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THE ESTATE TAX PROVISION OF THE 1981 ECONOMIC RECOVERY TAX ACT: WHICH FARMERS BENEFIT?

J. Lowenberg-DeBoer and Michael D. Boehlje

Abstract

This analysis used simulation to compare the cost of intergenerational transfer of farm estates under the pre-1981 tax rules and the Economic Recovery Tax Act of 1981 (ERTA) provisions. ERTA reduces transfer costs for almost all the estates considered. Large estates tend to benefit more than small estates if they qualify for use valuation or if they are large enough to be affected by the reduction in tax rates. ERTA does not create new forces for change in U.S. agriculture, but it tends to strengthen the tendency toward larger farm size and favor those who already own farm resources.

Key words: estate tax, unified credit, use valuation, structural change.

The Economic Recovery Tax Act of 1981 (ERTA) made substantial changes in the U.S. estate and gift tax system. The changes include: a reduction in estate and gift tax rates for large estates, an increase in the unified credit, unlimited tax free transfers between spouses, an increase in the gift tax exclusion, an increase in the maximum amount by which special use valuation can reduce the value of an estate for tax purposes, and a liberalization of the eligibility rules for installment payment of the tax. These changes will reduce the estate tax liability for many estates, but not all farmers will benefit from these changes, and not all who benefit will benefit equally. With the use of a computer simulation model this research examined who will benefit and the magnitude of the impacts.

NEW LEGISLATION

ERTA reduced estate and gift tax rates for estates over \$2,500,000 (Harl, 1983; U.S. Congress). Prior to 1981, the rates ranged up to 70 percent for estates over \$5,000,000. ERTA reduced the uppermost rate in four equal, annual steps to a maximum of 50 percent in 1985 for all estates over \$2,500,000¹. The new legislation also specifies that the unified credit, which can offset either estate or gift tax, will rise in annual steps to \$192,800 by 1987. The credit was \$47,000 in 1981. By 1987, the unified credit will offset all federal estate tax for estates of \$600,000 or less, effectively eliminating tax rates below 37 percent. The unified credit plays a role in estate and gift tax calculations similar to the role of the zero bracket amount for income taxes. ERTA increased the marital deduction to 100 percent, allowing a person to inherit unlimited amounts of property from his or her spouse without incurring an estate tax liability. Prior to the 1981 legislation, the marital deduction had been limited to \$250,000 or 50 percent of the adjusted gross estate. In addition, ERTA allows unlimited gifting between spouses.

Special use valuation was created in 1976 in response to the argument that it was difficult for farm families to pay an estate tax based on market values. In the 1970's, the market value of land was high relative to current income from production, so the estate tax was relatively high compared to the income available to meet that obligation. Specialized use valuation allows land values

J. Lowenberg-DeBoer is an Assistant Professor, Department of Agricultural Economics, Purdue University, and was formerly a Research Assistant, Department of Economics, Iowa State University. Michael D. Boehlje is a Professor, Department of Economics, Iowa State University.

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¹The Deficit Reduction Act of 1984 (PL98-369) delayed the implementation of the 50 percent maximum rate until 1988. For 1985-1987, the maximum rate is frozen at the 1984 level of 55 percent. The 1984 legislation made other changes in estate tax rules that may be important in individual cases, but do not affect the general impact of the tax.

for qualified estates to be calculated on the basis of current use income, which in many cases results in land values much lower than those calculated on a market value approach basis. The 1976 legislation limited the reduction in land value due to special use valuation to \$500,000. ERTA raised that limit to \$600,000 in 1981, \$700,000 in 1982, and \$750,000 for 1983 and thereafter. The 1981 legislation also liberalized the eligibility requirements for special use valuation.

The installment payment of estate tax provision was designed to reduce cash flow problems for farm families in estate settlements. The argument for installment payment was that it was difficult for the heirs of family farms of other closely held businesses to pay the estate tax in one lump sum, and that lump sum payment led to the dissolution of some viable businesses when assets were sold to pay the tax. Under the 1976 legislation, the first \$345,800 of tax minus the unified credit could be deferred at a 4 percent interest rate; the tax above that amount could also be paid on an installment basis, but a market rate of interest is charged. ERTA did not change the amount of tax eligible for installment payment or the interest rate, but it broadened the eligibility for installment payment by reducing the proportion of the estate which must be in a farm or closely held business to qualify.

