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THE IMPACT OF TAX POLICY
ON SOIL CONSERVATION*

by

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INTRODUCTION

Many institutions have subtle but significant impacts upon natural resource management. One of the institutions impacting soil conservation decisions is tax policy. These policies are frequently made in an environment divorced from consideration of their impacts upon natural resource management. This is particularly true for soil conservation issues.^{1/}

In this paper, the points of interface between the existing tax structure and soil conservation programs and policies will be examined. The specific objectives are 1) to identify the nature of socioeconomic impacts of taxes on soil conservation practices and 2) to assess the direction and relative magnitude of selected tax provisions.

ECONOMICS AND SOIL CONSERVATION

Before considering tax impacts, it is necessary to consider conservation in an economic context. Ciriacy-Wantrup's economic definition of conservation is changes in the intertemporal distribution

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^{1/} The "Tax Cannons" (1) equity or fairness, 2) certainty, 3) reliability, and 4) ease of administration) of Adam Smith are still closely followed today. The emphasis is an equity and efficiency of revenue collection and not on the possible impact upon allocation of natural resources.

of physical rates of use of resources in the direction of the future (Ciriacy-Wantrup, p. 48). He also points out that depletion is the economic opposite of conservation or changes in intertemporal rates of physical resource use in the direction of the present. There are two significant points in these definitions. First, it refers to the "when" of resource use. The time dimension is the focus, recognizing that time of use is a key to economic value. Secondly, the concept includes a dynamic element which is measurable in terms of change. No normative connotations are involved. Conservation and depletion are neither good or bad in this context. Conservation is desirable if the present value of benefits is greatest when the resources are used more in the future and depletion is desirable if the present value of benefits is greatest when resources are utilized in the near future.

Public interest in soil conservation is both temporal and spacial. Since soil is a non-renewable resource on which we rely for food, the rate at which it is utilized or lost is a societal concern. The time horizon for the private landowner and society is often not conforming. The private landowner usually discounts the future more heavily than does society; thus, society has a greater interest than the individual in maintaining a resource base.

The public interest in spacial concerns for soil conservation arise when soil erosion causes damage to down slope land and facilities. When spillover effects occur over space, soil resource management becomes a public concern since a large number of people and interests are usually involved.

Interests of various groups in soil conservation are summarized by: "Soil erosion is not merely an agronomic issue--soil erosion is a profoundly economic issue" (Sharp & Bromley).

This economic framework will aid in analyzing the economic incentives and disincentives for soil conservation created by various tax policies. Impact of current Federal income tax, Federal estate tax and local property tax provision will be analyzed.

FEDERAL INCOME TAX POLICY

Specific IRS provisions have existed for many years regarding soil and water conservation improvements. Typically capital expenditures are depreciated each year; however, farmers have been allowed to consider certain capital expenditures for soil and water conservation as current expenses (Dept. of Treasury, pp. 47-49). The amount deducted in any one tax year can be up to 25 percent of the gross income from farming during that year. Any unused amount can be carried over to succeeding years. Allowable deductible expenditures include (but are not limited to):

- 1) The treatment or movement of earth, such as leveling, conditioning, grading, terracing, contour furrowing, or restoration of fertility.
- 2) The construction, control, and protection of diversion channels, drainage ditches, irrigation ditches, earthen dams, water-courses, outlets, and ponds.
- 3) The eradication of brush.
- 4) The planting of windbreaks.

Obviously, the opportunity for full deduction of such expenditures in a single year makes this provision an important tax management tool. The effective reduction of taxable income and the manipulation of the income earnings over several tax periods can significantly alter total tax liability. This is particularly true of investments of this nature which are fully deductible expenses while enhancing the value of the asset. When this increased value is captured as long-term capital gain, IRS provisions allow only 40 percent of the gain to be taxable. Thus, the cost of the conservation practice may be deducted in one or more tax year and the tax liability on any increase in the asset value is cut to less than one-half.

These potential tax benefits vary with the marginal tax rate for the landowner. Analysis of the net cost of a conservation improvement of \$5,000 made by three taxpayers with marginal tax rates of 20, 50, and 70 percent is shown in Table 1. As indicated, the first year tax benefit of this deductible expenditure is \$1,000, \$2,500 and \$3,500 respectively. As a result the unrecovered costs remaining to the landowner are considerably different. Even when the conservation improvement is reflected in an increase in the value of the land asset, hence subject to eventual capital gains tax, the benefit to the high-tax bracket owner is still considerably greater. In our example, the break-even price of that additional asset value to recoup the unrecovered cost would range from \$4,400 for the 20% tax bracket owner to \$2,900 of the 70% tax bracket owner.

