Farmland Tax Policy:
The Case of DeKalb County, Illinois

by
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The Policy Setting

Agricultural policy in the United States has a long and storied history, yet provides the casual observer with a seemingly impenetrable morass of rules, regulations and programs at federal, state and local levels covering a broad range of economic factors affecting food production (Browne, 1988a; 1988b). While it may be generally agreed that national food policy is an important area of government activity, questions remain as to what the correct policy ends should be, and the means by which they should be achieved. This paper deals with one aspect of farm policy, tax policy designed to encourage retention of land in farming. It will consider both the efficiency and distributional implications of use−value assessment of farmland.

Reasons cited for preserving high quality farmland in the United States, especially land under development pressure, fall into two major categories. The first set of reasons concerns land as the productive factory for food and the responsibility of government to assure adequate food production capacity for present and future populations in the United States. The Ubited States food system is crucial for global food supply as well. While rates of population increase have stabilized in the United States and other developed nations, the situation is quite different in the less developed countries of Asia, Africa and South America where lack of productive land, water and other resources is seen as the greatest single threat to human security (Kaplan). The second set of reasons, less obvious but equally important, is the need to provide various indirect services that serve the public good, such as open spaces and wildlife habitat [2] (Gardner, 1977:1028−1029; Nelson, 1990:120). United States farmland is really a multi−commodity resource that contributes in many direct and indirect ways to the quality of life.

Food Security

Ensuring future food production capacity through the preservation of prime farmland is not a goal easily attained. Critics suggest that prime farmland converted to other uses may be replaced by higher production levels on the remaining prime land, conversion of good land currently not in production and the use of lower quality farmland if necessary. They argue that technology permits substitution of capital for land and labor in agricultural production functions while increasing yields (Crosson, 1988:176). Such technological advances as "smart−farming," which utilizes satellite mapping and computer modeling, and biotechnology are better suited to high quality farmland than marginal land. Agricultural biotechnology, in particular, has seen growth in field testing of crops that fit the current system of agriculture. These crops were developed to utilize the best land available, with only a few field trials of crops appropriate for marginal land. Examples are drought resistant and heavy metal resistant plants (Stewart and Sorensen, 1996). It is intuitively clear that America's prime farmland, the basis for any optimism about future food sufficiency, is not limitless. It may be squandered needlessly, a few acres at a time, reducing the options available for future populations.

Another argument pertaining to the development of farmland is that if the need arises, and food scarcity causes food prices to rise enough to make farming competitive with development, prime farmland may be converted back to its original use. However, this argument is somewhat disingenuous. Conversion of land back into agricultural uses from residential and business uses would entail a major investment of public and private funds. In addition, it would depend upon unreliable and frequently misleading market signals that may or may not trigger timely response. The increased transaction cost of converting land from developed to agricultural use would be substantial. Policy which anticipates potential need for future land supply would ultimately save the public money. It is simply more prudent to act wisely now through public policy and not rely on crisis for such important matters.

Public and Quasi−Public Goods

Prime farmland also may be considered a public and/or a quasi−public good. Besides providing food

and commodities for present and future generations, farmland also serves various environmental and aesthetic needs (Nelson, 1990:121; Sorensen, 1996). Prime farmland serves environmental concerns through the provision of water absorption in case of flood, air and aquifer recharge to limit and/or reduce pollution, as well as serving as a wildlife habitat. Farmland is productive open space contributing to the general aesthetic character of a place and a source of physical separation or privacy. Aesthetic concerns such as these are valued by individuals who see rural life as a sanctuary from the travails of modern urban existence.

