

630.7
I26b
no.744
cop.8

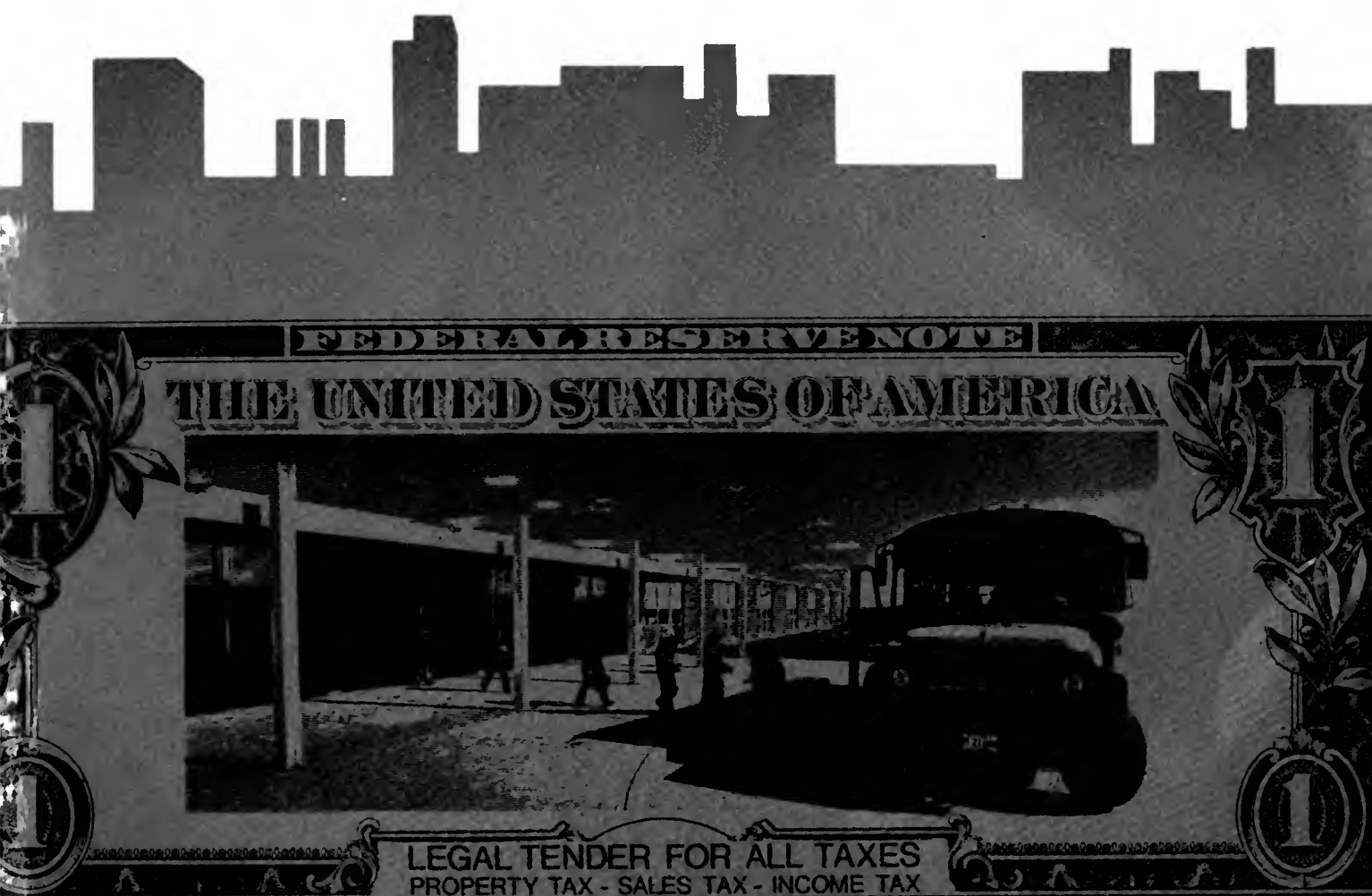


UNIVERSITY OF
ILLINOIS LIBRARY
AT URBANA-CHAMPAIGN
AGRICULTURE



School Tax Options Affecting Illinois Agriculture

University of Illinois at Urbana-Champaign
College of Agriculture
Agricultural Experiment Station
Bulletin 744



SCHOOL TAX OPTIONS AFFECTING ILLINOIS AGRICULTURE, a study of school property tax displacement by increases in income or sales taxes, is a product of cooperation by staff members in the University of Illinois Department of Agricultural Economics. Harold G. Halcrow had general responsibility as project leader for planning and programming the study and writing the manuscript. Contributions in analysis and writing were made by Robert G. F. Spitze on the Illinois tax situation and farm property taxes (see contents); by Folke Doving on the Illinois property tax burden by counties and school districts; by John T. Scott, Jr., on programming and budgeting the options; by Franklin J. Reiss on longer term structural income and resource effects; and by Wesley D. Seitz on effects of property tax displacement on land conversion and development. The study was organized in conferences of these staff members and Richard L. Feltner, head of department. Arthur Eith was employed as a graduate assistant during June, July, and August of 1972 to work on the data illustrating the tax options.

The study also was developed in consultation and liaison with staff of the Office of Planning and Analysis, Executive Office of the Governor, the Bureau of Budget, the Superintendent of Public Instruction, the Superintendent's Advisory Committee, the Governor's Task Force on Educational Finance, and the Education Finance Task Force Staff. A grant of \$5,000 was made by the Office of Planning and Analysis to the College of Agriculture Agricultural Experiment Station to help finance the work and publication.

In addition to detailed review by the authors and others in Agricultural Economics, helpful comments in review were received from Richard Fryman, School of Business, Southern Illinois University at Carbondale, and from John F. Due and Jane H. Leuthold, Department of Economics, William P. McLure, Bureau of Educational Research, College of Education, Phillip Monypenny, Department of Political Science and the Institute of Government and Public Affairs, University of Illinois at Urbana-Champaign.

CONTENTS

<p>Purpose of Study 4</p> <p>Procedure 5</p> <p>THE ILLINOIS TAX SITUATION 5</p> <p> State of Illinois Revenue and Expenditures 7</p> <p> Tax Dollar: Revenue, Transfer, and Expenditure 7</p> <p> Revenue Distribution Compared Among States 8</p> <p>FARM PROPERTY TAXES 9</p> <p> Farm Share of Property Taxes in Illinois 9</p> <p> Comparative Farm Real Estate and Personal Property Taxes by States 9</p> <p> Illinois Farm Property Taxes, With Comparisons 10</p> <p>ILLINOIS PROPERTY TAX BURDENS BY COUNTIES AND SCHOOL DISTRICTS 10</p> <p> Property Tax Assessments 11</p> <p> Assessment Equalization Among Counties 11</p> <p> Tax Rates on Assessed Values by Counties 11</p> <p> Tax Rates on Lands and Lats per \$100 Assessed Value 11</p> <p> Variation in Land Taxes per \$100 Census Value 11</p> <p>PROGRAMMING AND BUDGETING THE OPTIONS . . . 17</p> <p> Property Tax Reductions Selected 17</p> <p> Tax Displacement Options 17</p>	<p> Equalizing Financial Support Among School Districts 18</p> <p> Procedure for Comparing Incomes After Tax 18</p> <p>PER FARM INCOME CHANGES FROM PROPERTY TAX DISPLACEMENT 21</p> <p> Owner-Operated Farms 21</p> <p> Tenants 21</p> <p> Landlords 21</p> <p>PER ACRE INCOME CHANGES FROM PROPERTY TAX DISPLACEMENT 22</p> <p>LAND VALUE CHANGES FROM PROPERTY TAX DISPLACEMENT 24</p> <p>LONGER TERM STRUCTURAL INCOME AND RESOURCE EFFECTS 25</p> <p>STATEWIDE PROPERTY TAX LEVY 26</p> <p> Statewide Property Tax Levy as a Rider on Local Levies 26</p> <p> Statewide System of Improved Property Tax Levies 27</p> <p>EFFECTS OF PROPERTY TAX DISPLACEMENT ON LAND CONVERSION AND DEVELOPMENT 27</p> <p> Reactions to Tax Displacement 27</p> <p> Quantity of Land Conversion in Illinois 28</p> <p> Effects of Tax Displacement on Holding Costs and Land Values 29</p> <p> Impact of Alternative Tax Options 34</p> <p> Conclusion: Effects of Tax Displacement on Land Conversion 34</p>
--	---

School Tax Options Affecting Illinois Agriculture

By H. G. Halcrow, Folke Doving, Arthur Eith, F. J. Reiss,
J. T. Scott, Jr., W. D. Seitz, and R. G. F. Spitze

The Illinois tax structure has been changed significantly in recent years, most importantly since 1969, and new opportunities exist for further change. The chief trend involves shifting tax sources from local to state government, and from state to federal government, and in so doing, away from the property tax to other sources of revenue. One of the more critical factors in changing the tax structure is support for elementary and secondary education. The purpose of this study is to compare some of the tax options for this support as they affect agriculture in Illinois so as to test the general hypothesis: If the local property tax for schools is displaced by increases in other taxes there will be gains in equity and efficiency both in the tax system and in support for schools.

Changes in tax structure have permitted changes in expenditure shares for major public programs borne by local, state, and federal governments. In Illinois between fiscal year 1966 and fiscal 1972 state and federal shares of expenditure for major state programs approximately tripled. For the programs identified, state support increased from \$1,563 million in fiscal 1966 to \$4,504 million in fiscal 1972, federal from \$427 million to \$1,483 million (Table 1). Since 1972 both state and federal support have increased further relative to local support. Recent events, such as elimination of personal property taxes on individuals, new federal legislation for revenue sharing, and movement to freeze or reduce real property taxes portend still further shifts in the same general directions.

In Illinois changes in tax structure involve new taxes and increased yield from old taxes. Specifically, at the state level the new tax on individual and corporate income inaugurated in August, 1969, and first affecting the fiscal year 1970, has been the chief new instrument permitting the State of Illinois to increase its revenue from \$1,695 million in fiscal 1966 to \$4,656 million in fiscal 1972. More than one-third of the \$2,961 million increase was made possible by the income tax, which yielded \$1,105 million in fiscal 1972, the balance being from increased yields from other revenue sources (Figure 1).¹

The increase in state revenues has been a necessary condition to increase the grants from State of Illinois funds to local units by more than \$600 million between 1969 and 1970, and by an average of \$250 million a year between 1970 and 1972. The increase in state grants was slightly more than the equivalent of total revenue from the income tax. As may be noted, grants for all public education were more than one-half of the total until 1972, when out of total grants of \$1,917 million about \$913 million was for all public education (Table 2).

Much of the impetus for changing the tax structure comes from recommendations and subsequent developments in public school support. Recent recommenda-

¹ Constitution of the State of Illinois, 1970, provides in Article IX, Sec. 3(a) that "A tax on or measured by income shall be at a non-graduated rate. . . . In any such tax imposed on corporations the rate shall not exceed the rate imposed on individuals by more than a ratio of 8 to 5."

Table 1.—State and Federal Shares of Expenditure for Major State Programs, Fiscal 1966 and 1972^a

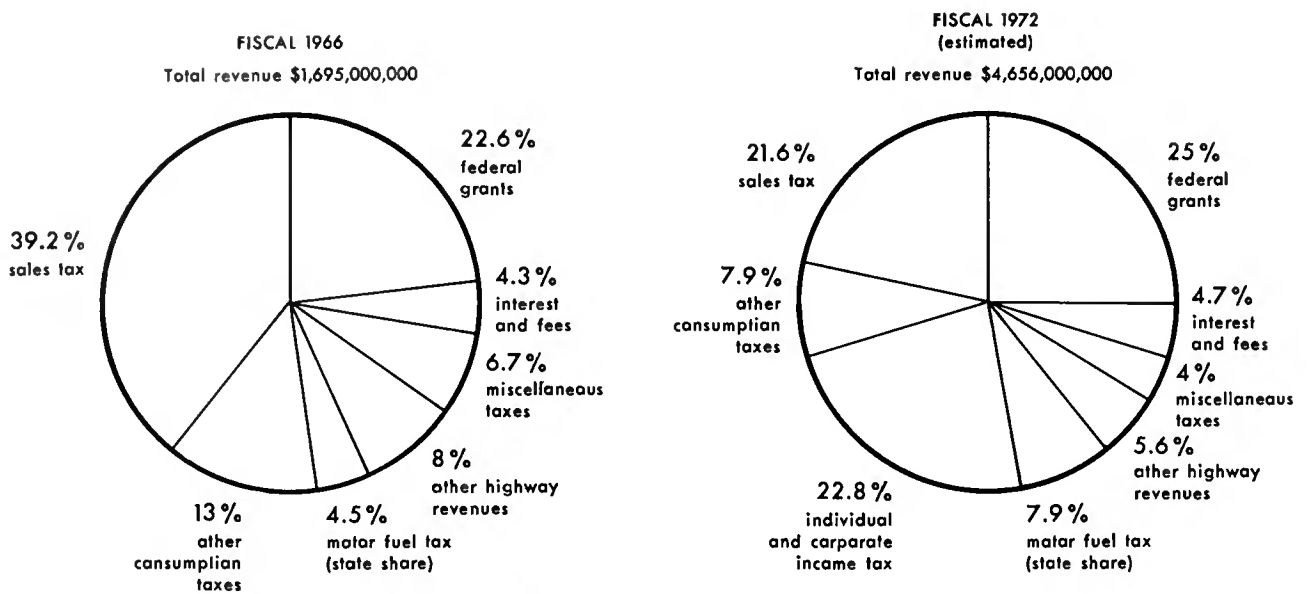
	1966			1972		
	Federal	State	Total	Federal	State	Total
	<i>millions of dollars</i>					
Health and social services	\$ 31.8	\$ 268	\$ 299.8	\$ 271.3 ^b	\$ 644.8 ^b	\$ 916.1 ^b
Income support	194.4	235	429.4	324.7	433.9	758.6 ^c
Education (total)	(46.3)	(513)	(559.3)	(123.3)	(1,715.7)	(1,839.0)
Elementary and secondary	46.3	283	329.3	123.3	1,043.3	1,166.6
Higher		230	230.0		672.4 ^d	672.4
Transportation	148.6	335	483.6	758.9	750.2	1,509.1
Enhancing environment . . . . .	.6	15	15.6	1.7	270.6	272.3
Administration of justice and law enforcement		66	66.0	.3	199.5	199.8
Elected officials and general government	5.8	131	136.8	2.8	489.6	492.4
Total	\$427.5	\$1,563	\$1,990.5	\$1,483.0	\$4,504.3	\$5,987.3

^a Reprinted from *Illinois Government, July, 1972*, University of Illinois at Urbana-Champaign, Institute of Government and Public Affairs, Phillip Monypenny, "Intergovernmental Revenues and Illinois State Finance, 1965-72." Fiscal year 1966 data were assembled from reported departmental data, *Fiftieth Annual Report, Departments of Finance, State of Illinois*, and reworked to fit the 1972 classification. Fiscal year 1972 data were condensed from *The Illinois State Budget, Fiscal 1972*, p. A-38.

