IMPACT OF SUBSTITUTING THE TRANSACTIONS TAX FOR THE FARM REAL ESTATE TAX

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The fact that the local property tax remained virtually unchanged for so many decades prior to the 1950s is remarkable, considering the myriad modifications that have emerged during the past quarter century. Perhaps the historically low tax rates shielded many of its unfavorable characteristics which have been attacked in recent years. Because of rising land values and rising tax rates per dollar of value, the property tax in a majority of the states was modified, usually to protect agricultural or residential interests [2, 5]. Two factors contributed to the passage of the many tax reform programs for agriculture: (1) a belief that property taxes discriminated against farmers because farmers paid a disproportionate share of their income in property taxes and (2) a desire to affect land use by preserving farmland and open space [5, p. 6].

An approach to property tax reform that has not been tried in any state but is receiving some consideration by agriculturalists is the transactions tax on farming. With the transactions tax, farm tax liabilities are based on sales of livestock, crops, forest products, and farm real estate. During normal farming operations, the farmer would be taxed according to sales of farm products. When the farming operation is terminated and the land sold, additional taxes would be paid on the real estate transfer. The taxes associated with real estate transfer would be particularly high near urban areas when farmland is converted to nonfarm uses. Thus it is hypothesized that the transactions tax can be supported for the same two basic reasons as other modifications in the property tax: (1) farm taxes would generally be related more closely to farm income and (2) farm taxes would be reduced on the urban fringe to preserve farmland and open space.

The transactions tax is similar in concept to the tax on retail sales. Local governments can tax retail sales to generate local revenue even though state governments tax the same sales with the state sales tax and then tax net income generated from the sales with the personal and corporation income taxes. Hence, local governments conceivably could tax farm sales in order to displace the farm real estate tax. Tax rates on farm sales might even be set at the same level as the rate on retail sales. However, this relationship would not be necessary.

The purpose of this article is to examine the effects of substituting the transactions tax for the farm property tax. The operation and administration of the transactions tax are described, and its tax incidence is explored conceptually. Finally, the effect of implementing the transactions tax in one state, Georgia, is analyzed empirically.

TRANSACTIONS TAX ADMINISTRATION

Both state and local governments would be involved with the implementation and operation of the transactions tax. Authorization for the tax program would have to come from the state government. This authorization probably would set limits on who would be eligible for the program, i.e., provide guidelines for identifying bona fide farmers.

Local governments could be responsible for administering the tax, setting tax rates, and collecting taxes. Although the state might set a uniform tax rate for all local governments, it would be in keeping with the current operation of the property tax for the local government to set the effective tax rate to reflect local needs for tax revenues. Tax collections probably would be made at the local level, as currently is done with the property tax. Farmers would apply to their local government to qualify for the tax program. The local government would then determine whether the applicants qualify as bona fide farmers.

The information on taxable farming transactions now is reported on two forms to state and/or local governments. First, the tax base for farm sales is reported on state income tax returns. Farmers could be required to provide a copy of their tax returns to the local government, or the state could provide this information to local governments as needed. Second,

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real estate transfers are recorded by local governments and taxed at a modest rate. Determination of the transactions tax base, which appears to be fairly straightforward, can be contrasted with the property tax program which involves the valuation of property subject to taxation.[1] Many of the problems associated with the property tax arise because of inadequate assessment procedures.

TAX INCIDENCE

The general theoretical framework for incidence analysis is used to determine how the burdens of different taxes are distributed. Tax incidence, as distinguished from tax impact, is the point where the final burden of the tax rests. If part of the tax burden ultimately rests at a point other than where it initially fell, tax shifting has occurred. This shifting takes place through the interaction of supply and demand [3, pp. 402-427]. Tax shifting and incidence usually are measured in a partial equilibrium sense in terms of changes in market prices for economic goods and purchase prices for resources.

Applying this conceptual framework to implementation of the transactions tax gives some indication of possible tax shifting. Farm operations that have a high ratio of sales to value of farm real estate would have an increase in tax liabilities. Would these higher taxes be shifted forward to consumers? The answer to this question is probably negative, because implementation of the transactions tax is within a single state. Farmers in one state generally face a much more elastic demand for their products than do all producers as a whole. Hence, the tax could not effectively be shifted forward to consumers.

Would the transactions tax be shifted backward, affecting the price of resources? In the situation examined in this study, the same level of aggregate revenue would be derived from the transactions tax as is currently derived from the property tax. Hence, the prices of such resources as labor and capital, in general, would be unaffected by a switch to the transactions tax. It is conceivable that specialized inputs for a specific commodity that is taxed higher might be adversely affected by the transactions tax, but the likelihood of this occurrence is negligible.