In addition, and possibly as a result of relatively few Americans actually owning land (Lewis, 1980), there has been a shift by the general public to viewing farmland and open space as a public good (Batie, 1995; Bonnano, 1991; Connerly and Frank, 1986; Libby, 1994). Along with this shift has come a protective attitude toward farmland and open land itself, especially in cases where popular support for farmers may have eroded. If this trend toward viewing farmers negatively continues, it can be expected to have an impact on what policies are enacted, and how strictly they are implemented. As has been suggested by Schneider and Ingram in their "social construction of target populations," how a group is perceived, whether positive or negative, and how much power they have, determines the types of policies that are made pertaining to them (Schneider and Ingram, 1993). For instance, the American belief in the "family farm" has led to such distributive policies as direct and indirect subsidies for farmers, whether through direct cash payments or reductions in taxation. If, however, public attitudes towards farmers shift, with the family farm increasingly displaced by corporate units and farmers seen as insensitive to the environment (Libby, 1994:999), farmers can expect to submit to policies that are more regulatory in nature and over which they have less control.

Policy Tools Tools that are available for the protection of prime farmland may be either direct or indirect (Coughlin et al 1978:165; Forkenbrock and Fisher, 1983:25) spanning a continuum from regulatory policies, which limit the options available to land owners, to such distributive policies as the provision of publicly funded research and education, direct price supports, or acquisition of rights by governmental or quasi–governmental bodies.

One of the major tools which subtly manipulate the rules of the game, and lie between direct and indirect land use policy tools, are tax incentive programs. These are distributive policies that favor farmers in two senses. First, and most obvious, they provide a subsidy for remaining in farming. Second, but perhaps more important, this subsidy is not readily apparent, since it is money withheld rather than paid by government directly to the recipient. The subsidy is less obvious but the result is the same.

The rationale behind tax incentive programs is as follows. Because the amount of taxes an individual pays is based upon both the assessed value of the property and the rate of taxation, farmland owners are pressured to convert their land to other uses on two fronts. First, because the taxation of land is generally based on its "highest and best use," farmland on the fringe of urban areas will have a higher market value and therefore higher taxes than more remote land due to its accessibility to employment, urban shops and services, as well as its "aesthetic values" of open space and its location just far enough away from the central city to avoid crime, congestion and other negative externalities (Chicoine, 1981; Dunford et al, 1985; Nelson, 1986; Peiser, 1989; Scharlach and Schuh, 1962; Xu et al, 1993). Second, as development accelerates, so does demand for public services, such as schools, police and fire, sewer and water, and roads, with farmland owners presumably paying proportionally higher taxes for services that are not used as much (Nelson, 1990:122). As a result, the perception is that farmers will be forced out of farming, due in part to the higher taxes.

Therefore, the asserted rationale for providing differential taxation to farmers is to protect and enhance the various public goods of viable farmland by providing an incentive to discourage conversion of prime farmland to other uses. Because much of the most productive farmland is located in close proximity to urban areas (AFT, 1994), development pressures are strong. Even if farmers want to continue farming, the demand for more public services due to development pressures can be expected to press tax rates higher. Differential taxation presumably prevents farmers from being pushed out of farming due to higher taxes. More specifically, differential taxation assigns value to farmland on the basis of its current use as if it were not confronted by development pressures which drive up prices (Blewett and Lane, 1988; Coughlin et al, 1978:166).

Types of Use–Value Taxation
Land tax relief available to farmland owners may be seen as one of two fundamental approaches. The first approach, that of use–value assessment, is the preferred approach of the majority of states. The second approach, the farmland property tax circuit breaker, is used only in Michigan and Wisconsin (Forkenbrock and Fisher, 1983:28).