^b Includes state and federal shares of medical costs not separately reported in categorical aid costs in 1966.

^c Omits medical costs for categorical aid recipients now provided through Medicaid, and benefit payments from unemployment compensation trust funds.

^d Disregards grants directly to institutions and small grants to Board of Higher Education, a total of \$82.6 million in 1972 Illinois budget.



State of Illinois revenues by source, fiscal years 1966 and 1972. (Same source as data in Table 1.)

(Fig.1)

Table 2. — Grants From State Funds to Local Units, Fiscal 1968-1972*

	1968	1969	1970	1971	1972 (est.)
	<i>millions of dollars</i>				
Sales tax distribution	\$121.3	\$152.0	\$ 174.9	\$ 257.7	\$ 268.2
Income tax (8.5% of collections)			63.4	79.0	85.0
State formula aid to					
Schools	389.0	410.0	626.0	723.5	755.0
Pupil services		11.1	16.4	29.7	34.1
Special education	24.0	38.7	39.2	54.0	54.6
Adult education	1.9	.6	2.2	1.8	1.9
Driver training	5.4	6.2	6.2	6.7	8.2
Contributions to teacher retirement system	57.8	57.3	74.2	78.6	78.6
Aid for vocational education	5.4	9.4	13.8	14.0	14.3
All public education	(483)	(522)	(694)	(890)	(913)
Local mental health clinics	5.5	7.0	10.7	15.5	24.2
Local public health district . . . . .	.77	2.0	1.5	1.5	1.4
Local general assistance costs	43.0	57.2	56.0	94.8	117.9
Regional planning grants	1.0	.2	1.1	1.4	.3
County and township assessors' salaries . . . . .	.1	.2	.2	1.0	1.6
Grants to county fairs	2.6	4.8	5.3	4.9	5.0
Aid for tourism projects . . . . .	.97	.2	.1	.1	.1
Soil and water conservation . . . . .	.22	.3	.4	.4	.4
Environmental protection					200.0 ^b
Housing assistance . . . . .		.2	5.2	6.4	6.3
Airport improvement	4.4	3.8	7.0	3.6	18.6
Pupil transportation subsidies		3.7	6.4	6.8	6.7
Urban mass transit grant					25.0
Law enforcement assistance		2.2	7.5	4.4	5.0
Law enforcement officers training		1.6	1.5	1.9	2.8
Library assistance	4.12	4.8	5.5	6.9	7.0
Motor fuel tax distributions	155.0	134.8	192.6	191.8	194.9
Total shared taxes and grants	\$822.48	\$908.3	\$1,417.3	\$1,586.4	\$1,917.1

* Reprinted from *Illinois Government*, op. cit. Original data from *The Illinois State Budget, Fiscal 1972*; pp. A-29 and A-30 were reworked slightly to exclude items not ordinarily classed as grants, such as loans for school building construction and some state-provided services.

^b New program; grants estimated.

tions for Illinois,¹ as well as for other states,² would require increases in funding from state and federal sources. Additionally, in Illinois, the Superintendent's Advisory Committee on School Finance, as well as the Governor's Commission on Schools, has considered various alternatives for equalizing support among school districts.³ Among these are full state funding for all public schools.⁴ The recommendations would equalize school support, allow a range for regional price differences, and use additional federal grants for educationally deprived children, such as is currently provided under the Elementary and Secondary Education Act.⁵

Extensive court activity may also be regarded as influential in changing the tax structure and revenue shares. The five to four decision of the United States Supreme Court on March 21, 1973, holding the Texas system of financing schools constitutional, in effect reaffirmed use of local property taxes for school financing.⁶ The Court held that education "... is not among the rights afforded explicit protection under our Federal Constitution." But it was noted, in the words of Justice Lewis F. Powell, Jr., writing for the majority, that "The need is apparent for reform in tax systems which may well have relied too long and too heavily on the local property tax..." A minority dissenting opinion, written by Justice Thurgood Marshall, regarded the majority view "... as a retreat from our historic commitment to equality of educational opportunity and as unsupportable acquiescence in a system which deprives children in their earliest years of the chance to reach their full potential as citizens..."

To review briefly the legal arguments, courts in a number of states had found that revenue systems for public schools, based heavily on property taxes locally assessed and levied, were in violation of constitutional provisions of equal protection since the systems result in substantial disparities among school districts in comparative tax burdens and in the amount of support available per educational unit. On August 30, 1971, the Supreme Court of the State of California, in an historic class action suit against the State of California brought by the public school children attending elementary and secondary schools in Los Angeles County and their parents, rejected the defendants' underlying thesis that classification by wealth is constitutional so long as the wealth is that of the district, not the individual.

¹ See *Education for the Future of Illinois*, Report of a Study by the Task Force on Education, William P. McLure, Chairman. (Sponsors: The Governor, The State Superintendent of Public Instruction, The School Problems Commission), State of Illinois, December, 1966.

² See, for example, *Report of New York State Commission on the Quality, Cost, and Financing of Elementary and Secondary Education*, New York, 1972; *The President's Commission on School Finance*, Washington, 1972; *State-Local Revenue Systems and Education Finance*, Advisory Commission on Intergovernmental Relations, Washington, 1971; *National Educational Finance Project* (five volumes), Gainesville, Florida, 1970-71.

³ "Memorandum to The Superintendent's Advisory Committee on School Finance," by William P. McLure in *Superintendent's Advisory Committee on School Finance*, Office of the Superintendent of Public Instruction (OSPI), No. 1, March, 1972.

⁴ "School Finance Equalization Lawsuits: A Model Legislative Response," by Arthur E. Wise in *Superintendent's Advisory Committee on School Finance* (OSPI), No. 1, March, 1972.

⁵ See statement by William P. McLure, *Ibid.*, for alternatives. Also, for an extensive study on equalizing the costs of education see William P. McLure and Audra May Pence, *Early Childhood and Basic Elementary and Secondary Education: Needs, Programs, Demands, Costs*, National Educational Finance Project, Special Study No. 1, Bureau of Educational Research, College of Education, Univ. of Ill. at Urbana-Champaign, 1970.

⁶ *San Antonio Independent School District v. Rodriguez*, *The United States Law Week*, 41:4407, March 20, 1973.

The court furthermore rejected the defendant's argument that an independent examination of the equal protection issues was foreclosed by an earlier summary affirmation, by the United States Supreme Court, of a ruling by a three-judge district court to the effect that a challenge to the Illinois school system was nonjudicable! The court determined that the local property tax school funding scheme "... invidiously discriminates against the poor because it makes the quality of a child's education a function of the wealth of his parents and neighbors." The court held that, although uniform education expenditures were not mandated by the California Constitution (Article IX, No. 5) requiring the legislature to provide for a system of common schools, judicial review under the equal protection clause required active and critical analysis in the case of legislation involving suspect classifications or touching on fundamental interests. The court concluded, "Recognizing as we must that the right to an education in our public schools is a fundamental interest which cannot be conditioned on wealth, we can discern no compelling state purpose necessitating the present method of financing. We have concluded, therefore, that such a system cannot withstand constitutional challenge and must fall before the equal protection (of the Fourteenth Amendment, hence is unconstitutional.)"⁷

On October 12, 1971, the United States District Court of Minnesota, in another class action suit brought by and for public school children, stated "... the rule is that the level of spending for a child's education may not be a function of wealth other than the wealth of the state as a whole. ... In a number of decisions over the past fifteen years the United States Supreme Court has made it plain that classifications based upon wealth are suspect ... the variations in wealth are state created ... the poverty is that of a governmental unit the state itself has defined and commissioned. ... [It is concluded] that a system of public school financing which makes spending per pupil a function of the school district's wealth violates the equal protection guarantee of the 14th Amendment to the Constitution of the United States."⁸ Hence, the state is responsible for developing a system which does not so discriminate.

Also in December, 1971, a United States district court in Texas ruled that, as the current system of financing public education in Texas discriminates on the basis of wealth by permitting citizens of affluent districts to provide a higher quality education for their children, while paying lower taxes, the plaintiffs who brought suit on behalf of all children throughout Texas living in school districts with low property valuations were as a matter of law being denied equal protection of the laws by operation of the Education Code sections relating to the financing of education, including the minimum foundation program. Accordingly, some new form of financing had to be utilized, with the sole restriction that the program adopted not make the quality of education a function of wealth other than the wealth of the

⁷ *Serrano v. Priest*, 5 Cal. 3d 584, 96 Cal. Rptr. 601, 487 P. 2d 1241 (1971). Cited in *The United States Law Week*, 40:2128, Sept. 14, 1971.

⁸ *Van Duzart v. Hatfield*, cited in *The United States Law Week*, 40:2228, October 26, 1971.

state as a whole. The court noted that more than mere rationality is required to maintain a state classification, in regard to the financing of public education, which affects a "fundamental interest" which is based on wealth. Notwithstanding the defendant's claim that federal funds in fact compensate for state discrimination in regard to the current method of financing public elementary and secondary education, the court ruled that the state's performance of its constitutional obligations must be judged on its own behavior, not by actions of the federal government. Hence, the system for funding public education in Texas was declared unconstitutional according to the equal protection clause of the Fourteenth Amendment.¹ This decision was appealed to the United States Supreme Court. Before the U.S. Supreme Court acted, a decision similar to the Texas case was handed down by the Michigan Supreme Court.² Appeal of the Texas case to the U.S. Supreme Court gave it precedence over a number of other cases. By the end of 1972 there were 52 suits against the school finance system on file in 31 states. Some of these involved the First Amendment, as well as the Fourteenth.

Although details of future tax changes cannot be specified, the general directions for Illinois are clear, involving at least the following: (1) reduced relative reliance on local property taxes, (2) elimination of the personal property tax,³ (3) increased state grants to local governments with grants for public schools playing an increasingly important role, and (4) increased sharing of federally collected revenues with states and other municipalities.

Purpose of Study

The purpose of this study is to determine effects on Illinois agriculture of selected tax alternatives or options consistent with the general hypothesis stated on page one. The purpose is not to recommend what changes ought to be made—that is a matter for political and judicial decision—rather it is to view the meaning and consequences for agriculture and for land use of imposing selected tax alternatives in lieu of property taxes. Although the alternatives selected

can be conceived as policy goals that will be only partially achieved in a given time span, in order to gain simplicity and clarity in the study, two assumptions are made that are critical.

The first assumption is that local property taxes for public school support, which in Illinois yielded an estimated \$1.51 billion in fiscal 1970⁴ or between \$1.5 billion and \$1.6 billion in fiscal 1971, are to be replaced completely by other alternative revenue sources.⁵

The second assumption is that one of the revenue options, namely a federal surtax, will be designed to yield about one billion dollars more revenue in Illinois as of 1971 than the taxes so displaced. These funds will be used to equalize financial support upward among school districts, on the basis of weighted average daily attendance (WADA).⁶

In the school year 1970-71, based on 2,269,685 WADA in Illinois, it would have required \$975 million to equalize all school districts in the state upward to a minimum of \$1,150 operating expenditures per WADA, not including \$261 million (227,000 WADA equivalents) categorical aid for additional extra costs of special instructional programs such as special education for exceptional children, bilingual instruction, and compensatory remedial programs.⁷ In 1970-71, only one of 20 school districts in Illinois, or 56 of the 1,173 school districts, including 491 unit districts, 170 high school districts, and 584 elementary districts, spent more than \$1,150 per WADA for operations, exclusive of categorical aid funds. In event of tax displacement such as considered in this study, these 56 districts, or any other district where the voters were so inclined, might maintain a higher funding level through supplementary local tax levies. Alternatively, the state funding formula might provide a rider based on historical criteria to maintain a specific funding level above the equalized level per WADA. Based on 1970-71 data, an increase to \$1,250 per WADA for operations, exclusive of categorical aid, would require another \$227 million. This level would reach upward to equal or exceed the 1970-71 operating expenditures of all but 30 of the school districts in Illinois.⁸ Although some of this in-

⁴ *Illinois Public School Financial Statistics, 1969-70 School Year*, Circular Series A, Number 290, Office of the Superintendent of Public Instruction (OSPI), p. 1. The figure cited is for local taxes.

⁵ The exact figure for fiscal 1971 is not available as this is written. Richard Fryman, then with the Education Finance Task Force Staff, Bureau of Budget, State of Illinois, estimated that nearly \$1.6 billion of property tax receipts went to support elementary and secondary education in 1971. Richard Fryman, "Alternative Sources of Revenue for Elementary and Secondary Education in Illinois," in *Business Perspectives*, Southern Illinois University, Carbondale, Summer, 1972, pp. 21-22.

⁶ Suggestions for such a pattern of equalization are contained in *Education for the Future of Illinois*, report of a study by the Task Force on Education (Sponsors: the Governor, the State Superintendent of Public Instruction, the School Problems Commission), State of Illinois, December, 1966. WADA is defined as follows (p. 116):

A. Basic WADA:

1. One ADA in half-day kindergarten = 0.5 WADA;
2. One ADA in grades 1 to 8 = 1.0 WADA;
3. One ADA in grades 9 to 12 = 1.25 WADA.

