjacent open space, or simply price increase resulting from restricted supply of developable lots (Pollakowski and Wachter). While there are several analyses of the impact of zoning on costs of residential or commercial development (see Runge, 1995 and Holway and Burby), there is little empirical evidence of how regulation may be capitalized into price of farmland. In their analysis of Wisconsin farmland prices, Henneberry and Barrows (1990) measured positive capitalization of zoning into farmland value based on expected reduction in conflict with non-farm neighbors and certainty of future development patterns. Thus, in their case study area near the cities of Janesville and Beloit, Wisconsin, farmers were willing to pay more for zoned land than for land with a less certain future. The premium was highest on large parcels furthest from the urban areas. A complication in this study was the fact that farmers seeking tax relief under the Wisconsin circuit breaker program must be in an agricultural zone. Thus some farmers actually request such zoning to eligible for the tax break. Gleeson (1979) determined that the presence of growth management rules in an area near Minneapolis explained more than two-thirds of the difference in farmland values from areas permitting to areas prohibiting development. Other locational variables were controlled to arrive at the effect of growth management rules on land value. In a similar analysis of agricultural zoning impacts in Quebec, Vaillencourt and Monty discovered a 15 percent to 30 percent reduction in farmland value attributable to zoning (1985).

"Environmental impairment" of land value is considered in land appraisals, with such impairment defined to include restrictions on use that result from environmental damage or limitation of some type (Wilson). The general concept of impairment seems applicable to the regulatory case where potential discounted future income is constrained by limits imposed to avoid damage to the environment or another aspect of defined public interest.

### ***Selected Cases of Farmland Policy***

There are three prerequisites to success in farmland protection policies, those programs whose central goal is to encourage retention of good farmland. First, the successful program must acknowledge that a farm is more than land. A program that focuses on land but overlooks the management part of a farm is bound to fail. It may keep land from being developed, but will not retain economically viable open land with the opportunities and incentives that make land a farm. Open, unattended land with no economic return will not long resist development, nor should it. A successful program leaves initiative with the farmer and works toward economic circumstances that are both attractive to the farmer and responsible to the broader society. It is essential that the incentives inherent in the market rules reinforce private land use behavior that has social utility as well.

Secondly, a successful program must distribute the cost fairly, or at least in a manner generally acceptable to the population. Any change in "the rules of the game" imposes cost and grants benefit on participants in the economy. Distribution of those impacts is important to success and is an important part of any policy analysis. Land regulation to protect farmland imposes full cost on the landowner by removing certain options for future use. The assumption is that since gains to the rest of the population exceed cost to the farmer, the public interest is served. Benefit is widely dispersed, cost deeply concentrated, with the frequent result that desired land use behavior is lost. The land owner has few management options. The incentive structure may not produce behavior necessary to achieve the goals established for the rule change.

Purchase programs, on the other hand, compensate the landowner for whatever rights are transferred. Taxpayers generating the source of revenue pay the bill. If land is bought outright to keep it out of development, government finds itself in the uncomfortable position of trying to manage the land for the benefit of society. That approach has worked reasonably well for forests and parks, less so for rangeland, but government employees have little demonstrated success running a farm. The more familiar approach is acquisition of development rights only, leaving the right to farm with the original owner. The farmer gets paid for rights sacrificed while retaining the opportunity to competitively farm the land.

Tax incentive programs vary in their distribution of cost and benefit from the policy change. Generally, programs that simply offer the farmer an incentive to continue farming without any obligations in return are unlikely to remain popular with the broader society. They look like one way transfers from other taxpayers with no "workfare" requirements, and we all know that such welfare programs are unpopular these days. These programs may in fact exacerbate urban sprawl and loss of farmland by reducing the cost of land speculation (Nelson, 1990). Such programs continue to operate in several states, including Florida and Illinois. The more palatable approach is to require a tax rebate, with or without additional penalties, if the land use changes from farming to something else. There are various safeguards to assure that eligibility goes only to real farms (Cole). If the tax incentive works through the local property tax, other property owners must pick up the burden avoided by farmers. If an income tax circuit breaker approach is used as in Michigan and Wisconsin, all income earners of the state are paying the tab.

Thirdly, all levels of government from state to local must be involved. State mandate without local discretion will not withstand pressure from home rule counties or localities that feel imposed upon. County planning must be consistent with local. Local action is necessary but not sufficient for success. Economic systems are porous, not isolated or self contained. Incentive structures contained in policy must, to the extent possible, acknowledge economic and social relationships among parts of a system.

In my view, farmland protection programs in New York and Michigan meet these criteria better than programs in any other states.

***The New York Approach.*** Statement of legislative intent for the New York Agricultural District Law of 1971 is "... to promote a locally initiated mechanism for the protection and enhancement of agricultural land for agricultural production" (Bills). Farmers controlling at least 500 acres or 10 percent of the land in an area may propose to the county government that an agricultural district be created for an initial period of at least eight years, subject to recertification. Eligible land must be "... highly suitable for agricultural production and will continue to be economically feasible for such use

..." if outside pressures are reduced. All districts are reviewed and may be modified after eight, 12 or 20 years, depending on the original contract. The state department of agriculture must review the local proposal to assure it is consistent with overall state policy and land quality requirements. Public hearings are required as in the formation of any other special district.