There are three general categories of use–value taxation: pure preferential assessment, deferred taxation and restrictive agreements. Pure preferential assessment occurs when land is assessed according to its current use–value, as opposed to its market value, and no penalty is levied if the land is converted to non–agricultural use. There is no pretense about keeping land in farming over the long run, but this approach delays conversion and enables the farmer to continue farming the fields until they are actually converted to non–farm uses. Deferred taxation assesses land according to its use–value, as in pure preferential assessment, but when land is converted to a non–eligible use, a penalty is imposed on the land owner. Thus, there is an additional land use incentive in the deferred tax approach. This penalty usually consists of back taxes making up the difference between the use–value assessment given the land and the market–value taxation for from three to 10 years depending on the specific provisions of the state program. Some states impose an "exit penalty" as a fixed percentage of the sale price when farmland is converted for development (DeBoer and Sindt, 1996:7). Finally, restrictive agreements refer to contractual obligations entered into by the participating land owner and the sponsoring state or local public agency in which the owner keeps his/her land in the eligible use for a set time span in return for differential tax assessment. The right to develop is transferred to the public during the contract period (Atkinson, 1976:198; Blewett and Lane, 1988:196; Coughlin et al, 1978:166; Nelson, 1990:124–128).

The second fundamental approach to tax relief, the "circuit breaker," occurs when local property taxes exceed a certain percentage of the farmer's household income. In the states of Michigan and Wisconsin, where this approach is used, farmers are allowed to apply some or all of their local real property taxes against their state income tax (Coughlin et al, 1978). The difference between the threshold percentage of the farmer's household income and the taxes actually paid is then rebated to the farmer by the state.

Efficacy of Differential Taxation
Many studies that have considered the effectiveness of the various differential taxation approaches suggest that any long term effect is minimal at best, and in cases where there is a beneficial effect in preventing farmland conversion, it is in conjunction with other, more direct, land–use controls. Benefits that do come about from differential taxation generally accrue to the land itself. In other words, the subsidy on eligible land is capitalized in land price, making the price of participating farmland higher than for land that does not receive such treatment (Atkinson, 1977:201; Chicoine et al, 1982:521). In addition, because over half the owners of farmland typically do not work the land, benefits from differential taxation will accrue to individuals who might see the land only as an investment and use the differential taxation to withhold land from development for a longer period of time in order to sell it at a higher price. This may in turn lead to disjointed development patterns (Blewett and Lane, 1988:203; Coughlin et al, 1978:174; Schwartz et al, 1975:131).[3]

In addition to differential taxation's questionable ability to prevent farmland conversion, there is also concern that the policy is inequitable. Because farmland is not being taxed at market levels, money for local and state services must be raised from elsewhere, leading to increased taxation for non–enrolled land. An analysis of sub–county property tax shifts in Washington State (Dunford and Marousek, 1981) illustrated this by showing that while aggregate tax shifts as a result of differential taxation were relatively small (e.g., Carman and Polson, 1971), closer analysis revealed large land tax increases in proximity to productive farmland enrolled in the differential taxation program. And since use–value assessment does not permanently bind the land to farming the practice may simply lower the holding cost of land intended for later development.

Differential Taxation in Illinois The history of differential taxation in the state of Illinois began in 1977 with the Illinois Farmland Assessment Act, which started the move away from fair market valuation of land to agricultural use– valuation. In 1981, Illinois passed an amendment to the Farmland Assessment Act which assumes that farmland has a use–value equal to the present value of the future residual income accruing to the land from farm production (Chicoine and Scott, 1983:1).

The resultant determination of use–value for a farm parcel in Illinois may be seen as a three part process, with a core formula being adjusted by factors such as a parcel's soil and land usage.

The core formula for applying differential taxation of Illinois farmland is based upon three factors: prices for the four major commodities (corn, soybeans, wheat and oats); the cost of production of those four major commodities adjusted for yield differences among counties; and a capitalization rate, based upon the Federal Land Bank mortgage interest rate. Each of these factors is then calculated as a five year average with a two year lag from the assessment year. The use–value is then calculated by the difference between average costs of production and average gross revenue, then divided by the capitalization rate. The use–value is then multiplied by one–third for assessed value of permanent pasture and by one–sixth for the assessed value of other farmland and wasteland with contributory value (Chicoine and Scott, 1983:7–8).