B. Sparsity correction (for additional transportation costs chiefly).

C. Density correction (for additional costs under extreme concentration of population).

⁷ In the school year 1970-71 the State of Illinois funded 177,466 WADA equivalents categorical aid for \$170,177,641 (\$959 per WADA). If this were to be increased to \$1,150 per WADA an additional \$34 million would have been required, making the total additional \$295 million (\$261 million plus \$34 million) for categorical aid.

⁸ Derived from data assembled by William P. McLure in Report of the State Superintendent's Advisory Committee on School Finance, Chapter III, OSPI, Springfield, 1973.

¹ *Rodriguez v. San Antonio Independent School District*, 337 F. Supp. 280 (D.C. Tex. 1971). For further discussion of the United States Supreme Court review of this case, see *The United States Law Week*, 41: 3197, October 17, 1972.

² On December 29, 1972, the Michigan Supreme Court, with two justices dissenting, ruled that the Michigan school financing system, which admittedly results in revenue inequalities among school districts, cannot survive constitutional challenge unless the State can prove that there is no less onerous alternative by which the objective of school finance may be achieved. *Milliken v. Green*, Mich. Sup. Ct., *The United States Law Week*, 41:2348, January 9, 1973.

³ The *Constitution of the State of Illinois, 1970* provides in Article IX, Sec. 5(c) that "On or before January 1, 1979, the General Assembly by law shall abolish all ad valorem personal property taxes—such revenue shall be replaced by imposing statewide taxes, other than ad valorem taxes on real estate, solely on those classes relieved of the burden of paying ad valorem personal property taxes because of the abolition of those taxes subsequent to January 2, 1971. . . ."

In November 1970, in a constitutional referendum, Illinois voted to eliminate personal property taxes on individuals but not corporations. On February 22, 1973 the United States Supreme Court upheld the constitutionality of the amendment. *Lehnhausen v. Lake Shore Auto Parts Co.*, *The United States Law Week*, 41:4289, February 20, 1973. This reversed a ruling of the Illinois Supreme Court which had held the amendment unconstitutional as discriminating against corporations. *Lake Shore Auto Parts Co. v. Korzen*, 49 Ill. 2d 137, 273 N.E. 2d 592, reversed sub. nom. *Lehnhausen v. Lake Shore Auto Parts Co.*, 93 S.Ct. 1001 (1973).

creased revenue might be made available for equalizing financial support among states, it is not a purpose of this study to suggest how this might be done.¹

The purpose in making these two assumptions and the more general purposes of the study thus may be stated as follows:

1. To estimate short-run income and resource effects resulting from these school tax options among farm families with different income and asset levels and to estimate the impact for commercial farm families as a whole.

2. To present a theoretical analysis of the effects on land values and land rents of replacing all or a portion of school funds now raised by property taxes with these other taxes. This involves estimates of the magnitude of windfall gains or losses resulting from changes in tax policy and the short-run as well as long-run effects of these gains or losses.

3. To present effects of some of these school tax options on conversion of land from agricultural to non-agricultural uses by computation of taxes paid in hypothetical situations under the present and modified tax structure. The roles of individual decision makers (farmers, speculators, developers, home buyers, and lenders) are considered, as well as the roles of public agencies (federal, state, regional, local).

Procedure

Four tax or revenue options were selected on assumption that one of these or some combination might be used to displace that portion of the local property tax used in support of public schools: (1) increased state income tax, (2) increased state sales tax, (3) increase in both state income and state sales tax, each to one-half the increase in the first two options, or (4) a federal surtax to be added to the federal tax on individual and corporate income. Each of these four options was set to produce an estimated \$1,513 million as of fiscal 1971.

It was estimated that in 1970, the last year for which detailed property tax data could be obtained, about 57 percent of the aggregate property tax dollar in Illinois was used for support of public schools. Use of one of the four options would allow an average reduction of 57 percent in the property tax for the state as a whole, or 51 percent in Cook County and an average

¹ The procedure for estimating revenue requirements for such funding levels is discussed in a number of publications: See *State-Local Revenue Systems and Educational Finance*, a report presented to the President's Commission on School Finance, Advisory Commission in Intergovernmental Relations, Washington, D.C. 20575, Nov. 15, 1971; Fred Hines and Luther Tweenen, *Optimal Regional Funding of Elementary and Secondary Schooling*, Research Report P-669, Agricultural Experiment Station, Oklahoma State University, Stillwater, September, 1972.

of 65 percent for the other 101 counties in Illinois. Among these 101 counties the reduction would range by counties from 56 to 74 percent, while by school districts the reduction would be from 48 to 84 percent. These are the percentages of the property tax going to support public schools.

Since the range by counties is from 56 to 74 percent it was assumed next that property tax reductions of 55 percent on the low side and of 75 percent on the high side would mirror the range by counties of the typical property tax reductions in the 101 counties made possible by adoption of one of the four tax options. These property-tax reductions were then applied to a sample of farm budgets drawn from Illinois farm business records, and each of the tax options was substituted to determine (1) the changes in income after tax in each farm size and type, (2) the changes in net income per acre, (3) the capitalized value of the per acre income changes, and (4) the longer term structural income and resource effects on the farm, the rural community, and land use.

Next, as was estimated, about one billion dollars in addition to the school property taxes displaced would be required as of 1971 to equalize operating expenditures among school districts, upward to \$1,150 per WADA. To accomplish this a new federal surtax was designed, presented in this study as federal surtax plan B, to contrast it with surtax plan A, that merely displaces the property tax. That is, plan A, like the increases in state income or sales tax, is designed merely to displace the school property tax, while plan B displaces the school property tax and adds sufficient revenue to equalize support upward among school districts.

Finally, there is a brief discussion of the implications of a statewide property-tax levy in lieu of local property taxes. The statewide levy cannot be analyzed in the same terms as the other tax options. A uniform millage levy over the state would increase the average tax on farms and would distribute taxes differently among school districts within the state.

After further review of the Illinois tax situation, the school tax options are presented to compare income after tax on farms arrayed by size, by type as crop or livestock, by soil rating, and by tenure as owner operators, tenants, and landlords. Income effects by farms are then also expressed as differences in income per acre. The per acre changes are capitalized (at a rate of 5 percent) into value changes per acre. Finally, the imputed value changes are discussed as longer term income and resource effects, including effects on conversion of land from agriculture to other uses.

THE ILLINOIS TAX SITUATION

Any tax alternative seriously considered must be a marginal change from a present tax mix. This involves local, state, and federal tax sources. It also involves changes either toward or away from the basis of property, income, purchases, or privileges. A perspective in regard to available alternatives involves knowledge

about three general sets of data: (1) State of Illinois revenue and expenditures, (2) tax-dollar allocation among federal, state, and local tax systems, including revenue sharing among the three levels of government, and (3) comparison of Illinois with other states.

Table 3. — State of Illinois Revenue by Source, Fiscal 1961, 1969-1973

	1961 ^a	1969	1970	1971	1972 (est.)	1973 (proj.)
<i>millions of dollars (percentages are of total revenue, all sources)</i>						
State taxes						
Sales taxes ^b	\$ 379(31%)	\$ 983(36%)	\$1,006(27%)	\$1,009(24%)	\$1,090(22%)	\$1,176(22%)
Income taxes (gross).....	...	...	748(20%)	1,009(24%)	1,105(22%)	1,189(22%)
Motor fuel tax (gross).....	158	273	329	351	375	390
Cigarette taxes.....	46	128	153	162	169	174
Public utility taxes.....	46	128	140	154	168	186
Liquor gallonage taxes.....	36	54	67	67	72	79
Inheritance tax (gross).....	29	53	65	60	60	80
Insurance tax and fees.....	30	49	73	53	54	57
Horse racing tax and fees.....	18	40	45	48	53	56
Corporation franchise tax.....	7	27	27	20	24	26
Other privilege taxes.....	4	14	18	20	23	25
Total state taxes.....	753	1,749	2,671	2,953	3,193	3,438
Other receipts						
Motor vehicle and operator's license fees.....	104	167	224	254	256	271
Other fees.....	12	17	19	20	20	20
Receipts from State Hospital patients.....	7	11	13	14	15	17
Tuition and other university charges.....	9	16	25	40	48	61
Interest in state funds and investments.....	6	31	44	43	37	42
Reimbursements.....	9	14	11	23	23	26
Revolving fund receipts.....	11	14	14	30	49	52
Intrafund reimbursements.....	...	28	4	5	6	8
All other nonfederal receipts.....	2	27	41	27	32	58
Total other receipts.....	160	333	395	456	486	555
Total, state sources.....	913	2,082	3,066	3,409	3,679	3,993
Federal aid.....	320(26%)	636(23%)	655(18%)	839(20%)	1,245(25%)	1,454(27%)
Total, all sources.....	\$1,233	\$2,718	\$3,721	\$4,248	\$4,924	\$5,447

^a One half of 1959-61 biennial period.

^b Includes sales and use taxes.

Sources: State of Illinois Department of Finance, *Financial Program for Illinois for 72nd Biennium, 1961-63*, pp. 16-17; State of Illinois, *Illinois State Budget Fiscal 1972*, p. A-97; State of Illinois, *Illinois State Budget Fiscal 1973*, p. A-134.

Table 4. — State of Illinois Appropriations for Operations and Grants, Fiscal 1961, 1971-1973

	1961 ^a	1971	1972	1973 (proposed)
<i>millions of dollars (percentages are of total appropriations, all sources)</i>				
Legislative.....	\$ 3	\$ 9	\$ 10	\$ 11
Judicial.....	5	26	30	29
Departments.....	(656)	(2,061)	(2,990)	(3,307)
Aeronautics.....	5	13	63	67
Agriculture.....	11	16	17	18
Children and family services.....	*	69	95	107
Conservation.....	11	16	18	19
Corrections.....	*	66	74	72
Environmental protection.....	*	6	208(4%)	340(6%)
Finance.....	3	8	14	17
General services.....	*	35	38	40
Labor.....	15	43	67	80
Law enforcement.....	*	39	44	46
Local governmental affairs.....	*	100	108	106
Mental health.....	*	270(7%)	309(6%)	342(6%)
Personnel.....	*	12	29	36
Public aid.....	317(25%) ^b	920(24%)	1,385(28%)	1,454(27%)
Public health.....	18	36	36	42
Registration and education.....	4	10	11	11
Revenue.....	8	22	25	26
Transportation.....	30	365(10%)	430(9%)	465(9%)
Other departments.....	*	15	19	19
Other agencies.....	*	(161)	(164)	(194)
Governor's traffic safety committee.....	*	.4	9	16
School building commission.....	6	36	36	56
Vocational education and rehabilitation.....	8	76	68	77
Remaining agencies.....	*	59	51	45
Elected officers.....	(234)	(1,069)	(1,192)	(1,292)
Public instruction.....	197(16%)	982(26%)	1,090(22%)	1,190(22%)
Other officers.....	37	87	102	102
Higher education.....	113(9%)	516(13%)	537(11%)	573(11%)
Total.....	\$1,258	\$3,842	\$4,923	\$5,406

^a One half of 1959-61 biennial period.

^b Includes mental health.

* Not available.

Source: State of Illinois, *Illinois State Budget Fiscal 1973*, pp. A-129 to A-133; State of Illinois, *Illinois State Budget*, pp. 19A-26A.

State of Illinois Revenue and Expenditures

In Table 3 the sources of revenue for all State of Illinois fiscal functions are traced over the five years from fiscal 1969 to fiscal 1973 (projected). This includes the time when the first state income tax was initiated. These figures are compared with fiscal 1961.

There was a fourfold increase in total revenues from 1961 to 1972 (from \$1,233 million to \$4,924 million). At least 30 percent of this increase was absorbed by inflation. Increased services and increased revenue sharing from the State of Illinois to local governments and school districts was also funded from the revenue increases.

Whereas, for years the bulk of revenue yield was carried by the general sales taxes, motor fuel taxes, license fees, and federal aid back to the state, this burden has been shared significantly since 1970 with the new state income tax, now providing from one fifth to one quarter of the total revenue flow. The primary relative tax relief has come to the sales tax area which has dropped from 36 percent of the flow in fiscal 1969 to about 22 percent in fiscal 1972 and 1973. The share borne by federal aid was first lightened after enactment of the Illinois income tax, but it quickly climbed beyond its 1969 level of 23 percent of total Illinois state governmental revenue to a projected 27 percent for 1973. Among the minor revenue sources, some insignificant to the total yet vital to some particular public service, tuition and other charges for higher education stands out with the most rapid climb of almost a fourfold increase between 1969 and that projected for 1973.

Appropriations of the State of Illinois have stayed slightly ahead of revenue, as bonding and other separate funding sources such as the Illinois Building Authority, continue to be tapped. In Table 4, the current distribution of state appropriations along with a com-

parison over the period of a decade are presented. Two categories of public service stand in bold relief, namely public aid and public instruction as related to the elementary and secondary levels. In fiscal 1972, these accounted for 28 percent and 22 percent respectively of the total appropriations. These were followed by higher education (11 percent), transportation (9 percent), mental health (6 percent), and environmental protection (4 percent).

Comparable data are not available to permit a useful comparison with the past, but the primary thrusts can be seen. Appropriations for public aid and mental health along with elementary and secondary education have expanded substantially. Although, of course, the fourfold increase in total state service costs has permitted an absolute expansion in most areas, some relative slowing down has apparently occurred with several minor programs.

Tax Dollar: Revenue, Transfer, and Expenditure

In recent years it is estimated that about 69 cents of the Illinois total tax dollar collected by federal, state, and local governments from Illinois taxpayers has been paid to the U.S. Treasury and the balance of 31 cents has been divided almost equally between the State of Illinois and local municipalities, school districts, and other local entities.