A tax (cost) may also affect the price of an asset through the capitalized value of its expected future earnings. This type of tax shifting, known as tax capitalization, may be particularly important in considering property and transactions taxes. In general, a reduction in taxes would result in windfall gains for current landowners. Because taxes would be reduced, future earnings from the land would increase and hence its present value would increase. However, the extent of capitalization that would result from substituting the transactions tax for the property tax is an empirical problem that will be considered.

ANALYSIS

This section is an examination of the tax changes that would result from substituting the transactions tax for the property tax in Georgia. The adequacy of the transactions tax is compared with that of the property tax. Then distributional and efficiency effects are considered.

Property and Transactions Taxes Compared

The property tax is a very important source of revenue for local governments. Consequently, the transactions tax must be evaluated in terms of its ability to finance local government activities. Two criteria—revenue productivity and stability—are considered in comparing property and transactions taxes.

Aggregate farm real estate values and taxes for Georgia during the period 1971 through 1977 are shown in Table 1. It is estimated that

TABLE 1. FARM REAL ESTATE VALUE AND TAXES FOR GEORGIA, 1971-1977

Year	Total Value Farm Real Estate[a]	Total Farm Real Estate Taxes[a]	Taxes on Farm Property[b]
	----------Million Dollars----------		
1971	3,954	24.4	28.7
1972	4,405	28.8	29.9
1973	4,903	29.2	32.2
1974	6,205	39.4	42.3
1975	6,804	42.2	45.3
1976	6,833	42.4[c]	47.6
1977	7,338	45.5[c]	51.4[c]

[a]Source: U.S. Department of Agriculture, Economic Research Service, *Farm Real Estate Taxes,* RET-16, March 1977 and previous issues.

[b]Source: U.S. Department of Agriculture, Economic Research Service, *State Farm Income Statistics,* Supplement to Statistical Bulletin No. 576, September 1977 and previous issues. Farm property includes real estate, machinery, and livestock.

[c]Preliminary.

[1]Determination of the transactions tax base may be complicated in some cases such as vertical integration or contract farming in poultry or egg production where the landowner furnishes mainly his own labor and has no sales. Special provisions may be needed to cover these situations.

farm property (including real estate, machinery and livestock) taxes exceeded $50 million for the first time in 1977. This figure is used for the comparison with a transactions tax on farming. The transactions tax has two major tax-base components: (1) sale of farm real estate and (2) sale of farm products. The tax rates on the two bases need not be the same, but in this analysis similar rates are used.

The number and value of voluntary and estate farm sales for Georgia in 1971 through 1977 are shown in Table 2. For this period the number of farm sales peaked at 3,173 in 1974, but were less than 2,000 each year from 1975 through 1977. More than one million acres were sold in 1973 and 1974. The average annual value of farm real estate sales from 1971 through 1977 was $311 million.

Crop and livestock sales are reported in Table 2. Income from crops (including farm sales of forest products) exceeded $1 billion in 1974 through 1976. Livestock sales exceeded $1 billion for the five years 1973-1977. For the period 1971-1977, average sales were $872.8 million for crops and $1,025.1 million for livestock.

On the basis of average figures for the 1971-1977 period, total farm transactions (farm real estate, crop, and livestock sales) were $2,209.3 million. For the single year 1977, total farm transactions were $2,462.1 million. Thus a transactions tax of slightly over 2 percent would generate the same level of revenue from farming as the farm property tax. Because this rate is less than the state's tax on retail sales, the transactions tax appears to be sufficiently productive to replace the property tax with only a moderate tax rate.

The property tax is one of the most stable of all taxes. Though property values fluctuate with the level of economic activity, the short-term income elasticity of property tax revenue is considered to be very low. Only during protracted periods of economic depressions would property tax revenue be expected to decline. Compared with the property tax, the transactions tax is much more responsive to changes in farm income and hence is a less stable source of tax revenue for local governments. The coefficient of variation for the total transactions tax base as reported in Table 2 is over 22 percent. This level of variability is due primarily to the large increase in farm income in 1973. Since that year the tax base has been fairly stable.

The relative instability of the transactions tax would be a disadvantage for local governments during periods of falling farm income. However, the transactions tax would be more responsive than the property tax to economic growth in the agricultural sector as well as rising farm prices. The instability of the transactions tax would have a stabilizing influence on farm income: it would rise and fall with gross farm income.