The next step in the use–value assessment process is to adjust for soil productivity on each parcel. Soils are classified and mapped based upon the kind, thickness and arrangement of layers, and on the basis of various properties such as color, texture, structure, reaction, consistency, and mineralogical and chemical composition (Chicoine and Scott, 1983:9). Adjustment factors then take into account the influence of slope and erosion potential for each parcel, adjusting upwards or downwards, respectively (Chicoine and Scott, 1983:34–35).

In summary, the use–value assessment process for a given farm is a composite of the assessment for each parcel. The assessed value of the farmland is based upon the adjusted value of each of the types of farmland (cropland, permanent pasture, other farmland, and wasteland) multiplied by the acreage. Illinois land that is used as permanent pasture is valued at one–third its total value, while other farmland is given a value one–sixth its adjusted value. The various rates of taxation are then applied to this appraisal of the value of land in agricultural use.

The Case of DeKalb County, Illinois

DeKalb County, located 60 miles from downtown Chicago, provides an important case study of the effect of expanding urban fringes on what had been a predominantly agricultural county. The city of DeKalb grew by 2,000 people from 1990 to 1995, to a population of 37,000 residents.[4] In addition, a survey of new residents in 1992 revealed that 35 percent had moved from outside the county, at least partly in search of affordable housing in a rustic atmosphere while still having access to the Chicago metropolitan area (Comprehensive Plan, 1995:24–30).

Due to present and predicted population pressures, DeKalb County has conducted a comprehensive planning process and has prepared a comprehensive land–use plan to address these issues. The major points of the plan assert the need to preserve prime agricultural land and other natural resources while accommodating growth in a controlled fashion. Ninety–five percent of the land in DeKalb is classified as prime farmland. The remaining 5 percent is identified as state important farmland. The DeKalb County zoning ordinance protects agricultural land and other natural resources by allowing development only from existing municipalities outward, and only when necessary utilities are provided at the time of the development (Comprehensive Plan: Executive Summary, 1995). However, although a comprehensive land–use plan is in place, DeKalb County will experience major growth pressures into the 21st century and the market for agricultural land will likely reflect not only use–value, but also potential development value.

Trends in Tax Assessments DeKalb County cropland and farmland assessed values dropped from $335 and $311 an acre in 1986 and 1987, respectively, to $220 and $204 an acre in 1991 since production costs increased and gross returns to farming did not (see chart 1). Assessed values climbed back to near 1986 and 1987 levels in the mid–90s, though trends suggest that there will be continued declines in the assessed value of farmland. This implies that use–values of farmland are being driven downward by some combination of weaker prices, higher production costs and rising interest rates (DeKalb Farm Bureau, 1996:6). The use–value assessment program clearly establishes a basis for land taxation that is distinct from market value, but the price that a willing buyer will pay for farmland captures both its income potential for farming as revealed in the use–value calculation and potential development value within the institutional structure that includes the zoning ordinance. Thus, use– value and market value are always linked and the difference between the two values indicates the amount of tax incentive being provided for active farmers.

DeKalb County Assessed Value
Estimated Average Value Per Acre

DeKalb County Farm Bureau, 1996
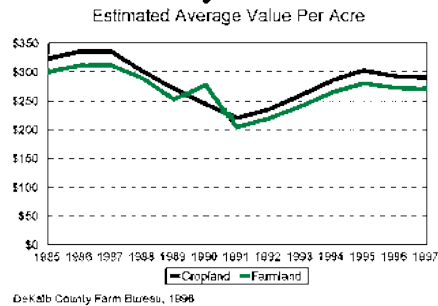
To better understand the gap between assessed use–value and market value of DeKalb County farmland, we analyzed farmland sales data maintained by the DeKalb County Assessors office. Included were all arms–length agricultural property transactions during 1995, a total of thirty nine. These sales yielded information on a variety of factors, such as acreage sold, sales price, assessed value and a variety of demographic variables.

Acreage Sold DeKalb County farmland sold in 1995 totaled a little over 2,831 acres, ranging in parcel size from three to 314 acres with an average size of 72.6 acres. Of this land, 93 percent was used for crops, for a total of 2,622 acres.[5] The remaining acreage was classified as being used for permanent pasture, floodland, wasteland, other farmland uses[6], homesites or roads.