Revenue sharing or intergovernment transfers, however, make the distribution of expenditures considerably different. In fiscal 1973 about \$1,454 million will be paid from the U.S. Treasury to the State of Illinois general fund, the road fund, and special trust funds.¹ Transfers to local governments from the State of Illi-

¹ *The Illinois State Budget, Fiscal 1973*, p. A-134. See also *The Illinois Tax System* by N. G. P. Krausz, Department of Agricultural Economics, Cooperative Extension Service, University of Illinois at Urbana-Champaign, AE-4299, 1972.

Table 5.—Aid to Local Governments in Illinois From State Revenues, Fiscal 1969-1973

	1969	1970	1971	1972 (est.)	1973 (proj.)
	<i>millions of dollars</i>				
Monetary assistance					
General.....	\$ 152.0	\$ 237.3	\$ 300.0	\$ 344.8	\$ 368.3
Education (total).....	(625.4)	(920.0)	(1,055.1)	(1,140.5)	(1,349.9)
Elementary and secondary.....	537.1	805.8	931.3	988.8	1,131.1*
Junior colleges.....	78.7	99.2	109.7	136.9	204.0
Vocational and technical.....	10.6	15.0	15.1	14.8	14.8
Health.....	9.0	12.1	16.5	25.8	31.4
Income support.....	57.2	68.3	113.9	98.0	80.5
Stimulating economic growth.....	5.6	6.3	6.3	6.4	6.6
Environmental protection.....	...	...	...	200.0	330.0
Transportation.....	142.3	306.0	202.1	313.3	336.8
Public protection.....	3.8	9.0	6.3	7.2	6.7
Local library.....	4.8	5.5	6.9	7.0	7.1
Total, monetary assistance.....	1,001.1	1,564.5	1,708.1	2,143.0	2,517.3
Services and support					
Stimulating economic growth.....	.5	2.2	3.6	3.0	2.9
Public health.....	...	...	...	.1	9.0
Public protection: combating juvenile delinquency.....	1.4	1.4	1.6	1.6	1.6
Total, services and support.....	1.9	3.6	5.2	4.7	13.5
Grand total.....	\$1,003.1	\$1,568.1	\$1,713.3	\$2,147.7	\$2,530.8

* The amount provided for aid to elementary education, excepting construction of schools, will be allocated to the various programs based on recommendations developed in conjunction with the School Problems Commission.

Source: *The Illinois State Budget Fiscal 1973*, pp. A-41 to A-43.

Note: Table 5 is not fully comparable with Table 1 because of differences in identification.

nois will aggregate about \$2,530.8 million of which \$1,131.1 million will be for elementary and secondary education, \$204.0 million will be for junior colleges, and \$14.8 million for vocational and technical education (Table 5).

On balance, after allowing for such transfers, expenditure of the Illinois tax dollar is estimated as about 66.0 cents by the federal government, 9.6 cents for services directly administered by the State of Illinois, and about 24.4 cents for local government, including education. Within the local government structure approximately one half of the total budget is for education with the balance divided among all other services.

In 1970, out of the total of \$2,158.6 million spent for education, other than state universities, \$920.0 million or 43 percent of the total was transferred from the State of Illinois (Table 5). In comparison, ten years earlier, in fiscal 1960 State of Illinois provided only 33 percent of a much smaller base. The projected transfer for fiscal 1973 will cover a somewhat higher percentage of total public school costs.

Revenue Distribution Compared Among States

Aggregate tax revenue from Illinois taxpayers is distributed or proportioned among federal, state, and local governments about the same as in the four adjacent midwest states (Indiana, Iowa, Missouri, and Wisconsin), the same as in two other large industrial states (California and Pennsylvania), and the same as the average of states in the United States (Table 6). Illinois, in comparison with the other states and the average, has made the most dramatic shift away from the property tax (Table 6, column 4).

On a per capita basis, Illinois citizens tax themselves slightly higher than the average of four adjacent midwest states and the nation, as a whole, but California far exceeds this (Table 7, column 1). A very similar pattern exists for per capita revenue passed back from the federal level (column 2). Yet, the income level of Illinois (column 9), the sixth highest among all states in the United States, permits a smaller proportion (13

Table 6. — General Revenues of All Local and State Government, Illinois and Selected States, Fiscal 1970 (percentage in parentheses are for fiscal 1960)

	By originating level of revenue source			Proportion of all revenues from property taxes
	Federal	State	Local	
	<i>percent</i>			
Illinois.....	14(13)	43(33)	43(54)	30(40)
Indiana.....	12	47	41	32(39)
Iowa.....	14	42	44	34(37)
Missouri.....	19	38	43	26(30)
Wisconsin.....	12	51	37	32(40)
Unweighted average of Indiana, Iowa, Missouri, and Wisconsin.....	14	44	41	31(36)
California.....	19	37	44	31(36)
Pennsylvania.....	15	47	38	21(26)
U.S. average.....	17(14)	44(41)	39(45)	26(32)

Source: U.S. Dept. of Commerce, *Governmental Finances in 1969-70*, pp. 31-33, 49; *Governmental Finances in 1960*, pp. 25, 35.

percent) of the income to provide this above-average local and state governmental support, greater than in other midwest states or the U.S. average (Table 7, column 3). Important deviations exist on the part of Iowa, Wisconsin, and California, the last with even a higher income than Illinois.

Since this study is particularly concerned with alternative tax policies to support public education, it is well to look closer at comparisons for this service. In Illinois total expenditures per capita for education are less than the average of the other four midwest states but near the U.S. average (Table 7, columns 4 and 5). There are substantially higher levels in Iowa, Wisconsin, and California. When total education expenditures are viewed as a proportion of total general local and state governmental outlays for all services, Illinois (43 percent) is below the average of the other four midwest states, but above the national average (column 6). Here, Indiana stands out with a much higher percentage and California with a lower one. Finally, when total educational expenditures are viewed as a propor-

Table 7. — Local and State Government Taxation and Expenditures for Illinois and Selected States, Fiscal 1970

	1		3	4		6	7		9
	Per capita general revenue			Per capita general expenditures for education			Percent total general expenditures for education is of		
	From own sources	From federal government	Percent total general revenue from own sources is of personal income	Total	Local schools	Percent total education expenditures is of total general expenditures	Total education	Local schools	Per capita personal income calendar year 1969
Illinois.....	\$564	\$ 94	13%	\$259	\$182	43%	6%	4%	\$4,280
Indiana.....	461	66	13	275	182	53	8	5	3,690
Iowa.....	546	90	16	301	215	47	9	6	3,550
Missouri.....	426	98	12	232	167	42	7	5	3,460
Wisconsin.....	611	82	18	309	188	45	9	5	3,630
Unweighted average of Indiana, Iowa, Missouri, and Wisconsin.....	511	84	15	279	188	47	8	5	3,582
California.....	689	164	16	286	206	34	7	5	4,290
Pennsylvania.....	476	85	13	242	182	40	7	5	3,660
U.S. average.....	536	108	15	259	184	40	7	5	3,690

Source: U.S. Dept. of Commerce, *Governmental Finances in 1969-70*, pp. 34-9, 45-6, 50, 52.

tion of total personal income, Illinois is low among the midwest states and the total U.S. (columns 7 and 8).

Thus, it would appear that, in general, Illinois citizens, when viewed in a context of surrounding states and the entire nation, are supporting in absolute terms

an educational service a little above average, but doing so without encroaching on other public services and with relatively lesser effort in terms of its relatively high income base.

FARM PROPERTY TAXES

Education has been a service more closely tied to one tax base, namely property, than any other service. Although this heavy reliance has been shifting as we have noted, consideration of school tax options starts with the property tax experience.

Farm Share of Property Taxes in Illinois

Aggregate property taxes paid in Illinois approximately doubled during the decade of the 1960's (Table 8, column 1), as did the total taxes on farm property (column 2), with the result that the farm property taxes as a percent of total property taxes remained at about the same level in 1970 as they were in most of the 1960's, namely 12 percent (column 3). Of course, inflation could account for some, but not nearly all, of the property tax increases.

Personal income to Illinois farm proprietors as percent of total personal income remained rather steady from 1961 through 1965 and then dropped rapidly to about one-half of its 1965 level (Table 8, column 4). Although it is logical to expect that the proportion of total personal income going to farmers will decline as an economy industrializes, the wide disparity between proportionate property taxes (12 percent in 1970) and proportionate personal income related to farmers (1.3 percent in 1970) raises obvious questions of equity in tax burdens.

One of the least defensible parts of the tax burden allocation in Illinois has been the personal property tax fraught with assessing, administrative, and economic

rationale problems. A slightly increasing part of the total farm property tax bill has been made up of this personal property tax (Table 8, columns 5, 6, and 7). Elimination of this tax on individuals will reduce the aggregate farm property tax and give farm individuals a temporary advantage over farm corporations. This advantage to individuals will no longer exist when the tax is fully displaced as provided in the 1970 Constitution (page 4, footnote 3).

Comparative Farm Real Estate and Personal Property Taxes by States

In 1970 Illinois farm property owners paid one of the highest real estate tax levies per acre (\$7.30) among the midwest states, in fact much higher than either the average of the other four midwest states or the national average (Table 9, column 1). Of course, this is hardly surprising in view of (1) this tax being based on real estate property value, and (2) Illinois encompassing some of the most productive farming land in the nation. Note the even higher rate on the high-priced irrigated land of California.

Farm real estate taxes as a percentage of full market value are about the same in Illinois as in the other four midwest states, and only a little higher than the U.S. average (columns 2 and 3).

Perhaps a more meaningful economic comparison is the relation of farm real estate taxes to net farm income (Table 9, columns 4 and 5). In 1970 Illinois

Table 8. — Illinois Property Taxes as Related to the Farm Sector, 1960-1970

Calendar year	1	2	3	4	5	6 7	
	Total property taxes, millions	Total taxes on farm property, millions	Farm property taxes as percent of total property taxes	Personal income to farm proprietors as percent of total personal income	Total taxes on farm real estate, millions	Estimated total personal property taxes paid by farmers Amount, millions	Percent of total taxes on farm property
1960.....	\$1,098	\$140	13%	2.1%	\$122	\$18	13%
1961.....	1,225	146	12	2.6	125	21	14
1962.....	1,298	150	12	2.6	129	21	14
1963.....	1,310	154	12	2.5	133	21	14
1964.....	1,396	162	12	1.9	140	22	14
1965.....	1,429	169	12	2.6	147	22	13
1966.....	1,611	182	11	2.4	159	23	13
1967.....	1,585	194	12	2.2	170	24	12
1968.....	1,657	225	14	1.6	197	28	12
1969.....	1,909	240	13	1.8	210	30	12
1970.....	2,229	261	12	1.3	220	41	16

Sources: U.S. Dept. of Commerce, *Governmental Finances in 1960, 1961, 1962, 1963, 1963-64, 1964-65, 1965-66, 1966-67, 1967-68, 1968-69, 1969-70*; USDA *Farm Income State Estimates, 1949-1970*, FIS218, Supplement, 1971; USDA, *Farm Real Estate Taxes*, RET-11, 1972, RET-10, 1971, RET-9, 1969; USDA, *Revised Estimates of Taxes Levied on Farm Real Property, 1950-67*, Statistical Bulletin No. 441, 1969; U.S. Dept. of Commerce, *Survey of Current Business*, August, 1963-64, August 1966, 67, 68, 69, 70, 71; July 1965.

Table 9.—Farm Real Estate and Personal Property Taxes for Illinois and Selected States, 1970

	1	2		3		4		5		6		7		8	
	Farm real estate taxes per acre	Farm real estate taxes as percent of full value of property		Farm real estate taxes as percent of net farm income		Farm personal property taxes		Farm personal property taxes		Per acre equivalent		As percent of total farm property taxes			
	1970	1970	Increase 1960-1970	1970	Increase 1960-1970	1970	Increase 1960-1970	1970	As percent of total farm property taxes	1960	1970	1960	1970	1960	1970
Illinois.....	\$ 7.30	1.5%	19%	21%	41%	\$1.39	13%	16%							
Indiana.....	5.60	1.4	50	16	54	2.17	30	28							
Iowa.....	6.00	1.5	25	13	3	1.06	18	15							
Missouri.....	1.90	.8	-16	9	21	.60	22	24							
Wisconsin.....	5.00	2.2	18	14	25	1.41	22	22							
Unweighted average of Indiana, Iowa, Missouri, and Wisconsin.....	4.62	1.5	..	13	26	1.31	23	22							
California.....	13.00	2.3	117	32	173	.98	10	7							
Pennsylvania.....	4.40	1.2	-3	12	29	.54	2	11							
U.S. average.....	2.50	1.2	22	13	45	.47	17	16							

Source: USDA, Farm Real Estate Taxes, RET-11, 1972, pp. 10-11, 14-15, 16-17, U.S. Department of Commerce, *Governmental Finances in 1960, 1969-70*.

stands out high in almost all comparisons; but a note of caution is warranted since the severe corn blight of that year might have cut farm income in Illinois more than in other states. The highest increase was in California where blight complications did not occur.

Farm personal property taxes as a percent of total farm property taxes were lower in Illinois than in Indiana, Missouri, and Wisconsin; about the same as in Iowa; and the same as the national average (Table 9, columns 7 and 8). The Illinois farm personal property tax measured on a per acre basis was above the average of the other four midwest states (Table 9, column 6), higher than Missouri and Iowa, lower than Wisconsin and Indiana, but much higher than the national average.

Illinois Farm Property Taxes, With Comparisons

Although Illinois farm property taxes as a percentage of total property taxes declined one point between 1960 and 1970, from 13 percent to 12 percent (Table 8, column 3), personal income of farm proprietors as a percentage of total personal income in the state dropped during the 10 years by one third, from 2.1 percent in 1960 to 1.3 percent in 1970 (Table 8, column 4). As a result, in 1970 property taxes paid by Illinois farmers compared with their incomes were 9.2 times as high as property taxes paid by all Illinois taxpayers compared with their incomes (Table 10, line 1, column 4).