Many other changes in the estate and gift tax were included in ERTA. These changes are not insignificant, but they were not analyzed in detail in this study. A more thorough discussion of the ERTA provisions that affect farmers is available in Harl (1983).

Previous Research

In general, the estate tax research suggest that there is continuing disagreement on the need for special estate tax provisions for farmers, and that while the installment payment and special use valuation provisions may help some existing family farms, the provisions tend to reduce entry and expansion opportunities for farmers who do not already own substantial resources (Woods; Hady; Uchtmann et al.; Sisson, 1979 and 1982). Based on simulations of farm estates in eight areas of the United States, Boehlje indicates that the special use valuation of farmland resulted in larger relative and absolute tax savings for larger estates, for estates

including more farmland, and when the farm operation was more highly leveraged. He found that the benefit for qualifying for installment payment of tax alone was a roughly constant proportion of estate size for estates under \$1 million. For larger estates, the benefit of installment payment was a declining proportion of estate size because the larger estate could not defer the entire tax liability at the 4 percent interest rate.

Boehje and Harl suggest that because special use valuation helps older individuals achieve the goal of transferring a larger percentage of their property to their heirs, older farmers will tend to outbid entering farmers in the land market. They indicate that the benefits of use valuation offer incentives for nonfarmers to buy farmland and participate in management of the land enough to qualify as farmers for the purpose of the law. Matthews and Stock argue that with use valuation more medium and large estates will pass to heirs intact and less land will come on the market. This may tend to concentrate land ownership in the hands of a relatively few families.

METHODOLOGY **Estate Planning Model**

The economic and financial consequences of estate settlements under ERTA and pre-ERTA rules were simulated for estates of varying size, asset mix, and financial structure using the Iowa State Computer Assisted Estate and Business Planning Model (Boehlje et al.). The model simulates estate settlement assuming various family characteristics, property ownership levels, and will and gifting plans. Executor fees, legal costs, and court charges are assumed to be the maximum allowed under Iowa law. The analysis considers two death sequences: (1) an immediate death scenario in which both husband and wife die in 1982, and (2) a 10-year projection in which one spouse dies after 4 years and the other dies 6 years later.

In the estate settlement simulation, if there is insufficient cash to pay settlement costs and tax liabilities, it is assumed that assets are sold in the order of decreasing liquidity to meet the obligations. The percent liquidity loss associated with forced sales is: 2 percent for stock, bonds, and securities; 6 percent for machinery, livestock, business inventory,

and personal assets; and 15 percent for real estate. In the 10-year projection, the model assumes that there is a 5 percent annual rate of return on all assets and the earnings, after income taxes and family living costs, are invested in assets in the same proportions as existed in the initial estate. Consistent with observed farmland capital gains in the 1970's, an annual appreciation rate of 8 percent is assumed for all real estate.² No appreciation occurs on nonreal estate assets.

Farm Estate Scenarios

Illustrative Iowa farm estates were developed from data in the USDA publication *Economic Indicators of the Farm Sector: State Income and Balance Sheet Statistics, 1980*. Farm business real estate was assumed to be 75 percent of total assets in the baseline scenario. Farm personal property such as livestock and equipment, nonbusiness property, cash, and life insurance account for the remaining 25 percent. The farm was assumed to be located in Dallas County, Iowa, where in 1979 the average fair market value of farmland was equal to the State average of \$2,000 per acre. Cash rent data for the use valuation calculations also came from this county.

The will plan used for both husband and wife in all scenarios is one-half to spouse in trust and one-half to spouse in fee simple. Under this plan about half of the estate passes to the surviving spouse through the marital deduction. At the death of the surviving spouse, all property passes to the children in fee simple with the amount in the life estate incurring no additional tax. To facilitate the analysis, it was assumed that all assets except life insurance were owned in tenancy-in-common between husband and wife; thus, each spouse has an equal share of the estate. Each spouse was assumed to own the same amount of life insurance with the other spouse listed as beneficiary. The analysis assumes a family of four.