Sales
Agricultural parcels sold in DeKalb County in 1995 ranged in price from $45,000 to $1,121,672. The average price per parcel was $292,920. The average price per acre for farmland in DeKalb was a little over $10,307, with a range of value per acre from $760 to $64,203.

Assessed Value As can be expected, the assessed value of a farm is based on the value of land and farm buildings being used for production, as well as the farm residence, and the land on which the farm residence is sited. The use–value of the agricultural land is appraised on the basis of the farmland and the farm buildings used to work the land. The farmland is valued on the basis of the properties and topography of the soil, the suitability of crops being grown, and the level of management as discussed above, while farm buildings are assessed on the basis of how they contribute to the productivity of the farm. The farm residence and the land on which it is sited, on the other hand, are assessed like any other home appraisals, on their full market value. Taken together, the production values of the farmland and farm buildings, along with the market values of the residence and site on which it was built, are expected to make up a fair proportion of the sales price.

To test the proposition that assessed taxation values will be reflected in the sales price, we classified the 39 parcels sold during 1995 in DeKalb County into four categories: all properties (n=39); those composed of farmland only (n=28); parcels with farmland and farm residences only (n=3); and parcels with farmland, farm residence and farm buildings (n=8). We then compared the four categories in terms of sales price per acre, assessed value per acre (with factor reductions), official assessed use–value per acre (with assessed value of farm buildings and homes without factor reductions), difference between sales prices and assessed use–value (official and with factor reductions) per acre, and assessed value (official and with factor reduction) as percent of the sales price. Standardizing by acre allows us to compare properties across categories and determines whether the assessed values given the property were indicative of the sales price, and hence the land's market value.

Total Values
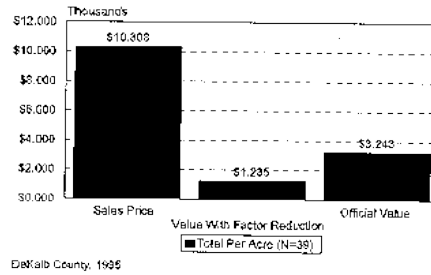
DeKalb County, 1995

All Properties (n=39) The values for all the parcels, from which later analyses were taken, showed that the average market value per acre of farmland sold in DeKalb County, $10,307, was officially assessed at a farmland value of $3,244 per acre, or 31 percent its sales value (see Chart 2). When the assessment included the factor reduction values, the assessed value decreased to $1,235, or 12 percent of its value.

Farmland Values


DeKalb County, 1995
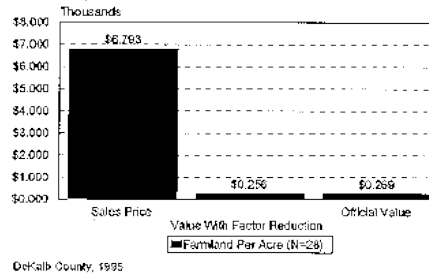
Farmland Only (n=28)
The assessed use–value of the farmland was formulated by adding the values of pertinent agricultural production land: cropland, permanent pasture, other farmland, waste and floodland. Two assessed values were generated, with one based on the official estimate given by the assessors office and the other including the factor reduction given permanent pasture (1/3) and other farmland (1/6). These values were then divided by the total acreage of the parcel to develop a standardized figure.

Findings from our analysis suggest that the mean official assessed use–value per acre of farmland, $269, is far below that of the average sales price per acre of $6,793 (see Chart 3), with an average difference from sales to official assessment of $6,537. In other words, the assessed use–value of farmland alone accounts for 3.9 percent of the sales price. When the factor reduction of the assessed value was taken into account, the average assessed value per acre was $256, a difference of $6,524 from the average assessed value of farmland with the reduction factors for "other farmland" given by the state, still accounting for only (3.8 percent) of the sales price.