This ratio for Illinois farmers was more than twice as high as the average for farmers in the four adjacent midwest states (9.2 to 4.0 in Table 10, column 4), about two and one-half times as high as in Iowa, Missouri,

Table 10.—Farm Property Taxes and Personal Income for Illinois and Selected States, 1960 and 1970

	1	2	3	4
	Farm property taxes as percent of total property taxes	Personal income of farm proprietors as percent of total personal income, 1970	Column 2 divided by column 3	
	1960	1970		
Illinois.....	13%	12%	1.3%	9.2
Indiana.....	14	16	2.4	6.7
Iowa.....	42	39	10.8	3.6
Missouri.....	16	12	3.4	3.5
Wisconsin.....	15	13	3.6	3.6
Unweighted average of Indiana, Iowa, Missouri, and Wisconsin....	22	20	5.0	4.0
California.....	7	9	1.0	9.0
Pennsylvania.....	4	4	.7	5.7
U.S. average.....	9	9	2.0	4.5

Source: U.S. Dept. of Commerce, *Survey of Current Business*, August, 1971; U.S. Dept. of Commerce, *Governmental Finances in 1960 and 1969-70*; USDA, *Farm Income State Estimates 1949-70*, FIS218 Supplement, 1971; USDA, *Farm Real Estate Taxes*, RET-11, 1972.

and Wisconsin, but only about one-third higher than in Indiana. The ratio for Illinois was slightly more than twice that of the United States (9.2 to 4.5 in Table 10, column 4).

Thus, there is empirical support in a two-way comparison for the pattern of a unique farm property tax burden in Illinois. First, farm property taxes are high relative to income among Illinois taxpayers. Second, Illinois farm property taxes are high relative to farm income in the comparison among states.

ILLINOIS PROPERTY TAX BURDENS BY COUNTIES AND SCHOOL DISTRICTS

Property tax burdens vary considerably among counties and school districts as between real estate and personal property. In 1970, for the state as a whole, personal property extensions were slightly more than one fifth of total property extensions. Among Illinois counties the fraction provided by personal property was larger than the state average in areas where livestock farming predominates and it was smaller than the state

average in cash-crop areas. In some western counties, such as Adams or Henry, some rural townships produced one-fourth or more of their property taxes from personal property, but in east-central Illinois, many rural counties and townships drew only about one-tenth from personal property. Two exceptions were Piatt and Putnam counties, where personal property yielded half of the total property tax revenue, reflecting

the investments of the Illinois Power Company and Jones-Laughlin Steel Company, respectively. The burden on real estate may be measured in terms of property-tax assessments and levies.

Property Tax Assessments

Property taxes are based on assessment of the value of property. These assessments are not intended to cover the entire market value. Rather they are intended to reflect it by maintaining a certain proportion to market value, presently about 55 percent. Inflation in property values tends to reduce this percentage since the assessment process lags in respect to the market. Various discrepancies occur. Although new assessments are undertaken from time to time, these will not be able to catch the more subtle modifications of relative value as between areas — as, for instance, when new technology favors some soil types relatively more than others. Among counties and within parts of a county, the relative value of farmlands may change without this being reflected in re-assessment. Even when the whole county's assessments are updated, this is not always done by independently appraising each farm. Some of the updating will simply mean the application of a standard multiplier to values that are no longer fully comparable.

Assessment Equalization Among Counties

Major differences in assessment levels among counties are intended to be overcome by applying a multiplier, which is the reciprocal of a percentage figure indicating what fraction the present assessment level is of the normal 55 percent. The multiplier varies from 1.0000 when the assessment level is regarded as satisfactory, up to as much as 6.6667 in one county (Saline) with an extremely low and badly outdated assessment level. Applying the multiplier to the assessed values will yield the equalized assessments to which the tax or levy rates are then applied. This equalization process removes some of the inequalities in assessments among counties, not within counties. Appraisal of real estate values is admittedly a difficult art. Appraisal of farmland is among the most difficult because of the scarcity of truly comparable properties sold under comparable circumstances.

Tax Rates on Assessed Values by Counties

Tax rates expressed in dollars per hundred dollars of equalized assessment value show considerable variations among counties and other taxing units, reflecting some of the differences in property values per person plus some of the influences of local politics and local financing problems. The total tax rate in most counties lies between four and five dollars per hundred, with some coming below three and a half and a few climbing above six — the latter level only in Du Page and Lake Counties (Table 11, column 1). This variation in part

reflects the varying composition of the tax base. Two small counties (Piatt and Putnam, as already mentioned) are favored by exceptionally large industrial investments which keep their general tax rate below three dollars.

Tax Rates on Lands and Lots per \$100 Assessed Value

Two groups of real estate, lands and lots, are shown separately for most counties. Lands consist mainly but not exclusively of farmland. Tax rates on lands per \$100 assessed value are usually somewhat lower than on lots and never climb as high as six dollars per hundred. In a majority of counties, lands provide more taxes than do either lots or personal property, but only in a minority of counties (and mainly among the smaller ones) do lands provide more than one half of the property tax extensions (Table 11, column 2).

Tax rates for schools vary somewhat less than total tax rates (Table 11, column 3 compared with 2). With the exception of Piatt, school tax rates never drop below two and only in a few counties rise above three. The majority of counties have school tax rates between \$2.25 and \$2.75 per \$100 assessed value (Table 11, column 3).

Variation in Land Taxes per \$100 Census Value

The tax extensions on "lands" that follow from the combination of equalized assessments and tax rates can also be shown as quotients per \$100 of farm real estate value, according to the census, or as dollars per acre of farmland and buildings (Table 11, column 6). This approximation assumes that all "lands" are farmland (Figure 2).

School tax rates on lands per \$100 of census value (1969) in most counties vary between less than one dollar to one and one-half dollars, and in several of the more urbanized counties climb above two dollars — in the Chicago area up to four or five dollars (Table 11, column 7). Such high values reflect the imperfection in the method of presentation. The category "lands" is more than farmland and the difference is largest near major cities. For 99 counties (not including Cook, Kane, and Peoria) the average of the school tax (prorated on all farmland in the county) is \$1.48 per \$100 of census value (Table 11, column 7). When seven highly urbanized counties (Du Page, Lake, Madison, St. Clair, Rock Island, Tazewell, and Winnebago) and three coal-belt counties (Franklin, Jackson, and Williamson) are removed from the data, the unweighted average for the remaining 89 counties is \$1.24.

Thus, average school tax per \$100 of estimated value of farmland and buildings is in the range of \$1.10 to \$1.20. The average school tax in 127 selected rural townships is \$1.06 per \$100 of estimated market value (Table 12, column 5). A normal variation from 80 cents to \$1.50 or more (county data in Table 11)

Table 11. — Illinois Property Tax Rates by Counties, 1969

Note: The procedure used here gives a more comprehensive picture of the tax situation than could be gained at this stage from township level data, but some of the figures in the present table can be misleading unless read against the background of the procedure. The category "lands" is not entirely identical with farmlands; the difference makes the tax rates for farmland shown in columns 6 and 7 biased upward. The difference is evident in some of the metropolitan counties, where land held for speculation in future urban development affects the figures quite strongly. In the more purely rural counties, the figures shown here come close to those at the township level in Table 12.

	1 Total tax rate ^a	2 Tax rate on "lands" ^a	3 School tax rate ^b	4 5 School tax rate as percent of		6 7 School tax for all "lands" on all farmland in county ^c	
				Total tax rate 3 ÷ 1	Tax rate on "lands" 3 ÷ 2	Per acre	Per \$100 of census value
<i>per \$100 assessed value</i>							
Adams.....	\$3.77	\$3.36	\$2.33	62	69	\$ 4.42	\$1.29
Alexander.....	5.38	4.92	3.27	61	66	2.30	.84
Bond.....	4.10	3.93	2.67	65	68	3.78	1.06
Boone.....	4.09	4.04	2.61	64	65	10.68	1.87
Brown.....	3.78	3.67	2.31	61	63	2.09	.83
Bureau.....	4.33	3.88	2.84	66	73	6.55	1.26
Calhoun.....	4.21	4.22	2.93	70	69	2.51	1.11
Carroll.....	4.17	3.88	2.79	67	72	4.83	1.17
Cass.....	3.76	3.37	2.32	62	69	3.20	.83
Champaign.....	4.24	3.46	2.83	67	82	10.94	1.59
Christian.....	3.45	3.30	2.26	66	69	7.29	1.18
Clark.....	4.22	4.07	2.67	63	66	2.82	.80
Clay.....	4.82	4.51	3.10	64	69	3.96	1.47
Clinton.....	3.88	3.58	2.31	60	64	4.51	1.20
Coles.....	4.06	3.65	2.50	62	68	7.91	1.35
Crawford.....	4.21	4.15	2.55	61	61	4.21	1.40
Cumberland.....	3.87	3.78	2.28	59	60	2.65	.63
DeKalb.....	5.09	4.44	3.24	64	73	9.60	1.31
DeWitt.....	3.81	3.54	2.51	66	71	6.44	1.04
Douglas.....	3.29	3.14	2.03	62	65	6.88	1.06
DuPage.....	6.16	5.86	4.33	70	74	91.62	3.87
Edgar.....	3.25	2.97	2.08	64	70	4.93	.96
Edwards.....	4.07	3.85	2.56	63	67	2.45	.81
Effingham.....	3.76	3.51	2.27	60	65	4.46	1.24
Fayette.....	4.20	3.98	2.62	62	66	3.49	1.15
Ford.....	3.36	3.13	2.22	66	71	5.04	.90
Franklin.....	5.84	5.30	3.26	56	61	6.29	2.25
Fulton.....	4.08	3.83	2.64	65	69	4.74	1.46
Gallatin.....	3.82	3.74	2.26	59	60	2.71	.86
Greene.....	3.85	3.69	2.47	64	67	3.26	.95
Grundy.....	3.73	3.64	2.68	72	74	9.02	1.51
Hamilton.....	5.09	4.95	3.00	59	61	2.66	1.09
Hancock.....	3.88	3.77	2.67	69	71	4.67	1.28
Hardin.....	4.57	4.54	2.98	65	66	3.99	2.34
Henderson.....	4.08	4.01	2.84	70	71	4.88	1.27
Henry.....	4.02	3.56	2.55	63	72	5.33	1.08
Iroquois.....	3.96	3.76	2.66	67	71	6.02	1.11
Jackson.....	5.68	4.82	3.58	63	74	6.08	2.13
Jasper.....	4.27	4.18	2.77	65	66	3.21	.91
Jefferson.....	5.20	4.80	3.07	59	64	3.83	1.25
Jersey.....	3.84	3.60	2.71	71	75	4.78	1.21
JoDaviess.....	4.58	4.28	2.56	56	60	2.96	1.06
Johnson.....	5.01	4.80	3.42	68	71	2.32	1.06
Kane.....	5.28	.....	3.50	66	..	.....	.....
Kankakee.....	4.29	3.78	2.78	65	74	9.06	1.50
Kendall.....	4.10	3.96	2.86	70	72	11.58	1.56
Knox.....	4.36	3.73	2.46	54	66	6.14	1.45
Lake.....	6.02	5.62	4.07	68	72	104.98	5.74
LaSalle.....	4.31	3.94	2.91	68	74	10.15	1.74
Lawrence.....	4.28	4.11	2.78	65	68	8.55	2.52
Lee.....	3.95	3.67	2.47	63	67	6.48	1.24
Livingston.....	3.57	3.34	2.63	74	79	6.64	1.14
Logan.....	3.85	3.49	2.59	67	74	8.72	1.39
McDonough.....	3.94	3.67	2.56	65	70	5.76	1.24
McHenry.....	4.82	4.36	3.66	76	84	19.84	2.31

(Table 11, cont'd)

	1 Total tax rate ^a	2 Tax rate on "lands" ^a	3 School tax rate ^b	4 5 School tax rate as percent of		6 7 School tax for all "lands" on all farmland in county ^c	
				Total tax rate 3 ÷ 1	Tax rate on "lands" 3 ÷ 2	Per acre	Per \$100 of census value
<i>per \$100 assessed value</i>							
McLean.....	\$3.89	\$3.28	\$2.65	68	81	\$ 7.76	\$1.22
Macon.....	4.29	3.84	2.77	65	72	11.87	1.65
Macoupin.....	3.76	3.52	2.45	65	70	3.49	.88
Madison.....	4.57	4.32	3.00	66	69	20.73	4.06
Marion.....	5.03	4.60	3.16	63	69	4.27	1.55
Marshall.....	3.58	3.43	2.57	72	75	6.61	1.12
Mason.....	3.31	3.17	2.34	71	74	5.39	1.38
Massac.....	3.78	3.49	2.25	60	64	4.78	2.06
Menard.....	3.76	3.74	2.45	65	66	5.51	1.11
Mercer.....	4.05	3.90	2.48	61	64	3.84	1.01
Monroe.....	4.38	4.16	2.95	67	71	4.29	1.08
Montgomery.....	3.67	3.53	2.51	68	71	4.03	.90
Morgan.....	3.45	3.24	2.35	68	73	5.56	1.12
Moultrie.....	3.72	3.51	2.37	64	68	6.76	1.00
Ogle.....	4.29	4.21	2.94	67	70	6.55	1.31
Peoria.....	4.65	.....	2.60	56	..	.....	.....
Perry.....	4.61	4.44	3.04	66	69	3.37	1.34
Piatt.....	2.15	2.69	1.29	60	48	3.76	.50
Pike.....	4.00	3.87	2.53	63	65	2.61	.89
Pope.....	4.35	4.34	2.71	62	62	1.39	.78
Pulaski.....	4.91	4.67	3.38	69	72	2.95	.83
Putnam.....	2.81	2.86	2.05	73	72	8.54	1.61
Randolph.....	3.79	3.36	2.59	68	77	2.99	1.03
Richland.....	4.02	3.88	2.40	60	62	2.93	.93
Rock Island.....	4.58	4.31	2.75	60	64	16.33	3.62
St. Clair.....	5.50	5.34	3.16	58	59	12.09	2.81
Saline.....	5.16	4.90	2.97	58	61	4.72	1.71
Sangamon.....	4.34	3.63	2.46	57	68	7.26	1.11
Schuyler.....	4.08	3.97	2.39	59	60	2.29	.86
Scott.....	3.60	3.56	2.29	64	64	2.97	.88
Shelby.....	3.82	3.66	2.49	65	68	4.48	.89
Stark.....	3.68	3.56	2.65	72	74	5.34	.96
Stephenson.....	4.93	4.73	2.95	60	62	6.52	1.56
Tazewell.....	4.30	3.91	2.96	69	76	15.85	2.68
Union.....	4.70	4.55	2.99	64	66	3.22	1.38
Vermilion.....	4.55	4.03	2.85	64	71	8.76	1.69
Wabash.....	3.70	3.57	2.32	63	65	4.01	1.13
Warren.....	3.78	3.54	2.49	66	70	5.46	1.16
Washington.....	4.46	4.37	2.76	62	63	3.47	1.17
Wayne.....	5.03	4.67	3.19	63	68	3.31	1.28
White.....	4.41	4.15	2.74	62	66	4.26	1.38
Whiteside.....	4.86	4.44	3.28	67	74	8.33	1.64
Will.....	5.28	4.79	3.54	67	74	23.79	2.79
Williamson.....	4.84	4.50	2.79	58	62	10.55	4.00
Winnebago.....	4.61	4.47	2.83	61	63	24.19	4.61
Woodford.....	4.03	3.89	2.55	63	66	8.07	1.31

^a Column 1 and 2 from *Illinois Property Tax Statistics 1969*, Table III, p. 5.

