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THE POSSIBLE EFFECTS OF THE FEDERAL INCOME TAX ON RESOURCE USE

by

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Agricultural economists are inclined to avoid the possible influence that the federal income tax may have on resource use. Production economists expend a great deal of effort in providing models that express the most optimum arrangement of limited resources of the firm. One of the usual assumptions is that the federal income tax is a strict progressive type tax and will not change the profit maximizing point. The truth of the matter is that the federal income tax is not a strict progressive tax. The tax contains numerous provisions that permit special handling of expenditures. This special handling may result in a tax advantage if used under specified conditions. The optimum profit point with respect to arrangement of resources before the federal income tax need not necessarily be the maximum profit point after the consideration of the tax. It logically follows that there can exist some degree of misallocation of resources because of the incidence of the federal income tax. The purpose of this paper is to present a hypothetical case of the possible movement of resources that may result from an individual taking advantage of specific tax provisions.

There seems to be some general concern about the possible movement of resources, mainly capital, from sources outside of the agricultural economy into agriculture for the express purpose of finding a degree of tax refuge. The statement, "he purchased that ranch for a tax dodge," is perhaps not without some element of truth.

Assume that an individual has $500,000 in an "investible" fund. The net return before federal income taxes, if invested in taxable stocks or bonds is 6 percent or $30,000. Assume further that the same return can be gained from investment in a ranch. If factors such as time preference, risk, and the like are equal, the investor will be indifferent between the investment in taxable bonds or stocks and the ranch.

Now assume the ranch can be improved in value by one dollar for every dollar of capital expenditure that qualifies for the special soil and water conservation expenditure provision in the federal tax laws. The essence of the soil and water conservation expenditure provision is that it permits the taxpayer to handle a non-depreciable capital expenditure as a current operating expense. Assume that an amount equal to half of the net income ($15,000) is used for the soil and water conservation expenditure. For analytical simplicity we will also assume that the ranch is sold in the same taxable year. The gain on the sale qualifies as a long term capital gain.

Now if the taxpayer is a married person filing a joint return, the rate of return before federal income taxes required from an investment in taxable stocks or bonds would have to be 6.81 percent in order for such an investment to yield the same net income after taxes as the investment in a ranch. The advantage of the invested dollar in the ranch is .81 percent and will be denoted as the gross tax benefit rate. In other words the rate of return on investment in the ranch would have to be reduced by .81 percent in order to make the investor indifferent between the two inventments. Now if the investor has a source of outside taxable income, the magnitude of the gross tax benefit rate changes. When the outside taxable income is $20,000 the gross tax benefit rate is 2.43 percent, at $40,000 outside taxable income the rate is 3.90 percent and at the $100,000 outside taxable income point the rate increases to 9.45 percent. In other words, when the outside taxable income is $100,000, the investment in the ranch would have to be reduced by 9.45 percent to remain indifferent to the investment in 6 percent taxable bonds or stocks.

It now becomes obvious that the most profitable point of placing the capital resource may be a function of the taxable position in which the resource is used and if the maximum profit point is to be achieved, the federal income tax must be considered before and not after the arrangement of resources has taken place.

There exists a special provision for handling the depreciation of the capital assets that are constructed or built for the use of the taxpayer. The major portion of depreciable capital assets of a typical ranch firm would be breeding livestock, machinery, and all capital improvements such as fences, sheds, etc. The essence of these liberalized depreciation methods is to permit a possible depreciation expense that exceeds the actual depreciation in the early years of the assets expected life. This excess depreciation amounts to an accounting manipulation that reduces the taxable income of the enterprise.

Now assuming that the excess depreciation amounts to $10,000 and is used in conjunction with the soil and water conservation expenditure with the same framework as was previously used, the gross tax benefit rate can be calculated in a similar manner. When the taxable income from sources other than the investment fund is $0, $20,000, $40,000 and $100,000, the gross tax benefit rate is .85 percent, 3.64 percent, 6.03 percent, and 15.82 percent respectively. The gross tax benefit rate again is the difference between what the taxable bonds or stocks would have to yield and what they actually yield.

There seems to be some notion that a person in a high income tax bracket might purposely operate his ranch at a loss for tax purposes. Through the use of the above methods, it can be found that the ranch could be operated at a 3 percent level of return before taxes and equal the same net income after taxes that would result if the investment was in 6 percent taxable bonds or stocks if the taxpayer was receiving $25,000 income from sources outside the investment fund. If the outside taxable income exceeds $25,000, there will exist a positive gross tax benefit. If the

ranch is operated at zero rate of return and a taxpayer has $80,000 taxable income from sources outside of the investment fund, the net income after taxes will be substantially the same as it would be if the investment was in 6 percent taxable bonds or stocks. It is therefore possible that the ranch could be operated at a loss and still result in a net income gain after taxes over the investment in 6 percent taxable bonds or stocks. This would be true when the taxpayer is in the very high income tax brackets.