Size Variations

To quantify the differences in tax liability and transfer cost for estates of different sizes,

the net worth of the estate was varied keeping the asset mix and percent equity constant. Specifically, the sizes analyzed include net worths of \$500,000, \$750,000, \$1,000,000, \$1,500,000, \$2,000,000, and \$3,000,000. Assuming all equity financing and \$2,000 per acre land values, these net worths correspond to farm acreages of 188, 281, 375, 563, 750, and 1,125 acres, respectively. These size variations will be referred to as farm sizes 1 through 6. In all size variations, 100 percent owner equity was assumed so that use of debt would not influence the results.

Asset Mix Variations

To examine the effect of asset composition on estate settlement costs and tax liabilities, the ratio of farmland value to total asset value was varied holding owner equity constant. This was done only for the \$1,000,000 net worth estate with an all equity financial structure. The \$1,000,000 size is larger than the average farm in Iowa, but was selected because taxes were not large enough for smaller estates to make useful comparisons. Land asset ratios of 75 percent, 50 percent, and 25 percent were analyzed, corresponding to farms of 375, 250, and 125 acres. The 250- and 125-acre farms might typify farms with enterprises such as livestock feeding where the value of land often represents a relatively small proportion of total assets, or a crop operation in which some of the farmland is rented.

Percent Equity Variations

The effect of leverage on the tax liability and transfer costs was analyzed by varying the percent of owner equity in the estate, holding net worth and asset mix constant. Owner equity as a percentage of total assets was set at the 100, 80, and 60 percent levels. The relatively low leverage reflects the financially conservative behavior of many farm firms. In the percent equity variations, the initial equity was held constant at \$1,000,000; therefore, the gross estates corresponding to the 100, 80, and 60 percent levels of owner equity were: \$1,000,000, 1,250,000, and \$1,666,667, respectively. It was assumed that the debt was proportionally distributed over all assets.

²The impact of the tax under less favorable economic conditions is discussed in footnote 3 to the numerical results section.

Response Variables

The analysis focused on comparing the total estate tax liability, the settlement costs other than federal estate taxes, the percent of property passed to the heirs, and the tax saving from use valuation and installment payment of the estate tax assuming pre-1981 and post-1981 estate tax law. The total federal tax obligation was calculated by summing the federal tax at each spouse's death. If the estate qualified for installment payment of tax, the present value of the deferred tax liability was computed by discounting each annual payment using an 8 percent discount rate. The present value was added to the tax liabilities that could not be deferred to give the total federal liability. Because the interest rate on deferred tax in excess of \$345,800 minus the unified credit is greater than the discount rate used in the calculations, the use of the installment provision in such cases would result in higher total tax liability. Therefore, it is assumed that the installment provision is used only for obligations equal to or less than \$345,800 minus the unified credit.

Settlement costs include executor fees, court costs, and legal charges. By Iowa law these costs are calculated as a percentage of the gross estate and, hence, they increase proportionally with estate size. In addition, Iowa inheritance tax was included in the settlement costs. This is a death tax that is based on the amount of property an heir receives, rather than the size of the estate. The state tax was included to indicate the magnitude of another important component of estate settlement costs. Federal estate taxes affect the property passed to heirs and hence the state tax, but the exact nature of the federal and state tax interaction is beyond the scope of this analysis. Inheritance tax rates vary across states, but the Iowa rates of between 5 and 10 percent are not unusual. Finally, liquidity losses from forced sales of assets to meet tax and other estate liabilities are included in the nonfederal estate tax settlement costs.

The percent of the parents' property received by the heirs is calculated by dividing the value of the final property that the heirs receive by the value of the estate. This variable shows the effects of both the federal estate tax and other settlement costs. It gives

an indication of the assets remaining in the firm after intergenerational transfer for the heirs to use to continue farming operations.

Tax Treatments Analyzed

The size, asset mix, and percent equity variation scenarios were examined for alternative tax treatments. For each scenario, four cases representing the possible combinations of qualification for use valuation and installment payment of tax were evaluated. These treatments are: (1) eligibility for neither use valuation nor installment payment; (2) eligibility for installment payment, but not use valuation; (3) eligibility for use valuation, but not installment payment; and (4) eligibility for both use valuation and installment payment.