Once a district is established, farmers have positive support for continuing active farming in the presence of non-farm pressure. Eminent domain rules are modified to avoid location of facilities in the district. Public funds cannot be advanced for sewer development or other infrastructure that would hasten conversion. Special use districts cannot levy user fees on farmers to finance local services and farmers may be eligible for use value assessment.

As of the end of 1995, there were 411 districts in 50 of New York's 57 counties totaling 8.4 million acres, for an average of 20,635 acres per district. Both metropolitan and non-metro counties are active. Only counties close to New York City or in the mountainous Adirondack region have no districts. The New York program works because:

1. Farmers take the initiative, doing something for themselves in the broader public interest, and collaborating with other farmers in the process. Private incentives are consistent with public purpose
2. It is targeted at farming, not just land.
3. Districts include some rural residential, commercial and idle land, but farming has a clear, positive productive role. It is not just a holding area for future development.
4. Districts accommodate change, they do not lock up land permanently. They rely on enlightened self-interest for success.
5. It is a statewide program, with local action.

***The Michigan Approach.*** Michigan also has a strong state commitment to farmland protection with local action and individual farmer initiative. Farmers can offer a development rights transfer on their active farmland for a minimum of 10 and a maximum of 90 years. In return, he or she is eligible for a state income tax credit for the amount by which property tax exceeds 7 percent of household income. At the end of the contract period a lien for the last seven years of tax credits is placed on the property. If the agreement is terminated prior to the end of the contract, all credits plus 6 percent interest must be repaid. As of September, 1995, 4.45 million acres, 43 percent of eligible farmland was enrolled in such an agreement, with \$64.6 million in credit paid to farmland owners in 1993 and \$860 million total in the 21 years of program operation. As in New York State, participation is lowest in the most urban and least agricultural rural counties. Funds collected through the liens will be redirected to local programs for purchase of development rights.

Recent tax reform in Michigan shifted school finance from the property tax to other revenue sources, including a higher sales tax. As a result, tax credits under the Michigan farmland protection program are expected to decline to \$18 to \$20 million a year. In 1994, however, Governor Engler empaneled a special statewide task force to recommend improvements to the total package of farmland protection rules. State commitment to the overall effort remains strong.

### ***Conclusions and Implications***

Land is an immobile, limited supply asset that has value as an income generating input, a consumer good valued for its own sake and as a physical location for income earning activities. It is the uses of land that come and go, not the land itself. Thus efforts to "preserve farmland" are really designed to retain a pattern of land use in which farming is prominent. In a real sense, farmland is not "lost," farmers just decide to do something else or sell to someone who will. The land is still there and will change uses many times over a period of years. Some land goes back into farming, forest or open space as economic circumstances change for the owner. Farmers as owners and /or operators are not the only ones having an interest in how farmland is used, thus public policies are designed to influence the farmers' decisions. All public rules in our society affect relationships among individuals, balancing rights and obligations of citizens. Land use patterns reflect the results of bargaining, competing, even cooperation among citizens/voters/taxpayers within that structure of rules.

Several lessons seem to emerge from the dense fog of farmland protection policy. This is not a clean and precise area, with sharp lines and consistent if-then relationships that produce satisfying results for the analyst. In fact, many would argue that economics is the problem, suggesting that a land use

pattern of constantly increasing intensity is efficient and therefore "best". That is the quick and easy conclusion from using our discipline as a normative template for resource allocation. Farming is indeed near the bottom of the rent pyramid, claiming land only until a higher and better use comes along. We can get more from our discipline than that. Economics can help us understand the forces that bring about land use change and the relationships between incentives and action that may sustain a certain land use pattern. Economics is at base a behavioral science that helps predict the results of a certain incentive structure. We must begin with explicit inclusion of the rules and institutions that allocate rights and obligations among competitors in any market system. Nowhere is that inclusion more essential than in the market for farm and other open land. Economists are the analysts best equipped to observe and measure performance or results of transactions and behavior within given sets of institutions.

Discussion of the "why" of farmland protection policy may be useful for the lecture on externalities or as a general source of intellectual exercise, but is largely beside the point in policy debates. People out there think there is an issue and are willing to act on that belief. It's an issue because people say it's an issue. Our best role is to add supporting logic to what people already know is important, to help them understand the roots of the issue. There can always be useful debates about elements of that logic.

Finally, the industrial organization model in economics offers a robust framework for considering the relationships between the institutional structure of a particular decision system, like a land market, the behavioral incentives inherent in that structure, and the performance results. Institutional changes yield predictable differences in performance, given our understanding of how people respond to incentives. There is no suggestion of better or worse land use performance, just different. "Efficient" land use as conventionally defined in economics is but one possible pattern of use. Its performance, including distribution of impact, can be compared to other use patterns. The analyst can assist the decision process by identifying the likely performance results of a policy change, unincumbered by the prescriptive baggage surrounding the notion of land use efficiency. We can be most helpful if we maintain this healthy mixture of disciplinary tools and common sense.

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