Farm House and Land Values

DeKalb County, 1995
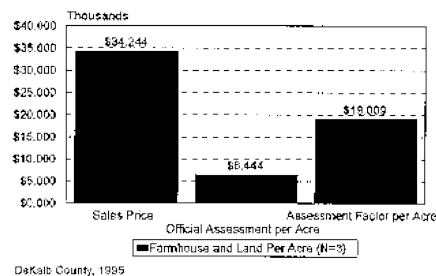
Farm House and Farmland Only (n=3) The next assessed value added the market value of farm residences to the value contributed by the use–value of the farmland. The average sales price per acre of farmland with residences on the property, $34,244, reflects the added value of the residences (see Chart 4). Because farm residences are assessed at a factor of one–third their fair market value, based upon prices of comparable rural residences selling in the area, we looked at both the assessed values given by the assessor's office for tax purposes and the assessed value without the factor reduction of one–third for the residences, as well as the factor reductions for the farmland. While the limited number of cases (n=3) in this category might confound analysis, it provides insight into the added value of residences on agricultural land. The official assessed value of the properties with farm buildings on them was $19,009 per acre, accounting for 56 percent of the sales price. With the one–third factor reduction given the residence and the factor reductions given the farmland, the assessed value was $6,444 per acre, which accounted for only 19 percent of the sales value. Thus sales of these parcels clearly included a substantial price increment for anticipated future real estate values.

Farm House, Land, and Building Values

DeKalb County, 1995
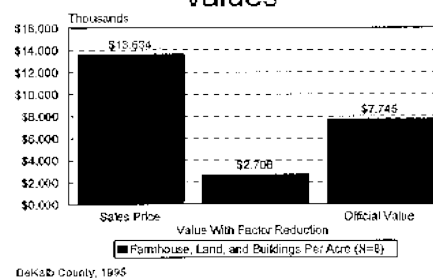
Farm House, Farmland, and Buildings (n=8)
Finally, we considered the value of parcels which had both farm residences and buildings on the farmland. This category (n=8) added the productive use–value of the farmland and farm buildings to the consumptive value of the farm residence and the homesite on which it was built (see Chart 5). The average sales price per acre of farmland with both farm buildings and residence on it was $13,634, with an official assessed value of $7,745, and an adjusted assessed value of $3,706 per acre. The official assessed value accounted for 57 percent of the sales price, while the adjusted assessed value accounted for 20 percent of the sales price.

Discussion
The data analyzed show that there is a large gap between the use–value assessment of farmland in DeKalb County, and the price at which it is being bought. While the addition of buildings on the land has a positive impact on the assessed value of farmland, even with factor valuation replaced, the gap between assessment value and market value remains vast.

This suggests two possibilities, which are not mutually exclusive, and which may act in concert. First, use–value assessment by its very construct lags well behind current market values. Product prices and costs used in calculating assessed value in a given year are based on a five year average with a lag of two years. In other words, 1997 estimates will be based upon 1991 to 1995 averages. Productivity estimates are likely behind actual levels as well. The assessment process is designed to be conservative. Second, in spite of agricultural zoning, the market value of DeKalb farmland may be driven by its potential development value, and those buying the land are, wholly or in part, interested less in the productive capabilities of the land than its potential value for non–farm development even though non–farm development is limited by current zoning.

The benefits derived by farm–operators and landlords from use–value assessment schemes are reflected in their popularity across the United States, especially when compared to alternative schemes such as the circuit breaker approach. A study by Chicoine et al (1982) showed that at that time property taxes rarely exceeded the 7 percent threshold of household income, and thus would not trigger the circuit breaker and its benefits. On the other hand, use–value assessments increased benefits enjoyed by farm–operators and landowners with off–farm income, increasing both their

income and their wealth. Whether use–value assessment helped keep land in farming longer than had the program not been available is difficult to prove. The presence of corn and soybean fields immediately adjacent to residential subdivisions and commercial properties suggests that use–value assessment made a difference in these instances. It is not designed to permanently protect farmland, but to buy some time and reduce the tax pressure that may be the final straw pushing land out of farming before its time.