The size variation scenarios are evaluated for both an immediate death situation and the 10-year projection in which one spouse dies after 4 years and the other spouse dies 6 years later. The asset mix and equity variations are analyzed only for the immediate death case because these estates have different amounts of land, and those estates with more land appreciate faster than those with less land under model assumptions. Hence, estates with varying asset or equity percentages would have different asset compositions and financial structures at the end of the 10-year period, making comparisons difficult to interpret. A more complete discussion of the methodology and numerical model for the estate tax research is available in Johnson (pp. 34-47).

NUMERICAL RESULTS

Comparison of estate settlement simulations under the old and new estate tax rules show that under ERTA provisions, the federal estate tax is always less than or equal to the tax under the old rules, but the settlement costs, other than federal estate tax, may be increased for some estates, tables 1 and 2. The total transfer cost under ERTA is always less than or equal to the total transfer cost in simulations under the pre-1981 legislation. The increase in settlement costs, other than federal estate tax, comes about as a direct result of the ERTA estate tax reductions. With lower estate taxes at the death of the first spouse, more property is passed

to the second spouse and hence settlement costs and especially state inheritance taxes are higher at the second death.

Because ERTA did not change the structure of the estate tax system, the levels of response variables show patterns similar to those identified in previous research (Boehlje). Though ERTA truncated the tax rate schedule by eliminating the highest tax rates, the federal estate tax liability is still mildly progressive over the range of estate sizes considered. As under the pre-1981 legislation, the progressivity of the estate tax is reduced by provisions for installment payment of estate taxes and special use valuation on farmland. The ERTA simulations also show that the installment payment and special use valuation provisions offer greater benefits to estates with more debt in their financial structure or a larger proportion of farmland in their asset mix.

Immediate Death Scenario

In the immediate death scenario, federal estate taxes are reduced for all estate sizes,

except farm size 1 in the case when it qualifies for special use valuation, Table 1. Under the old law, special use valuation reduced the estate tax liability to zero for the size 1 farm; hence, the ERTA provisions could not further reduce the tax. In general, for estates from \$500,000 net worth to \$1,500,000 net worth (farm sizes 1 to 4), the largest reductions in taxes due to the new legislation occur when the estate does not qualify for installment payment or use valuation and they are primarily a function of the increase in the unified credit. When estates from \$500,000 to \$1,500,000 net worth qualify for use valuation or installment payment, the tax is reduced sufficiently at the first death so that the increased unified credit could not be fully used at the second death.

In the immediate death scenario for the estates examined, the reduction in federal tax attributable to the new law is greatest for the largest estate when it qualifies for use valuation alone and not installment payments. This is a result of the increase in the maximum allowable reduction from use valuation from \$500,000 to \$700,000 in 1982.

TABLE 1. THE DECREASE IN FARM ESTATE TRANSFER COST DUE TO ERTA FOR DIFFERENT INITIAL NET WORTHS IN THE IMMEDIATE DEATH SCENARIO, REPRESENTATIVE FARMS IN DALLAS COUNTY, IOWA, 1982

Farm size and initial net worth in dollars	Eligibility for use valuation	Eligibility for installment payment	Change in nonestate tax transfer costs	Change in federal estate tax	Change in total transfer cost*
dollars					
Farm size 1:					
500,000	no	no	0	-15,800	-15,800
500,000	no	yes	0	-12,000	-12,000
500,000	yes	no	0	0	0
500,000	yes	yes	0	0	0
Farm size 2:					
750,000	no	no	-2,000	-15,800	-17,800
750,000	no	yes	0	-11,000	-11,900
750,000	yes	no	+200	-15,800	-15,600
750,000	yes	yes	0	-12,300	-12,200
Farm size 3:					
1,000,000	no	no	-1,600	-26,100	-27,000
1,000,000	no	yes	0	-20,100	-20,100
1,000,000	yes	no	+300	-15,800	-15,500
1,000,000	yes	yes	0	-12,300	-12,200
Farm size 4:					
1,500,000	no	no	+300	-28,900	-28,600
1,500,000	no	yes	0	-20,400	-20,400
1,500,000	yes	no	-900	-27,800	-28,700
1,500,000	yes	yes	+1,500	-21,200	-22,700
Farm size 5:					
2,000,000	no	no	+2,500	-29,300	-26,800
2,000,000	no	yes	+1,900	-16,400	-14,400
2,000,000	yes	no	-5,900	-88,700	-94,600
2,000,000	yes	yes	-7,800	-67,000	-74,900
Farm size 6:					
3,000,000	no	no	+6,700	-26,900	-20,200
3,000,000	no	yes	+3,700	-13,000	-9,200
3,000,000	yes	no	-51,800	-123,100	-174,800
3,000,000	yes	yes	-10,100	-103,100	-113,200