Table 1. Impact of Conservation Expenditure Deductions by Tax Bracket.

Item	Income Tax Bracket		
	20%	50%	70%
Deductible Conservation Expense.....	\$5,000	\$5,000	\$5,000
Income Tax Benefit From Deduction.....	1,000	2,500	3,500
Unrecovered Cost Remaining After Deduction.....	4,000	2,500	1,500
Amount Which Must Be Realized on Sale of Asset to Recoup Unrecovered Cost and Pay Capital Gains Tax on Asset Value.....	4,400	3,500	2,900

Another Federal income tax provision relating to cost-share payments should be noted. Certain Federal and State cost-share payments need not be included as individual gross income for Federal tax purposes (Dept. of Treasury, pp. 10-11). Specific IRS rulings of this provision are still pending; however, the general interpretation is that certain payments received after September 1979 can be excluded if the Secretary of Agriculture determines they were made primarily for one or more of the following:

- conserving soil and water resources
- protecting or restoring the environment
- improving forests
- providing wildlife habitat

In addition, before these payments are excludable, IRS must determine that such action does not substantially increase the annual income from the property involved, and payments are made under a specific Federal or State program. Among the programs which qualify are: (1) the Agricultural Conservation Program, (2) the Great Plains Conservation Program and (3) any state program under which payments are made to individuals primarily for the purposes stated above (Dept. of Treasury, pp. 10-11).

The magnitude of the economic incentive associated with this exclusion clause varies depending upon the tax bracket of the individual landowner. Assume a cost-sharing payment of \$5,000 has been made to each of the three landowners. Given the present exclusion clause, the payment is basically of equal economic value to each of the landowners (Table 2). Failure to allow such an exclusion would diminish the incentive to adopt soil conservation practices. The individual in the 70 percent tax bracket would net only \$1,500 from the government payment. Owners in the lower brackets would also encounter a reduced incentive, but the reduction would be considerably less; therefore, the tax adjustments are of more economic importance for the higher-bracket taxpayers.

Table 2. Impact of Exclusion of Cost-Share Payments from Gross Income ,
by Tax Bracket.

Item	Income Tax Bracket		
	20%	50%	70%
Value of Government Contribution (With Exclusion From Gross Income.....	\$5,000	\$5,000	\$5,000
Value of Government Contribution (Assuming Nonexclusion From Gross Income).....	\$4,000	\$2,500	\$1,500

Thus far, direct impacts of Federal income tax policy on conservation have been noted. These are provisions enacted with specific purpose of promoting economic incentives for employing conservation. But other more subtle effects are also present.

Several features relating to farm land ownership and agricultural production tend to influence the structure of that sector. These include 1) cash basis accounting; 2) deduction of interest on borrowed funds; 3) investment credit; and 4) several methods of utilizing accelerated depreciation. As Raup has pointed out, the combination of these elements give a pronounced advantage to a farm land buyer who is in a relatively high income tax bracket, is highly mechanized, has substantial debt carrying capacity, and can make optimum use of investment tax credit and accelerated depreciation (Raup, pp. 303-308).

The tax structure has been a powerful factor behind the "land boom" market conditions of the past decade. The implications this holds for effective resource conservation may not be positive. Economic conditions associated with present land values, may cause many producers to farm

"fencerow to fencerow." By all criteria of the soil conservationist, much farmland should move into less intensive use; but the high land values necessitating large mortgage payments simply prevents such a choice. Generating the necessary cash flow in the short-run may require soil depletion resulting in reduced economic returns in the future.

The measurement of these indirect tax influences on conservation is beyond the scope of this paper. These linkages are recognized and their negative impact may be substantial.

FEDERAL ESTATE TAX POLICY

Federal estate taxation is another element which influences conservation practices. Heavy taxation of landed estates will tend to discourage conservation (Ciriacy-Wantrup, pp. 184-185). If an individual sees his estate going for taxes upon his death, he will be induced to disinvest. The opportunity to transfer estates to the next generation in tact is a powerful motivation for husbanding those resources in the longer-run context. Given this logic, then estate tax provisions in the 1976 Tax Reform Act would appear to strengthen motives for soil conservation.

Two provisions of particular importance for farmland owners are use-value assessment and deferred payment of taxes. The use-value assessment permits recognition of the existence of farmland values that are in excess of the capitalized income flows. Farm estates involving transfer to family members can value farmland at its use value rather

than its market value for estate tax purposes.^{2/} This use-valuation clause can reduce farmland values an estimated 40 to 70 percent (U.S. Dept. of Agriculture, p. 156). It would not be uncommon for a \$1 million estate to save nearly \$200,000 in estate taxes by using this provision.