^b Column 3 was computed by taking the proportion between total tax extensions for all units (*Ibid.*, Table IV, p. 6) and the difference between all school tax extensions (*Ibid.*, Table IV, p. 14) and tax extensions for junior college districts (*Ibid.*, Table IV, p. 17), and applying this proportion to the total tax rate (Column 1).

^c Column 7 was computed by multiplying total tax extensions for all units for "lands," as distinct from "lots," from *Ibid.*, Table IV, page 6, by the percentages in Column 5 (school tax rate as percentage of tax rate on "lands"). The result is a dollar figure for school taxes on "lands." The school tax on lands is then divided by total value of the figures shown in Column 7. Multiplying these with the census figures for value of farmland (and buildings) per acre, gives the figures in Column 6.

Table 12.— Illinois Property Tax Ratios on Farmland and Buildings in 127 Selected Rural Townships, 1969^a

COUNTY Township	1 Equalized valuation per acre ^b	2 Estimated market value per acre ^c	3 Tax rate for school tax as percent of equalized valuation ^d	4 School tax per acre 1×3	5 School tax per \$100 of estimated value 4÷2
ADAMS					
Beverly.....	\$ 88.7	\$250	2.478	\$2.20	\$.88
Burton.....	161.7	385	2.472	4.00	1.04
Richfield.....	92.5	245	2.472	2.29	.93
BOND					
La Grange.....	95.8	370	2.650	2.54	.69
Mills.....	96.5	375	2.760	2.66	.71
BOONE					
Le Roy.....	244.6	485	3.190	7.80	1.61
Manchester.....	217.4	485	3.272	7.11	1.47
BROWN					
Buckhorn.....	54.6	170	2.308	1.26	.74
Coopertown.....	78.1	265	2.308	1.80	.68
Elkhorn.....	61.4	250	2.308	1.42	.57
Missouri.....	76.5	255	2.308	1.77	.69
Pea Ridge.....	63.3	275	2.308	1.46	.53
CARROLL					
Cherry Grove.....	182.7	515	2.719	4.97	.97
CASS					
Bluff Springs.....	131.1	325	2.470	3.24	1.00
Hagener.....	115.6	315	2.470	2.86	.91
CHAMPAIGN					
Crittenden.....	285.6	680	2.171	6.20	.91
CHRISTIAN					
Greenwood.....	294.5	580	2.368	6.97	1.20
Johnson.....	253.7	550	2.383	6.05	1.10
May.....	289.3	595	2.481	7.18	1.21
Mosquito.....	309.8	645	2.313	7.17	1.11
Prairieon.....	294.4	505	2.401	7.07	1.40
Rosamond.....	348.7	535	2.642	9.21	1.72
CLARK					
Andersen.....	79.2	265	2.714	2.15	.81
Darwin.....	99.7	325	2.894	2.89	.89
Dolson.....	102.0	340	2.575	2.63	.77
Johnson.....	109.2	375	2.488	2.72	.73
Orange.....	113.5	350	2.488	2.82	.81
Wabash.....	92.5	335	2.894	2.68	.80
York.....	115.8	330	2.731	3.16	.96
COLES					
Hutton.....	199.5	445	2.500	4.99	1.12
North Okaw.....	292.7	540	2.786	8.15	1.51
Seven Hickory.....	314.4	640	2.416	7.60	1.19
CUMBERLAND					
Cottonwood.....	131.7	370	2.167	2.85	.77
Crooked Creek.....	113.7	385	2.568	2.92	.76
Spring Point.....	105.4	310	2.168	2.29	.74
Union.....	120.1	330	2.373	2.85	.86
DOUGLAS					
Sargent.....	307.6	560	2.328	7.16	1.28
EDGAR					
Brouillets Creek.....	174.6	380	1.836	3.21	.84
Symmcs.....	146.9	450	2.177	3.20	.71
FAYETTE					
Blair Grove.....	95.7	400	2.716	2.60	.65
Bowling Green.....	82.2	260	3.242	2.66	1.02
Kaskaskia.....	111.8	300	2.714	3.03	1.01
Pope.....	125.1	260	2.441	3.05	1.17
Sefton.....	80.6	325	2.875	2.32	.71
Seminary.....	87.0	225	2.741	2.38	1.06
Shafton.....	76.0	270	2.745	2.09	.77
Sharon.....	159.3	335	2.743	4.37	1.30
Wilberton.....	106.5	275	2.576	2.74	1.00

(Table 12, cont'd)

COUNTY Township	1 Equalized valuation per acre ^b	2 Estimated market value per acre ^c	3 Tax rate for school tax as percent of equalized valuation ^d	4 School tax per acre 1×3	5 School tax per \$100 of estimated value 4÷2
FORD					
Wall.....	\$234.5	\$590	2.236	\$ 5.24	\$.89
FULTON					
Bernadette.....	88.0	350	2.458	2.16	.62
Deerford.....	129.8	440	2.479	3.22	.73
Joshua.....	309.1	555	2.516	7.78	1.40
Orion.....	175.1	415	2.700	4.73	1.14
GRUNDY					
Goodfarm.....	237.8	620	2.778	6.61	1.07
HANCOCK					
Durham.....	193.5	485	2.905	5.62	1.16
Fountain Green.....	145.6	435	2.484	3.62	.83
Hancock.....	81.2	260	2.295	1.86	.72
Pilot Grove.....	168.1	420	2.241	3.77	.90
Walker.....	120.5	405	2.552	3.08	.76
Wythe.....	188.9	470	2.811	5.31	1.13
HENDERSON					
Terre Haute.....	160.3	455	2.842	4.56	1.00
HENRY					
Lynn.....	262.7	500	2.393	6.29	1.26
IROQUOIS					
Ash Grove.....	225.5	595	2.572	5.80	.97
JASPER					
Fox.....	194.4	340	2.728	5.30	1.56
Grove.....	110.1	295	2.805	3.09	1.05
Hunt City.....	132.0	330	2.285	3.02	.92
Smallwood.....	115.9	320	2.724	3.16	.99
South Muddy.....	93.6	270	2.817	2.64	.98
LAWRENCE					
Lukin.....	127.2	235	2.845	3.62	1.54
Petty.....	201.9	295	2.871	5.80	1.97
LEE					
Marion.....	242.5	515	2.362	5.73	1.11
LIVINGSTON					
Pleasant Ridge.....	222.1	620	2.295	5.10	.82
Waldo.....	284.6	635	2.464	7.01	1.10
LOGAN					
Eminence.....	264.3	580	2.430 (1968)	6.42	1.11
McDONOUGH					
Bethel.....	136.1	380	2.498	3.40	.89
Eldorado.....	196.0	595	2.424	4.75	.80
McHENRY					
Alden.....	283.4	490	3.092	8.76	1.79
Hartland.....	310.2	560	3.085	9.57	1.71
Riley.....	306.0	525	3.024	9.25	1.76
Seneca.....	340.1	555	3.223	10.96	1.98
McLEAN					
Dry Grove.....	379.4	645	2.546	9.66	1.50
MACOUPIN					
Brushy Mound.....	114.3	330	2.086	2.38	.72
Hillyard.....	129.0	360	2.566	3.31	.92
Honey Point.....	141.7	500	2.450	3.47	.69
North Otter.....	231.5	425	2.541	5.88	1.38
MARION					
Foster.....	68.4	230	2.705	1.85	.80
Stevenson.....	88.5	275	3.225	2.85	1.04
Tonti.....	88.5	265	3.178	2.81	1.06
MERCER					
Perryton.....	131.5	485	2.353	3.09	.64

(Table 12, concluded)

COUNTY Township	1 Equalized valuation per acre ^b	2 Estimated market value per acre ^c	3 Tax rate for school tax as percent of equalized valuation ^d	4 School tax per acre 1×3	5 School tax per \$100 of estimated value 4÷2
MONTGOMERY					
Zanesville.....	\$177.6	\$440	2.750	\$4.88	\$1.11
OGLE					
Rockvale.....	195.7	415	2.826	5.53	1.33
Scott.....	259.9	525	2.295	5.96	1.14
PEORIA					
Hallock.....	259.3	490	2.934	7.61	1.55
Jubilee.....	238.5	435	2.673	6.38	1.47
Rosefield.....	318.6	505	2.821	8.99	1.78
Trivoli.....	367.1	570	2.390	8.77	1.54
PIKE					
Hadley.....	64.4	250	2.452	1.58	.63
Martinsburg.....	84.4	280	2.636	2.22	.79
SANGAMON					
Cooper.....	261.3	430	2.587	6.76	1.57
Cotton Hill.....	263.5	475	2.496	6.58	1.38
SCHUYLER					
Bainbridge.....	68.3	435	2.372	1.62	.37
Birmingham.....	87.6	345	2.364	2.07	.60
Brooklyn.....	93.1	240	2.375	2.21	.92
Huntsville.....	86.0	305	2.352	2.02	.66
Oakland.....	74.6	235	2.376	1.77	.75
Woodstock.....	98.8	330	2.372	2.34	.71
SHELBY					
Ash Grove.....	233.5	520	2.206	5.15	.99
Big Spring.....	154.9	355	2.491	3.86	1.09
Clarksburg.....	136.2	375	2.542	3.46	.92
Cold Spring.....	109.7	305	2.925	3.21	1.05
Flat Branch.....	221.4	545	2.721	6.02	1.10
Holland.....	87.4	235	2.566	2.24	.95
Lakewood.....	126.0	375	2.998	3.78	1.01
Ridge.....	207.3	555	2.476	5.13	.92
Rural.....	265.3	505	2.464	6.54	1.29
STARK					
Elmira.....	224.4	415	2.644	5.93	1.43
TAZEWELL					
Dillon.....	272.1	430	2.299	6.26	1.45
WASHINGTON					
Beaucoup.....	142.2	345	2.570	3.65	1.06
Bolo.....	66.1	320	2.476	1.64	.51
Oakdale.....	146.7	325	3.007	4.41	1.36
WHITESIDE					
Clyde.....	204.2	490	3.453	7.05	1.44
Fenton.....	190.6	375	3.089	5.89	1.57
Jordan.....	262.4	580	3.132	8.22	1.42
Montmorency.....	270.7	500	3.573	9.67	1.93
Ustick.....	142.1	460	3.329	4.73	1.03
WILL					
Green Garden.....	287.4	555	2.855	8.21	1.48
Will.....	307.3	585	2.785	8.56	1.46

^a The 127 selected townships are in 44 of the 101 counties excluding Cook. The table excludes (a) townships containing a town or village or part of one, (b) counties where no tax data are available for townships, only for road districts, (c) counties where recent plat books do not give school district boundaries, (d) townships abutting on the Mississippi River (because riverfront land is worth more than ordinary farmland), and (e) townships having less than 10 sales in the 1952-1957 land sales data.

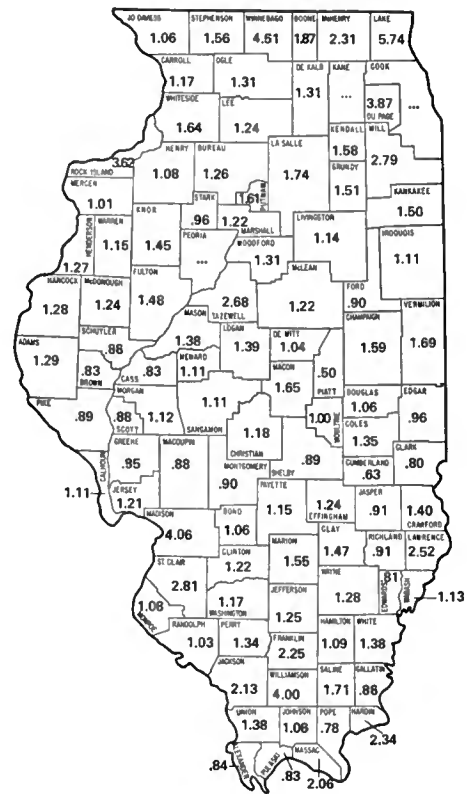
^b Column 1. From *Illinois Property Tax Statistics 1969*, Table VIII. Assumes that the township's farmland equals its total taxed real estate. The proportion of real estate to total current taxes extended was applied to the equalized valuation for the township, and the figure so found was divided by the township's farmland acreage according to *Illinois Annual Farm Census, Township Summaries, 1969*.

^c Column 2. Estimated from data used in *Farm Real Estate Sales in Illinois*, by F. Dovring and W. H. Scofield (U. of I. Agr. Exp. Sta. Bull. 697). Township selection required at least 10 sales of farmland from April, 1952, through March, 1957. Data were updated to 1969 by use of information in "Farmland Price Increases in Illinois, 1954-1969," by F. Dovring, *Economics for Agriculture*, TA 24, revised, 1971. Consistency of the estimates was checked against 1930 Census data in C. L. Stewart, *Farm Real-estate Valuations in Illinois* (U. of I. Agr. Exp. Sta. Bull. 399, March, 1934), as well as against assessment data for 1952-1957 and county average farmland values in 1969 Census of Agriculture.