*This item was calculated from unrounded data, so the transfer cost components may not add exactly to the total.

In addition, the size 6 farm estate was the only one analyzed that was large enough in the immediate death scenario to make full use of the \$62,800 unified credit in 1982 at both the husband and the wife's deaths given the will plan specified. The size 5 and size 6 farm estates received the largest benefits from ERTA when they qualify for use valuation because, for them, the pre-1981 use valuation reduction limit was a binding constraint.

The overall distributional pattern of ERTA benefits depends on whether the estate qualifies for use valuation. For estates that qualify for use valuation, the benefits attributable to the new law rise substantially with increasing farm size. It should be noted that ERTA relaxes eligibility requirements for use valuation, so that after the 1981 Act some estates will qualify that previously would not have been able to meet the standards. This may have a distributional impact, but it is not clear which groups benefit most from the relaxation. For example, allowing property to pass to qualified heirs by purchase rather than by inheritance may be beneficial to small estates as well as large estates when on-farm heirs buy out off-farm heirs during the estate settlement (Harl, 1982, pp. 712-13).

Among farms that do not qualify for use valuation under either the old or new legislation but do qualify for installment payments, the \$1,500,000 estate (farm size 4) receives the largest benefit from ERTA, but the differences between benefit levels at various estate sizes are relatively small. Since ERTA did not change the \$345,800 minus unified credit limit on the amount of tax that can be deferred at 4 percent interest, the installment payment eligibility does not have a large impact on the distribution of ERTA impacts in the simulations. It should be remembered, however, that ERTA reduced the proportion of the estate that must be a farm or other closely held business required for installment payment eligibility. This will tend to extend installment payment benefits to estates with larger nonfarm holdings.

For estates that were eligible for installment payment under both the old and new legislation, ERTA produces smaller benefits than for those that did not qualify for installment payment under either set of tax rules. This occurs because the value of the installment payment is a function of the tax liability. With the larger unified credit, a

smaller amount of tax is deferred at the 4 percent interest rate and the reduced benefit from the installment payment partially offsets the benefits from the increased unified credit.

Total transfer costs follow a pattern similar to that of the federal estate tax liability. When the estate qualifies for use valuation, total transfer costs decline substantially more for larger estates than for smaller estates. When the estate does not qualify for use valuation, the distributional differences are not so pronounced. The same pattern is also seen in the percent of parents' property passed to the heirs. When the estate does not qualify for use valuation, ERTA increases the percentage of property passed to the heirs about the same for all farm sizes, but when the estate qualifies for use valuation, the percentage of property passed to the heirs increases substantially more for large estates than for small estates.

Asset Mix Variations

Comparisons of simulations of the \$1,000,000 net worth estate (farm size 3) with 25, 50, and 75 percent land/asset ratios show that the absolute tax reductions attributable to ERTA are about the same for all land/asset ratios considered. This roughly even benefit across land/asset ratios occurs because the use valuation limit was not a major constraint for the \$1,000,000 estate under the pre-1981 provisions; hence, the increase in the use valuation limit which would tend to help the estate with the larger proportion of land has no impact at this size. Estates of all land/asset ratios are affected equally by increases in the unified credit. On larger estates, however, the use valuation could be expected to have a greater impact because the increase in the use valuation reduction limit becomes an important factor. Eligibility for use valuation and installment payment affects the ERTA benefits in a pattern similar to that identified in the baseline analysis of estates of various net worths.