Deferred payment allows the executor to pay estate taxes in 10 annual installments beginning 5 years after death. Four percent interest is charged but since this is considerably below the market interest rate, the present value of the estate tax is further reduced as a result of delayed payment.

Such provisions are strong economic incentives for families to maintain land ownership from generation to generation. If the planning horizon is longer, the propensity to use conservation practices is greater. However, indirect effect of opposite impact may also exist. The disincentive to sell land can alter the real estate market on the supply side and fuel further land appreciation. As noted earlier, high and rising land values tend to dictate more intensive land use patterns in order to meet mortgage payments.

PROPERTY TAXATION

The ad valorem property tax receives much attention from farm land owners since it frequently falls due at a time when cash receipts

^{2/} The most common method to be used is to divide the average annual gross cash rent (less property taxes) for comparable land by the average annual effective interest rate for new Federal Land Bank loans. The value of the estate can be reduced up to a maximum of \$500,000.

are not readily available. Historically, the property tax was basically an equitable tax since wealth and ability to pay as well as use of public services were closely correlated with asset holdings. In recent decades, however, these relationships have tended to diminish. The result has been a gradual replacement of property tax dependence with alternative forms of taxation. Local governments still rely heavily upon property tax revenues.

Because it is a fixed-cost item coming due in an annual lump sum, agricultural producers tend to be particularly sensitive to property tax trends. The importance of this tax needs to be analyzed within the context of typical farm production budgets.

For a farm owner with land worth one-half million dollars, the annual property tax obligation of some \$5,000 is certainly not an insignificant obligation. In the perspective of the agricultural production process, the relative importance is diminished, however. For example, current corn enterprise budgets reveal total per acre costs of over \$215 for dryland farms in Eastern Nebraska and \$360 for gravity irrigated farms in Central Nebraska (Bitney, et. al. pp. D-15, C-5). Assuming property tax charges of 1 percent of market value, this tax charge averages 5 percent and 4 percent respectively of the total production costs associated with corn production indicating the property taxes are relatively insignificant. Moreover, because they are an allowable deduction from the Federal income tax, the economic impact is further diminished. One could conclude that, in general, production practices are unresponsive to the level of the property tax.

For the property tax to be a consideration in decisions over conservation measures, one would need to assume that the proposed measures would enhance the value of the asset. If this were true and the tax was responsive to this value increase, then it would represent a taxing of the potential gains of conservation. Depending upon its magnitude, the property tax could essentially negate all, or a portion, of the economic incentive for employing a conservation practice.

Historical data series maintained by USDA reveal farm real estate taxes have risen over the years, but at rates far below the appreciation rate of land. Consequently the tax rate per \$100 of market value has gradually decreased. Currently, this tax rate at the U.S. level averages slightly less than \$1.00 per \$100 of market value.

The property tax--conservation interface appears to be quite muted because there is little correlation of land values with conservation improvements. On the basis of several studies, Held and Clawson concluded that the land market appears to place relatively little value on conservation measures or on a farm's conservation health or lack of it (Held & Clawson, p. 865). There are exceptions such as drainage improvement which may significantly increase soil productivity and therefore enhance the value of the land. However, in general soil conservation expenditures do not increase the selling price of farmland by as much as they cost. Thus, any negative influence of the property tax is likely to be undetectable.

CONCLUSIONS AND IMPLICATIONS

Some tax provisions offer positive economic incentives for land-owners to employ soil conserving measures but at best, these incentives

are only mildly effective. Other provisions totally negate soil conservation incentives. Thus, tax institutions offer a "mixed bag" in serving societal resource management interests.

Several Federal income tax provisions encourage conservation measures. Since these are allowable deductions from taxable income, the economic advantage is skewed toward the high-tax-bracket landowners. This implies that such measures serve primarily as tax management tools for the higher income taxpayers in minimizing tax obligations rather than promoting a broad-based conservation effort. Certainly, need for soil conservation practices is not a direct function of the income level of the landowner.

But other aspects of the Federal income and estate tax policy are also impacting upon the aggregate decisions about resource use. Tax measures have contributed significantly to the incentive to own land, and with this, rapidly rising land values. Rural land ownership has become the national security blanket (Brubaker, p. 1041). What has happened has been a subtle but profound reduction in the relationship of land values to their productive potential in agriculture. Every landowner in such a market becomes a speculator. The "guise" of stewardship may exist, but the economic potential and the associated uncertainty may likely be overriding concerns. Conservation management of any effective duration is discouraged.

In the final analysis, a concerted effort to promote various conservation objectives is not effectively integrated into our taxing institutions. The existing measures are little more than tokens that are often used for other purposes.

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