^d Column 3 is a weighted average of the school tax rates applying to various parts of the selected township school boundary data in recent plat books.

or from 70 cents to about \$1.50 (township data in Table 12) indicates that the taxation system is highly unequal among taxing districts. Such variation occurs in several parts of the state; no regional pattern can be discerned. Some of the variation might be blamed on the defects in our knowledge about land values, but the uncertainty about land values is far too small to account for the major part of the variation. Nor is it necessarily the case that high rates in relation to the market value of property (Table 12, column 5) reflect high levy rates on equalized assessments (Table 12, column 3). Some counties with high levy rates come out with low rates per \$100 census value (Alexander County in Table 11, for example) and vice versa (Champaign County in Table 11).

By use of per acre real estate values (as shown in the 1969 Census of Agriculture at the county level, or as estimated for the purpose for selected rural townships), really drastic differences come out. Even discounting highly urbanized counties, the average school tax per acre, at the county level, varies from \$2 to \$10 or more (Table 11, column 6), reflecting a land value variation from one to five. The selected rural townships show nearly as much variation, within essentially the same range. In case the school part of the tax is abolished, these per acre tax figures should make it possible to compute the possible value increment even without trusting the per acre values as given by the census and other recent sources.



School tax on "lands" (1969) prorated on all farmland in the county, dollars per \$100 census value (1969 census). (Fig. 2)

PROGRAMMING AND BUDGETING THE OPTIONS

As estimated above, the financing of schools uses up more than one-half of the property tax in all counties of Illinois, with the variation for the 101 counties other than Cook being from 56 to 74 percent of total property tax levies, extensions, or receipts. If the property tax were to be displaced completely as a source of school support, then property taxes in these 101 counties could be reduced by a like amount ranging from 56 to 74 percent on a county-wide basis. On the basis of school districts within counties the range is somewhat wider, corresponding to the range of 48 to 84 percent of the tax on lands which is allocated for public school support.

Property Tax Reductions Selected

For purposes of this study it was assumed that property tax reductions of 55 to 75 percent will bracket the range of county-wide averages for the 101 counties other than Cook. In Cook the average reduction will approximate 51 percent. Tax reductions in individual school districts will be dispersed around the county average and reductions on individual properties may be calculated by relating the proportion or percentage of school tax to total property tax in the individual tax bill.

In this study personal property is treated similarly to real property because when personal property is fully eliminated from the tax roll as provided in the Constitution of the State of Illinois the change will be in the same direction, only of slightly greater magnitude. Removal of the personal property tax from individuals before it is removed from corporations gives a temporary advantage to farm property owners.

Tax Displacement Options

In fiscal 1970 if all local property taxes for elementary and secondary schools were displaced by other state or federal sources, then increases in other revenues of about \$1,510 million would have been required to provide equivalent funding statewide. In fiscal 1971 it has been estimated that nearly \$1,600 million would have been required.¹ To achieve this would require changes in the Illinois income tax rate from 2.5 to 6.25 percent on personal income and from 4 to 10 percent on corporate income, an increase of two and one-half

¹ Estimate presented by Richard Fryman, Education Finance Task Force Staff, in "Alternative Sources of Revenue for Elementary and Secondary Education in Illinois," in *Business Perspectives*, Southern Illinois University, Carbondale, Summer, 1972, pp. 21-22.

times. Second, if this amount were to be raised through the sales tax alone, then the rate for the State of Illinois would need to be raised from 4 to 10 percent. If it is assumed that local municipalities will continue to levy 1 percent as in the past, then the total rate would be raised from 5 to 11 percent. Third, if the same amount were to be raised by proportionately equal increases in state sales and income taxes, then rates on personal income would be raised from 2.5 to 4.375 percent and on corporate income from 4 to 7 percent. Rates for the sales tax would be raised from 4 to 7 percent for Illinois or from 5 to 8 percent overall.

Since fiscal 1971 was the first full year of operation for the state income tax, estimates of revenue yield are based on performance in that year. Gross yield in 1971 was \$1,009 million (Table 3). One twelfth of the net income tax receipts are distributed, on a per capita basis, to all municipalities and counties for their general use. As is indicated in Table 2, \$79 million, or 8.5 percent of collections, was so distributed. If the total receipts were increased two and one-half times, as suggested above, then total receipts would be \$2,522 million, \$214 million would be shared, and an estimated \$1,378 million net increase could be available for displacement of the property tax in support of elementary and secondary schools. However, since income tax sharing on the basis of 8.5 percent of total receipts also increases from \$79 million to \$214 million, the total increase to local governmental units including school districts is \$1,513 million.

In the case of the sales tax in fiscal 1971, receipts to State of Illinois were (coincidentally) also \$1,009 million (Table 3). Sales tax distribution (Table 2) of \$257.7 million is not subtracted from this total. Increasing the state portion by one and one-half times results in an estimated increase of \$1,513 million (\$2,522 million less \$1,009 million) being available for displacement of the property tax.

In the case of the combined sales and income tax increases, each increased by 75 percent, the increased revenue yield also would be \$1,513 million based on similar assumptions. The estimate of \$1,513 million increase in revenue by changing the state income or state sales tax as specified would fall slightly short of 1971 needs, while it would exceed the 1970 requirement slightly.

A federal surtax of 12.5 percent added to the federal income tax collections from Illinois is estimated as required to raise \$1,500 million in Illinois as of 1971, in lieu of the Illinois income or sales tax alternatives.¹ The presumption is that this estimated income would be allocated in a similar way to school districts, thus making these four tax displacement options equivalent as far as the revenue recipients are concerned. An important difference is in the way the tax burdens are distributed among taxpayers. This federal surtax of 12.5 percent is presented as federal surtax plan A.

Equalizing Financial Support Among School Districts

As we have noted, most school study recommendations and recent court decisions involve equalizing financial support per educational unit among school districts. For purposes of this study it was assumed that a politically acceptable target, such as raising school support in all districts in Illinois up to the level of the upper one-twentieth of school districts in the state, would require approximately one billion dollars additional as of 1971. It was estimated that if a federal surtax of 12.5 percent produces \$1,500 million then a surtax of 20.9 percent will produce \$2,508 million. Whether or not this additional revenue is sufficient or excessive for the purpose specified is not tested or verified in this study. Much depends on factors included in distribution formulae. Presumably, if the requirement of equalization among districts in Illinois is relaxed somewhat, a certain proportion of the additional revenue, say \$200 million, could be allocated for equalization among states.

The federal surtax of 20.9 percent is presented in this study as federal surtax plan B.

Procedure for Comparing Incomes After Tax

Procedure for comparing the farm family incomes after tax, when the property tax for schools is displaced by increases in other taxes, involves (1) calculating income after tax under current (1971) tax laws and (2) calculating income after tax when property taxes are reduced by 75 percent or 55 percent and other taxes are applied in lieu.

The procedure requires a valid sample of farms and a complete budget of incomes and expenses on each farm. Such a sample was drawn from about 6,600 Illinois farm business records generated in cooperation with the Illinois Farm Business Farm Management Association. This program is jointly sponsored by the University of Illinois at Urbana-Champaign, College of Agriculture, Cooperative Extension Service, and by ten regional farm management associations covering the entire state. The association directors are elected by the program participants. The associations employed 44 field men in 1972. Members of the Department of Agricultural Economics provide research and educational leadership.

The farms in the sample cover a nearly complete array of owner operators in Illinois and selected categories of tenants and landlords. Although the 6,600 farms from which the sample is drawn are far above the average of all Illinois farms in terms of assets per farm, income per farm, and return to management, when the sample is stratified according to size in acres, tenure, type of farm, and soil rating the identified sample categories in segments are not greatly different from an identical stratum for all farms. Within each sample segment the number of farms is proportioned to the number of farms in Illinois in each stratum according to the most recent census enumeration, ran-

¹ Data for this estimate are taken from the *Statistical Abstract to the Annual Report of the Secretary of the Treasury on the State of the Finances for Fiscal Year Ended June 30, 1971*, p. 57. Department of the Treasury, U.S. Government Printing Office, 1972.

domly selected by counties. The sample is broadly representative of all farms in Illinois in similar strata and the results of the study will apply to the farm population of Illinois in terms of the sample array selected.¹

To reduce the possible bias from fluctuations in yearly receipts and expenditures, averages for three years of records, 1968, 1969, and 1970, were used in the study instead of data for just one year. The data presented in the study then are similar but not identical to those reported in the corresponding three years of annual reports summarized in the publications entitled *Summary of Illinois Farm Business Records*² and *Landlord and Tenant Shares*.³

The sample of farms was stratified for purposes of the study (a) by tenure of operator, as owner operator, tenant operator, or landlord, (b) by type of farm, as grain, hog, or livestock, (c) by size in acreage, and (d) by soil productivity rating. In this stratification owner operators include both full and part owners. Tenants generally were limited to totally rented farms, in which case the tenant and landowner share in returns from the farm operation and in certain operating costs as specified in the rental agreement. The farm record summaries are in terms of the totals for the year for tenant and landlord for each item, as if each tenant-operated farm had one tenant and one landlord. Tax alternatives presented are on a per farm basis rather than per individual, giving a per farm comparison of cost and benefit.

Following are the categories selected:

	Owner operator	Tenant operator	Landowner or landlord
<i>Soil rating 100 to 76, mainly northern Illinois</i>			
180 acres			
Grain farms	X		
Hog farms	X		
180-259 acres			
Hog farms	X		
260-339 acres			
Grain farms	X	X	X
Livestock farms	X	X	X
340-499 acres			
Livestock farms	X	X	X
500-659 acres			
Grain farms	X	X	X
Hog farms	X		
750-1,000 acres			
Grain farms	X		
<i>Soil rating 55 to 5, mainly southern Illinois</i>			
180-259 acres			
Grain farms	X		
Hog farms	X		
340-499 acres			
Grain farms	X		
Hog farms	X		
500-659 acres			
Hog farms	X		
750-1,000 acres			
Grain farms	X		

With respect to type of farm, a grain farm is one where the value of feed fed to livestock is less than one half of the feed and grain returns and where the value of feed fed to dairy or poultry is not more than one sixth of the feed and grain returns. Additionally, only farms with less than \$25 feed fed per tillable acre are classed as grain farms. Livestock farms include all farms not classed as grain farms, excluding dairy farms with 20 or more milk cows.

Size of farm is specified in terms of acreage only, from farms of less than 180 acres to an upper range of 750 acres or more. For farms of a given acreage range, the average magnitude of receipts and expenditures is larger for livestock farms than for grain farms. This presents no difficulty in conception or analysis, however, if this difference is kept in mind.

In regard to soil type, the soil productivity rating is an average index representing the inherent productivity of all tillable land in the farm. Individual soil types on each farm are assigned indexes ranging downward from 100. Of the 32.9 million tillable acres in Illinois, about 17.6 million acres have productivity indexes under basic management of 100 to 76, about 7.6 million acres have indexes of 75 to 56, and about 7.6 million have indexes of 55 to 25.⁴ Estimated land values for representative soil types in a 1970 base year, which in effect give one measure of comparative productivity, that is net returns capitalized under farming conditions then prevailing, ranged for indexes of 100 to 80 from \$705 per acre to \$565; of 75 to 60 from \$520 to \$380; of 55 to 30 from \$330 to \$140.⁵ In the sample used, farms with productivity ratings from 100 to 76 were mostly from northern Illinois, while all farms with soil ratings from 55 to 5 were from southern Illinois.

The calculation of income after tax is illustrated in Table 13 starting with farm budget data for 1968 to 1970 applied to 1971 tax schedules. The budget items and procedures are as follows:

Farm asset value is the inventory value of land and buildings (farm real estate) and personal property. These are listed separately to facilitate possible comparison between real estate property tax and personal property tax. The budget value of personal property is the January 1 inventory and may differ considerably, at least in individual cases, from the value of personal property on hand on April 1, the date for tax assessment.

¹ Allan G. Mueller, "Comparison of Farm Management Service Farms and a Random Sample." *Journal of Farm Economics* 23(2):285-292, 1954.

² *Summary of Illinois Farm Business Records Commercial Farms: Production, Costs, Income, Investments*. Illinois Extension Circulars 1006, 1019, and 1040, 44th, 45th, and 46th Annual, 1968, 1969, and 1970. Prepared by A. G. Mueller, D. F. Wilken, and R. P. Kesler (1968) and D. F. Wilken and R. P. Kesler (1969, 1970).

³ *Landlord and Tenant Shares*. AERR 102, November, 1969; AERR 107, July, 1970; and AAER 116, January, 1972. University of Illinois Department of Agricultural Economics, Agricultural Experiment Station. Prepared by Franklin J. Reiss.

⁴ *Productivity Indexes of Soil Associations in Illinois*. Illinois Extension Circular 1041, 1971.

⁵ *Economics for Agriculture: Correlating Soil-Productivity Indexes With Net Rents and Land Values, FM-34*. University of Illinois Department of Agricultural Economics, Cooperative Extension Service. Prepared by R. P. Kesler and A. G. Mueller, 1971.

Gross cash receipts are the total receipts for the farm.

Farm expenditures are the cash operating expenses, other than taxes, and the allowable depreciation.

Property taxes are separated between personal property taxes and real property taxes wherever the data make separation possible.

Net farm income is the net income on the accrual basis before adjustments for capital gains or other miscellaneous items but after property taxes and state sales tax on farm inputs are deducted. Gross cash receipts minus farm expenditures minus property taxes and sales taxes on farm inputs will not always equal net farm income, because of miscellaneous capital sales or other adjustments. But on the average the two figures will be nearly the same.