The settlement costs other than federal estate tax in simulations with various land/asset ratios were greater than or equal to those under the old law for every estate considered, except the 75 percent land/asset ratio estate in the case where it qualified for neither use valuation nor installment payment. The increases in settlement costs can largely be attributed to the increases in state

inheritance tax at the second death. The 75 percent land/asset ratio estate also faces increased state inheritance taxes, but in the case where it does not qualify for special tax treatment, this is offset by decreased liquidity losses. Because the 75 percent land/asset ratio estate has a higher percentage of illiquid assets, it suffers greater liquidity losses when assets must be sold to pay taxes and settlement costs. ERTA reduces federal taxes and less land must be sold to pay taxes; hence, smaller liquidity losses are incurred under ERTA.

For estates with the same eligibility for use valuation and installment payment, the total change transfer cost is about the same for all land/asset ratios considered. Similarly, the change in the percentage of parents' property received by the heirs attributable to ERTA is about the same for estates of all land/asset ratios with the same eligibility for special tax treatment. Previous research indicates that estates with higher proportions of land benefit more from use valuation (Boehlje, p. 84). These simulations indicate that for the \$1,000,000 net worth estate this effect per-

sists under the ERTA tax rules. By reducing estate taxes and increasing the percentage of property passed to the heirs about equally for all land/asset ratios, ERTA has not affected the distributional pattern of tax benefits with respect to the proportion of land in the estate. It can be expected, however, that because larger estates can more fully utilize the increase in the use valuation reduction limit, the flow of use valuation benefits toward estates with more land may be intensified by ERTA.

Percent Equity Variations

For estates with net worths of \$1,000,000, simulations using 100, 80, and 60 percent debt-to-equity ratios show that for estates that do not qualify for use valuations, the tax reduction attributable to ERTA is about the same for the various leverage ratios considered. When it is assumed that the estates qualify for use valuation, the 60 percent leverage ratio estate shows a much smaller benefit from the new law. This occurs because under the pre-1981 legislation, the 60 per-

TABLE 2. THE DECREASE IN FARM ESTATE TRANSFER COSTS DUE TO ERTA FOR DIFFERENT INITIAL NET WORTHS IN THE 10-YEAR PROJECTION, REPRESENTATIVE DALLAS COUNTY IOWA FARMS, 1982-1992

Farm size and initial net worth in dollars	Eligibility for use valuation	Eligibility for installment payment	Change in nonestate tax transfer costs	Change in federal estate tax	Change in total transfer cost ^a
dollars					
Farm size 1:					
500,000	no	no	-9,600	-148,000	-157,600
500,000	no	yes	+100	-111,200	-111,000
500,000	yes	no	-3,500	-58,800	-62,300
500,000	yes	yes	-4,900	-44,800	-49,700
Farm size 2:					
750,000	no	no	-9,200	-170,900	-180,100
750,000	no	yes	+500	-127,500	-127,000
750,000	yes	no	-17,800	-215,000	-232,800
750,000	yes	yes	-10,300	-162,100	-172,400
Farm size 3:					
1,000,000	no	no	-30,000	-193,900	-223,900
1,000,000	no	yes	+1,000	-144,600	-143,600
1,000,000	yes	no	-27,700	-233,900	-261,600
1,000,000	yes	yes	-9,100	-192,800	-201,900
Farm size 4:					
1,500,000	no	no	-21,900	-245,000	-266,900
1,500,000	no	yes	+6,300	-187,500	-181,200
1,500,000	yes	no	-54,800	-281,500	-336,300
1,500,000	yes	yes	-30,600	-236,600	-267,200
Farm size 5:					
2,000,000	no	no	-25,500	-314,700	-340,300
2,000,000	no	yes	-9,900	-260,000	-269,900
2,000,000	yes	no	-117,500	-358,000	-475,400
2,000,000	yes	yes	-86,600	-304,700	-391,300
Farm size 6:					
3,000,000	no	no	-82,600	-617,600	-700,300
3,000,000	no	yes	-98,600	-593,200	-691,800
3,000,000	yes	no	-174,400	-668,100	-842,400
3,000,000	yes	yes	-168,500	-615,600	-784,100