TABLE 2. TAX BASE FOR THE TRANSACTIONS TAX, GEORGIA 1971-1977

Year	Voluntary and Estate Farm Sales[a]			Cash Farm Income[b]	
	No. of Sales	Acres Sold	Total Value	Total Crops	Total Livestock
		(Acres)		(Million Dollars)	
1971	2,750	580,660	155.1	554.1	701.8
1972	2,789	629,635	206.3	589.6	779.0
1973	2,623	1,249,053	497.6	790.3	1,190.2
1974	3,173	1,038,463	559.5	1,065.5	1,021.8
1975	1,881	405,820	252.6	1,032.6	1,122.6
1976	1,418	335,226	215.7	1,103.3	1,165.7
1977	1,871	440,569	293.4	974.3	1,194.4
Average	2,358	668,489	311.4	872.8	1,025.1

[a]Source: U. S. Department of Agriculture, Economic Research Service, unpublished data used to prepare *Farm Real Estate Market Development*, Washington, D.C.

[b]Source: Georgia Crop Reporting Service, *Georgia Agricultural Facts*, Athens, Georgia.

[c]Preliminary.

Distribution Effects

The transactions tax has significant distributional effects. If the effect of a transactions tax were analyzed by comparing such a tax with a no-tax situation, it would be evident that all farmers would have to pay more taxes in relation to their gross farm income. However, because the transactions tax is intended as a substitute for the property tax, it would be of more interest to compare tax liabilities of different farm situations under the property tax and under a transactions tax generating the same level of aggregate revenue.

Such comparisons are reported in Table 3. The estimates are based on data from the *1974 Census of Agriculture* [7]. A major limitation to the data is that no accurate measure of real estate transfers by farm situation is available for the state. Hence, the transactions tax on real estate transfers was proportioned among farm situations according to value of farm real estate.

Both the property tax and the transactions tax are positively related to farm size when farms are classified according to value of agricultural products sold (Table 3). However, the transactions tax is smaller for low-income farmers and larger for high-income farmers.

There is a conceptual basis for keeping the transactions tax on sales of farm products separate from the tax on farm real estate transfers. The former tax can be considered an annual expense affecting the cost of production. The latter tax is generally applicable only at the termination of operation, when a farm is sold. Bearing this distinction in mind, only farms grossing over $100,000 annually would pay a higher transactions tax on sales, on the average, than they presently pay on property taxes. Low-income farmers would generally pay lower transactions taxes than property taxes. Does this mean that the tax savings would be capitalized into land value? With the transactions tax, the tax reduction for some farmers would not be linked directly to land. For example, a low-income farmer may pay lower taxes with the transactions tax, but when a high-income neighbor buys the land for expansion he would not expect to pay the same low level of taxes. Also, the farmland market is generally considered as a competitive market with prices determined on the margin by economically efficient producers.[2] Tweeten has argued that "the actual price of land tends to be that price which will make all costs, including real estate interest, equal to the value of all farm receipts *on an economic size unit*" [6, pp. 179-180]. Competition in the farmland market bids land prices up to the point

TABLE 3. COMPARISON OF PROPERTY AND TRANSACTIONS TAXES FOR SELECTED FARM SITUATIONS, GEORGIA 1974

Farm Classification	Property Tax Per Farm	Transactions Tax Per Farm			Transactions Tax as a Percentage of Property Tax
		Tax on Farm Sales	Tax on Real Estate Transfers	Total	
	(Dollars)				(Percent)
Value of Products Sold					
2,500-4,999	497.70	58.62	119.05	177.67	36
5,000-9,999	506.60	126.20	120.04	246.24	49
10,000-19,999	617.97	242.03	143.26	385.29	62
20,000-39,999	844.34	503.76	196.06	699.82	83
40,000-99,999	1,153.93	1,116.43	290.48	1,406.91	122
100,000 and over	2,680.38	3,952.21	610.90	4,563.11	170
Average	992.41	897.13	228.60	1,125.73	
Farm Type					
Cash grain	886.20	494.33	211.64	705.97	80
Cotton	1,303.64	869.05	307.09	1,116.14	86
Tobacco	667.41	624.59	151.26	775.85	139
Peanuts and other field crops	1,468.00	1,207.47	342.95	1,550.42	106
Vegetable and melon	587.06	383.59	136.87	520.46	89
Fruit and tree nut	1,377.94	1,073.28	338.49	1,411.77	102
Horticultural specialty	690.65	1,456.17	156.21	1,612.38	233
General crop	1,785.25	923.36	318.83	1,242.19	70
Dairy	1,645.60	2,066.52	374.42	2,440.94	148
Poultry and egg	624.60	2,037.42	123.04	2,188.46	345
Animal specialty	1,074.31	508.83	267.04	775.87	72
Other livestock	898.22	402.96	207.63	610.59	62
General livestock	2,064.34	1,811.81	479.72	2,291.53	111
Not classified	1,337.03	263.29	333.91	597.20	45