Conclusions

Two questions that must be asked when evaluating any public policy are how effective the policy is in meeting its goals, and who pays the cost for that policy. Because the public is the ultimate arbiter of what is effective and fair, understanding public perceptions of the policy target population is paramount. If the target population is perceived as deserving, and contributing to the public good, they may then be accorded benefits to encourage continuation of that public benefit. On the other hand, if the target population for the policy is seen as undeserving or unreasonably profiting from the arrangement while providing little benefit in return, they can expect to be regulated. Therefore, it may be assumed that the driving force for policy involving distribution of benefits is perceived fairness of that distribution (Schneider and Ingram, 1993:338–339).

Currently, the target population of use–value assessment is seen as "deserving," as contributions to the overall public good. Differential taxation is just one such example of distributive policies that benefit farmers. In DeKalb County, differential taxation is based on a small fraction of the market value of the land, thus allowing farmers to benefit from long term capitalization of savings into the land, as well as preserving their potential market gains if the land does become developed. If that transfer of net income and wealth serves a public purpose, then the program is successful.

Use–value assessment of farmland is a reality in Illinois, part of what is capitalized into the value of eligible farmland. Psychological studies of decision–making have shown that individuals are more willing to forego potential gains than they are willing to give up something that is seen as belonging to them (Kahneman et al, 1991) [7]. Because differential taxation has been in place for some time, it is likely that farmland owners feel the level of taxation accorded them is naturally and rightly theirs. Changing taxation policies will likely result in concern, even anger, over their perceived loss.

Differential assessment alone does not constitute an effective long term commitment to farmland protection. Given the open–ended character of the tax incentive, with little quid pro quo by the farmer to assure retention of the open land qualities expected of the program, long term popular support cannot be assured. A more complete farmland policy, with clear state level policy direction that includes limited purchase of development rights, consistent growth management programs to direct urban pressure away from prime farmland and incentives for local commitment which recognize the role of farmers in serving the community is advisable.

Footnotes

[1] Research Associate and Visiting Scholar, respectively, The Center for Agriculture in the Environment, DeKalb, Illinois. (Back.)

[2] Gardner also mentions local economic benefits and the development of more efficient, orderly and fiscally sound urban areas. (Back.)

[3] By the same token, availability of the tax incentive surely explains active farming of land parcels in close proximity to development. Such land would likely be vacant, unused for any productive purpose were it not for use–value assessment and rules of eligibility. It is a temporary respite, to be sure, but preferable to the alternative. (Back.)

[4] This was in spite of losses in the student population of DeKalb, a college town which houses Northern Illinois University. (Back.)

[5] Cropland is defined as including "all land from which crops are harvested or hay is cut; all land in orchards, vineyards, and nursery and ornamental stock; land in rotational pasture and grazing land that

could have been used for crops without additional improvements; land used for cover crops, legumes, and soil improvement grasses; land on which crops failed; land in cultivated summer fallow; and idle cropland." (Chicoine and Scott, 1983:7) (Back.)

[6] Permanent pasture refers to land that is not normally tilled except for renovation, while other farmland includes land in ponds; woodland pasture; woodland, including woodlots, timber tracts, cutover, and deforested land; and farm building lots other than homesites. Wasteland refers to land that cannot be classified as cropland, permanent pasture, or other farmland, and cannot be cultivated or pastured (Chicoine and Scott, 1983:7). (Back.)

[7] This status quo bias, or endowment effect, can be seen in a variety of decision−making approaches, such as the popular prospect theory, regret theory, and biobehavioral expansions (Stewart, forthcoming). In these models, the status quo presents a reference point around which decision−makers base their decisions, with decision−makers taking more risks when they perceive potential losses, and becoming risk averse when they see the possibility for gains. (Back.)

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