^aThis item was calculated from unrounded data, so the transfer cost components may not add exactly to the total.

cent debt/equity ratio estate has a tax liability of only \$3,400 when it qualified for use valuation alone, or \$2,600 when it qualified for both use valuation and installment payment. Hence, the increased unified credit of the new law cannot fully be used by the more highly leveraged farm. For estates with net worths larger than \$1,000,000, the tax under the old law would be higher and the increase in the credit could be more fully used, even on highly leveraged farms.

When estates do not qualify for use valuation, the percentage of parents' property passed to the heirs decreases with increased leverage under both the old and new law. This indicates that the increased settlement costs on the leveraged farms are significant enough to reduce the percent of parents' property passed to the heirs. When estates qualify for use valuation, the percentage of parents' property passed to the heirs increases with increased leverage for both the ERTA and pre-1981 tax rules. Hence, the estate tax benefits of having more land and more debt persist under the new legislation. Regardless of the eligibility for use valuation, the new law increases the percentage of parents' property passed on to their heirs by about the same amount for all equity proportions. This indicates that the new law does not strengthen or weaken the effect of financial structure on estate transfer costs that were identified under the old tax rules. Again, the results could differ from an estate that was sufficiently large to take advantage of the increase in the use valuation reduction limit.

THE 10-YEAR PROJECTION RESULTS

Comparisons of simulation results for the immediate death scenario and the 10-year projection show that the ERTA tax savings are much larger for all estate sizes in the 10-year projection, Table 2.³ This occurs because all the ERTA changes are phased in by the

time of the second death in the 10-year projection. Hence, the unified credit is higher, the use valuation reduction limit is higher, and the marginal tax rate is lower for the largest estates in the 10-year projection than in the immediate death case. Also, because of reinvestment of earnings and real estate appreciation, all the estates are substantially larger by the end of the 10-year period and are better able to utilize the tax credits and other special tax provisions.

In the 10-year projections, regardless of eligibility for use valuation or installment payment, the ERTA federal tax saving rises substantially with increasing initial equity. This is in contrast to the results for the immediate death scenario in which the ERTA benefits for the estates which do not qualify for use valuation did not show a pronounced distribution pattern with respect to farm net worth. An important factor increasing benefits for the large estates in the 10-year projection is the elimination of all marginal tax rates above 50 percent. In the immediate death scenario, this did not affect the simulations because the initial values of the estates considered were too small to be affected by the lowering of the top marginal rate from 70 to 65 percent.

Because of growth in estate size, all estates except size 1 benefit from the increase in the use valuation reduction limit. Therefore, the tax reduction attributable to ERTA is higher for estate sizes 2 through 6 when they qualify for use valuation. For estate size 1, the use valuation limit was not constraining under the old tax rules, and hence the tax reduction due to ERTA is smaller when the estate qualifies for use valuation.

In the 10-year projections, savings in settlement costs other than federal estate taxes under ERTA provisions are much larger for estates with higher initial net worths. The largest part of this decrease in settlement costs is the reduction in liquidity losses; with the large ERTA tax savings, fewer illiquid assets must be sold to meet the tax obligation.

³Since land prices declined in the mid-1980s, the 10-year projection probably overstates the increase in estate value that will occur in the 1982-1992 period. Some sense of the ERTA impact on a particular farm size in an environment of capital losses can be achieved by examining the results for next smaller farm size. For example, under adverse economic conditions, farm size 3 may only achieve the growth and net worth levels identified for farm size 2. The simulation remains valid if it is assumed that a large capital loss occurs in 1982 reducing net worth to that of the next smaller farm size, that the capital loss is allocated so that the proportions of each property type are unchanged, and that model assumptions hold thereafter. If these assumptions are made, the numerical values in Table 2 suggest that the magnitude of the ERTA impact is reduced, but the sign of the change is as identified under more favorable economic conditions. For example, if farm size 3 experiences a \$250,000 capital loss in 1982, the tax reduction due to ERTA for the case in which the estate does not qualify for use valuation of installment payment is reduced to \$180,000, from \$223,000 under initial model assumptions.