[2]Farmland prices in many areas are influenced by urban factors. Implementation of a transactions tax in these areas would not be expected to have a large impact on farmland prices because urban factors would be a major determinant of these prices.

where returns on farmland investment would be equal to returns on capital in other uses. Because of the large number of prospective buyers for farmland, the higher price determined by efficient farms is the price that applies to all farmland. Table 3 shows that farms grossing between $40,000 and $100,000 would pay approximately the same tax on sales as they currently pay in property taxes. Hence, there would be no tendency for the transactions tax to be capitalized into land value.

In general, those farm types that generate above-average value of sales per unit of farm real estate would pay more with a transactions tax than with a property tax. Poultry and egg farms and horticultural specialty farms have the highest ratio of transactions tax to property tax. Tobacco, peanuts, fruit and tree nuts, dairy, and general livestock farms, on the average, would pay more if the tax system were changed. However, average taxes would decline on cash grain, cotton, vegetable, general crop, and beef farms.

Economic Efficiency

Any change in tax structure may affect the allocation of resources. First, the level of farm taxes is likely to affect the location of certain farming activities. High tax rates for either the property or transactions tax will discourage farming activities on the urban fringe. The transactions tax, by favoring extensive land uses, would hold land in agricultural uses near urban areas longer than the farm property tax.

Second, farm taxes can affect nonland investments. Property taxes tend to discourage investment in real estate improvements and encourage the speculative purchase of lower taxed, unimproved land [3, p. 234]. The transactions tax would not tax investments such as buildings, equipment, and growing timber. Instead, only the gross income generated from these investments would be taxed as the income is received.

Taxation also may affect the size and economic efficiency of farming operations. The transactions tax would be generally more favorable to small farms than is the present property tax. This effect would be one factor tending to limit the size of farming operations. However, to the extent that economies of size could be achieved, they probably would outweigh the higher transactions tax associated with greater farm sales. Although the transactions tax would increase in proportion to increases in sales, farmers would still have an incentive to reduce costs per unit of output.

OTHER IMPLICATIONS

The unmodified property tax does not achieve on equitable distribution of tax burdens when either the "ability-to-pay" or the "benefits-received" approach to tax equity is considered. The results in this study show that the transactions tax is generally more closely related to ability to pay, which is derived from both current income and the long-term accumulation of wealth as it is converted to cash. Annual sales of crops and livestock would be taxed with the transactions tax, as well as appreciated land value when land is transferred.

Inadequate administration of the property tax may create additional inequities in that form of tax. Tax assessment is certainly a complex procedure, and it is almost impossible to assess all properties at the same percentage of market value. These administrative difficulties would be avoided with the transactions tax for farming, because the tax base is more easily ascertained through current tax documents, particularly income tax returns. Local tax jurisdictions, however, would require assistance from the state government in administering the transactions tax.

In the approach examined in this article, appreciated farm real estate value could be taxed at the time of an inheritance. Even though inheritances are taxed by the federal and state governments, they are not taxed by local governments. However, it may be inappropriate to include inheritances in the transactions tax. This issue is important and additional research would be needed to assess its consequences.

Other possible extensions of the transactions tax would be to apply the tax to residential and forestry property. Research is needed to determine the magnitude of revenue generated by a transactions tax on these two classifications of real property. The problem of measuring income flows in commercial forestry firms is complicated by vertical integration. Because the same firm may own both the forestland and wood processing plant, a market price of wood products is not established for a large portion of this production.

CONCLUSIONS

Taxes typically are paid from current income and thus relative tax/income ratios are an important consideration in tax policymaking. The transactions tax which would tax income flows in farming is therefore a reasonable alternative to the present property tax. It is

administratively feasible and appears to be a productive source of revenue. Substitution of the transactions tax for the property tax would tend in general to reduce the regressiveness of the tax structure by reducing the relative tax burden of low-income farmers. The transactions tax would tend to encourage nonland investments such as buildings and timber, and it would favor extensive use of farmland. These are some of the major characteristics of the transactions tax, but more research is needed before state governments will be inclined to implement the tax.

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