The point here is that there exists no apparent economic incentive in the above figures to justify the investor in a ranch to have it operated at a loss. It is true that the ranch can be operated at some lower level of output and still return more than the investment in taxable bonds or stocks. The investor can always gain by operating the ranch at the highest level of return if the special arrangement of resources coincide with certain tax provisions. The reason for the tax advantage is the simple manipulation of the income and expense statement permitted by the tax laws in which a capital expenditure is permitted to reduce the income of the firm and an expense for depreciation that should not be charged to the current operations is used to decrease the firm's income for tax purposes. The subsequent use of the advantages of the capital gain provision results in the major tax advantage.

The percentage figure that has been indicated as the gross tax benefit rate may be misleading. The percentage figure is the result of the federal income tax and is not a discount figure that would be applicable between the alternative investments if there were no federal income taxes to take into consideration. The gross tax benefit rate is the difference between what the taxable bonds or stocks would have to yield and what they actually yield. The net tax benefit rate may be more significant because of the relative importance of considering net income after taxes as opposed to income before the federal income tax.

Taxable income from sources outside investment fund.	Income from investment	Net income after taxes from investment and other sources		Net Difference
		Stocks & Bonds	Ranch	
$ 0	$30,000	$20,540	$22,730	$ 2,190
20,000	30,000	29,700	36,520	6,820
40,000	30,000	37,180	46,400	9,220
100,000	30,000	53,560	66,360	12,800

The net income advantage after taxes divided by the total investment fund would give the net tax benefit rate. The net tax benefit rate cannot be more than the gross tax benefit rate and will usually be less.

Figure I is presented as a model to indicate the amount of net tax benefit that would be necessary to stimulate a shift between alternative investments. The net tax benefit permits a greater amount of net income

after taxes along the BB_1 route, but the investor would be indifferent at point I and could not take advantage of the net tax benefit beyond this point without reducing his total utility. However, if the net tax benefit is of sufficient size to permit following route BB_2, the investor would favor the alternative investment in the ranch to receive the additional utility derived from the net tax benefit.

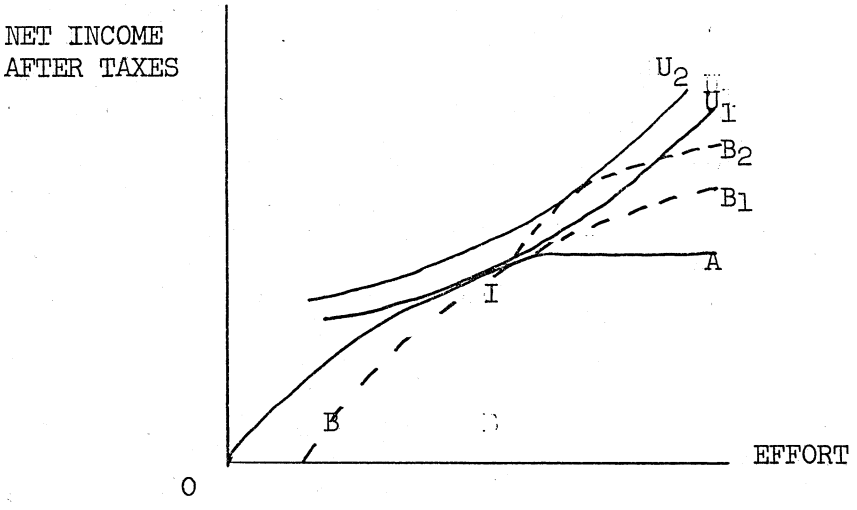

Figure 1. Utility Levels Available Using the Net Tax Benefit Between Alternative Investments.

A -- Attainable combination when investment is in taxable stocks or bonds.
B -- Attainable combination when investment is in ranch.
U -- Marginal rate of substitution of effort for net income after taxes.
I -- Lines BB_1 and A are tangent to U_1.

The percentage figures and dollar amounts previously presented are important only because they help to bring into perspective the necessity of considering the federal income tax in analyzing resource allocation. Some of the more important considerations that this type analysis can bring about are: (1) the consideration of the federal income tax in resource allocation within the firm, (2) the possible movement of resources into the agricultural economy for certain tax advantages, (3) the possible effect that the movement of resources into certain areas may have on the general land market, and (4) the social cost associated with some of the special federal income tax provisions.

Some of the more important areas that need investigation with respect to the federal income tax are: (1) the gathering of empirical data to weigh the possible influence that the federal income tax is having with respect to actual resource use, (2) the possible use of certain tax measures to bring about favorable shifts in resources that might not take place without the tax incentive, (3) the impact of special tax provisions on the distribution of income within agriculture, and (4) the use of tax policy as a tool in formulating agricultural policy.