Since ERTA decreases both the federal tax and settlement costs substantially more for larger estates, than for smaller estates, the decrease in total transfer costs is much larger for the larger estates.

The percentage of parents' property transferred to the heirs is increased by ERTA for all estate sizes considered in the 10-year projections. Like the change in transfer cost, however, the change in parents' property passed to the heirs is larger for the larger estates, regardless of whether the estate qualifies for use valuation.

In general, the estate tax simulations show that ERTA reduced estate tax costs for most of the estates considered in this study. ERTA did not raise costs for any estate. The 1981 legislation tends to maintain and strengthen the distributional patterns for tax benefits that were identified under the pre-1981 law. In particular, the increase in the use valuation limit increases benefits for large estates that qualify, and it will tend to increase tax savings, especially for large estates with higher proportions of land. Both the cuts in the top marginal tax rates and the increase in the use valuation reduction limit tend to reduce the progressivity of the estate tax.

STRUCTURAL IMPLICATIONS OF ERTA

The increase in the unified credit has implications for the patterns of real estate ownership and for farmland markets. This study indicates that with the higher unified credit more property will be passed to the heirs for estates of all sizes. The implication is that fewer tracts must be sold to cover transfer costs and, if heirs retain the property, concentration of landownership may be increased because individuals from nonland holding families will have fewer opportunities to buy land. Whether or not heirs hold the land they inherit depends on many factors including returns on land when compared to other assets. If returns to land are favorable relative to other investments, all other things equal, more heirs would tend to retain the land. This would put more pressure on farmland markets as buyers compete for fewer tracts. In classical economic theory, land prices would rise until enough heirs decided to sell their property and enough buyers dropped out of the market to allow equilibrium. Using Matthew and Stock's logic, the

higher prices and retention of land by heirs would result in fewer farming opportunities for those who do not inherit farmland.

Much depends, however, on decisions by the heirs. If the heirs who otherwise would have chosen nonfarm occupations decide to operate the land themselves, then less land will be available for others. If the heirs find it profitable to retain ownership, but rent out the land, opportunities for those who do not inherit land to become farm operators, would not necessarily decrease, and may increase if the increased availability of rental land aids entry. Hence, the implications of the increased unified credit are mixed. If the heirs farm the land, the "family farm" ideal of owner-operations is maintained, but at the expense of increasing entry problems for those who do not inherit land. If the land is rented out by the heirs, farming opportunities are maintained, but the ownership ideal may become less attainable for many farmers. The implications of the change in unified credit for farm size follows a similar pattern. Growth in farm size may be reduced if more heirs decide to retain and farm land, because less land would become available for farm expansion. If heirs rent out the land, tenant and part-owner farms could continue to expand.

The increase in the use valuation limit will tend to put further pressure on farmland markets and increase the amount of land that is concentrated in relatively large farming operations. For the smaller estates, the use valuation limit was not restrictive under the pre-1981 legislation and they are not helped by the increased limit. The increase in the use valuation reduction limit accentuates the problems identified in previous research by Sisson, Boehlje, Boehlje and Harl, and Matthews and Stock. As suggested by this and previous research, use valuation tends to contribute to higher land prices, because use valuation benefits may be capitalized into land prices. It may encourage farmers, especially older farmers, to hold even more of their assets in land. Because large farms receive even greater benefits from use valuation because of ERTA, they will be in a better position to bid real estate away from smaller farmers.

The tax rate cut for estates over \$2,500,000 that was part of ERTA will also tend to encourage the transfer of farm property to the heirs, and may reduce land available for those

who do not inherit it. Raising the unified credit, increasing the use valuation limit, and decreasing the top marginal tax rate as accomplished by the ERTA legislation may help some heirs of family farms remain in agriculture, but at the expense of reduced farming opportunities for those who are not heirs.

If heirs of estates eligible for use valuation choose the minimum level of participation, probably a crop share lease in most cases, farming opportunities are not necessarily decreased, but the owner-operation ideal becomes less attainable for some farmers.

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