Net family income includes both net farm income and off-farm income of the farm family. Off-farm income has increased in importance as a component of total income for most farm families and, to estimate income after tax when other taxes displace the property tax for schools, an estimate of off-farm income must be added to farm income. A sample survey of off-farm income in Illinois by farm size was recently completed, and data from this survey are used in this study.¹ The survey shows that off-farm income received by Illinois farm families varies on the average by farm size categories as follows:

<i>Farm size category in acres</i>	<i>Average off-farm income</i>
Less than 180	\$6,835
180-259	4,002
260-339	3,501
340-499	3,501
500-659	2,685
750-1,000	4,072

These off-farm averages were added as appropriate to net farm income to obtain net family income. (In Table 13, for example, \$3,501 off-farm income is added to \$24,897 net farm income to yield \$28,398 net family income.) For the various size groups the same amounts of off-farm income were added for both owner operators and tenants. However, there are no data to show the amount of other non-land-rent income of landlords. For the landlord proprietary category, therefore, the net family income is only the rent from land. This is listed as the net farm income of the landlord.

Taxable income (federal) is the portion of the net family income estimated as taxable. An average family size of four is assumed which allows personal deductions totaling \$2,700. A standard deduction of 13 percent of income or \$1,500, whichever is less, was used in lieu of itemization. In figuring income tax for landlords, it is assumed that other income is sufficient to cover personal and itemized deductions. The full rental income is taxable, but beginning at the lowest rate.

Taxable income (state) was estimated by again taking a family size of four and subtracting the allow-

able \$1,000 per person or \$4,000. Here again, as in the case of federal income, a standard deduction based on the Illinois law was assumed.

Federal income tax was then calculated by using the appropriate 1971 federal income tax rates.

State income tax was calculated by using the 1971 state income tax rate.

State sales tax was divided into two parts — that paid on farm inputs, which is deducted before net farm income, and that paid on items for household consumption, which is deducted after net family income. The sales tax is applied to a large proportion of farm inputs, but not to all inputs; and therefore it is correct to apply it to the farm input items according to the proportion of inputs subject to the tax. All building supplies, machinery, and equipment are taxable. About 75 percent of utility gas and oil expenditures are estimated as taxable, whereas only one-third of seed crop and miscellaneous expense is taxable. The sales tax on family consumption items was estimated using the allowances prescribed by the federal income tax manual for sales tax deductions. These two sales tax figures are then added to get the total state sales tax.

Total taxes paid includes the real and personal property taxes, federal and state income taxes, and state sales taxes.

Income after tax (\$21,725 in Table 13 based on 1971 tax schedules) is the net family income minus all taxes not previously deducted as farm expenses.

To determine income after tax under the alternative tax options, real estate and personal property taxes are then reduced and the new options applied. In Table 13, the reduction of 75 percent increases net farm income from \$24,897 to \$27,767, or by \$2,870 for both the state income tax option and the two federal surtax options. Net farm income increases less under the two sales tax options because the increase in sales tax on farm inputs is deducted before net farm income is calculated. Net farm income and off farm income are added to obtain net family income, and the new tax options are deducted to obtain income after tax.

In the illustration (Table 13) the income after tax shows a gain rather than a loss under each option. The gain for the state income tax option is \$754 (from \$21,725 to \$22,479). The gain is \$902 for the state sales tax and \$835 for the combination state income and state sales tax option. The gain of \$934 under federal surtax plan A compares with a gain of \$369 for federal surtax plan B. The difference of \$565 between these two options is the cost under federal surtax for the family of four with net family income of \$31,268 to equalize school district support upward to the level of the top one-twentieth of school districts in Illinois. This cost would be the same for farm as for nonfarm families with similar net family incomes.

¹ This survey was conducted by R. J. Hanson and R. G. F. Spitze, University of Illinois Department of Agricultural Economics, under an Agricultural Experiment Station project. For a partial report see R. J. Hanson and R. G. F. Spitze, "Off-Farm Employment Earnings by Farmers With Low Farm Incomes," *Illinois Research* 14(4):6-7, Illinois Agricultural Experiment Station.

Table 13.—Budget Worksheet for Calculating Income After Tax if the Property Tax for Schools Is Displaced at the 75-Percent Level by Other Taxes on Owner-Operated Livestock Farms of 340 to 499 Acres With Soils Rated 100 to 76

Budget categories	1968-1970 budgets ^a 1971 taxes	Examples of tax options used to displace property tax				
		State income tax 6.25 percent	State sales tax 11 percent	State income sales tax combination	Federal surtax plan A	Federal surtax plan B
Farm asset value						
Land and buildings.....	\$267,184					
Personal property.....	65,923					
Gross cash receipts.....	78,598					
Farm expenditures (other than property taxes) ..	55,754					
Farm property taxes, real estate.....	3,098	\$ 775	\$ 775	\$ 775	\$ 775	\$ 775
Farm property taxes, personal property.....	730	183	183	183	183	183
Net farm income.....	24,897	27,767	27,042	27,405	27,767	27,767
Net family income.....	28,398	31,268	30,543	30,906	31,268	31,268
Taxable income (federal).....	24,198	27,068	26,343	26,706	27,068	27,068
Taxable income (state).....	24,398	27,268	26,543	26,906	27,268	27,268
Federal income tax.....	5,729	6,734	6,480	6,607	6,734	6,734
State income tax.....	610	1,704	664	1,177	682	682
Federal surtax.....					842	1,407
State sales tax on farm inputs.....	(604)	(604)	(1,329)	(966)	(604)	(604)
State sales tax on family consumption.....	(334)	(351)	(772)	(562)	(351)	(351)
Total state sales tax.....	938	955	2,101	1,528	955	955
Total taxes paid.....	11,105	10,351	10,203	10,270	10,171	10,736
Income after tax.....	21,725	22,479	22,627	22,560	22,659	22,094
Change in income after tax.....	.....	754	902	835	934	369

^a Budget data from Illinois farm business records, University of Illinois at Urbana-Champaign and Illinois Farm Business Farm Management Association cooperating.

PER FARM INCOME CHANGES FROM PROPERTY TAX DISPLACEMENT

The per farm income changes from property tax displacement by increases in other taxes differ significantly by farm tenure, as between owner operators, tenants, and landlords, by farm size, type, and soil rating. The alternative tax options, this is to say, do not have quite the same impacts on different farm businesses. Therefore, it is desirable in this study to present these changes by farm tenure, size, type, and soil rating.

Owner-Operated Farms

The income after tax on owner-operated farms increases for most sizes and types of farms, and for both high and low soil ratings, if the property tax for schools is displaced by any of the options. This is true with only minor exceptions for all four of the strictly displacement models—increased state income tax, increased state sales tax, the combination income and sales, and federal surtax plan A. For federal surtax plan B, which as noted was designed to yield about one billion dollars additional in 1971 for purposes of school district equalization upward, gains are still substantial for almost all small farms and for most farms of medium size, while losses are generally experienced among farms of largest size. Throughout the total array of farms the gains are larger and losses smaller for displacement of 75 percent of the property tax as compared with displacement of 55 percent (Table 14).

Gains are relatively greater for small farms than

for large ones for both the state income tax and federal surtax options for all farms and soil ratings. The small farm gains less and the large one relatively more by use of the sales tax option even though the sales tax option is more favorable to the small farm than the current property tax. Thus, small farms can be given the greatest advantage over large farms, generally, by displacing property taxes with increased state or federal income taxes.

Tenants

Almost all tenants are disadvantaged by displacing property taxes with either income or sales taxes. Again, income taxes are more favorable to small tenant operators than to large ones, while the sales tax slightly favors the large farmer. Although there are small gains for tenants on the smallest grain farms under federal surtax plan A, losses on the other income tax options range upward to nearly 3 percent of net income. Losses under the sales tax range upward to almost 7 percent of net income (Table 15).

Landlords

The largest and most consistent gains through property tax displacement are recorded by landlords. This is true without exception for the state income tax and sales tax options. However, since the off-farm income of landlords is not known, it may be presumed that the

Table 14. — Income After Tax on Owner-Operated Farms if Property Tax for Schools Is Displaced by Increases in Other Taxes

By farm size, type, and soil rating	Number of farms ^a	Income after tax with 1971 tax structure	Income after tax with property tax for schools displaced by									
			Increased state income tax		Increased state sales tax		Combination state income and sales taxes		Federal surtax plan A		Federal surtax plan B	
			75%	55%	75%	55%	75%	55%	75%	55%	75%	55%
Grain farms, soils 100 to 76, mostly northern Illinois												
Less than 180 acres.....	18	\$ 8,594	\$ 9,508	\$ 9,230	\$ 9,110	\$ 8,823	\$ 9,313	\$ 9,030	\$ 9,631	\$ 9,348	\$ 9,528	\$ 9,249
Income after tax.....			914	636	516	229	719	436	1,037	754	934	655
Change in income.....												
260 to 339 acres.....	69	15,020	16,050	15,648	15,999	15,571	16,029	15,616	16,252	15,848	15,963	15,573
Income after tax.....			1,030	628	979	551	1,009	596	1,232	828	943	553
Change in income.....												
500 to 659 acres.....	155	24,070	25,094	24,534	25,081	24,482	25,099	24,520	25,220	24,671	24,495	23,979
Income after tax.....			1,024	464	1,011	412	1,020	450	1,150	601	425	-91
Change in income.....												
800 acres and over.....	37	36,801	37,409	36,723	37,860	37,350	37,568	37,043	36,897	36,261	35,053	34,493
Income after tax.....			608	-79	1,059	549	759	242	36,897	36,261	35,053	34,493
Change in income.....									96	-540	-1,748	-2,308
Grain farms, soils 55 to 5, southern Illinois												
180 to 259 acres.....	26	9,502	9,873	9,706	9,497	9,318	9,692	9,516	10,003	9,835	9,893	9,727
Income after tax.....			371	204	-4	-184	190	14	501	333	391	225
Change in income.....												
340 to 499 acres.....	79	13,621	14,076	13,787	13,671	13,409	13,881	13,626	14,262	13,965	14,036	13,744
Income after tax.....			455	166	50	-212	260	5	641	344	415	123
Change in income.....												
750 to 1,000 acres.....	33	25,781	26,082	25,725	25,868	25,432	25,992	25,591	26,179	25,836	25,387	25,073
Income after tax.....			301	-56	87	-349	211	-190	398	55	-394	-708
Change in income.....												
Livestock, soils 100 to 76												
Less than 180 acres (hog).....	37	16,753	16,957	16,738	16,764	16,540	16,812	16,645	17,163	16,942	16,840	16,628
Income after tax.....			204	-15	11	-213	59	-108	410	189	87	-125
Change in income.....												
180 to 259 acres (hog).....	52	16,724	17,372	17,054	17,131	16,742	17,319	16,905	17,578	17,259	17,242	16,934
Income after tax.....			648	330	407	18	595	181	854	535	518	210
Change in income.....												
260 to 339 acres.....	19	17,327	18,186	17,778	18,083	17,657	18,141	17,724	18,396	17,986	18,029	17,634
Income after tax.....			859	451	756	330	814	397	1,096	659	702	307
Change in income.....												
340 to 499 acres.....	18	21,725	22,479	22,005	22,627	22,055	22,560	22,040	22,659	22,191	22,094	21,648
Income after tax.....			752	280	902	330	835	315	934	466	369	-77
Change in income.....												
500 acres and over (hog).....	26	29,889	30,569	29,945	30,344	29,876	30,475	29,939	30,391	29,895	29,252	28,803
Income after tax.....			680	56	445	-13	586	50	502	6	-637	-1,086
Change in income.....												
Livestock, soils 55 to 5												
180 to 259 acres (hog).....	27	12,390	12,629	12,453	12,175	11,990	12,410	12,229	12,800	12,621	12,617	12,443
Income after tax.....			239	63	-215	-400	20	-161	410	231	227	53
Change in income.....												
340 to 499 acres (hog).....	52	16,019	16,332	16,096	15,805	15,553	16,080	15,842	16,534	16,297	16,235	16,007
Income after tax.....			313	77	-214	-466	61	-177	515	278	216	-12
Change in income.....												
500 acres and over (hog).....	44	20,745	21,160	20,826	20,687	20,317	20,947	20,502	21,354	21,025	20,854	20,541
Income after tax.....			415	81	-58	-425	202	-243	609	280	109	-204
Change in income.....												

^a Budget data from Illinois farm business records, University of Illinois at Urbana-Champaign and Illinois Farm Business Farm Management Association cooperating.

advantages shown for the federal surtax will not always be as great as indicated (Table 15). Presumably, off-farm income will on the average exceed per-

sonal exemptions and deductions, and the taxpayer will be in a higher federal income tax bracket than is used in the examples presented.

PER ACRE INCOME CHANGES FROM PROPERTY TAX DISPLACEMENT

Changes in income per acre by property tax displacement are calculated simply by dividing the change in income per farm by the number of acres in the farm. This shows more clearly the advantages to small owner operators of displacing the property tax by state and federal income taxes. In all cases, except for the specialized hog farms of less than 180 acres, the small farmers gain by such displacement. The sales tax options are not as advantageous to small farmers, especially livestock farmers (Table 16).

The effects on tenants of displacing the property tax by one of the income tax options ranges from a gain of 13 cents per acre to a loss of 90 cents per acre, whereas the sales tax is more costly (Table 17).

Gains to landlords far outweigh the losses to tenants. Landlords gain more from the sales tax than from the state income tax, although the differences are not large. The federal surtax plan A is generally the most advantageous, if other off-farm income is not taken into account (Table 17).

Table 15. — Income After Tax for Tenants and Landlords if Property Tax for Schools Is Displaced by Increases in Other Taxes

By farm size, type, and tenure	Number of farms ^a	Income after tax with 1971 tax structure	Income after tax with property tax for schools displaced by									
			Increased state income tax		Increased state sales tax		Combination state income and sales taxes		Federal surtax plan A		Federal surtax plan B	
			Property tax displaced as a percentage of total property tax									
			75%	55%	75%	55%	75%	55%	75%	55%	75%	55%
Soll rating 100 to 76												
TENANTS												
Grain farms												
260 to 339 acres.....	39	\$ 8,493	\$ 8,433	\$ 8,398	\$ 8,080	\$ 8,058	\$ 8,260	\$ 8,131	\$ 8,553	\$ 8,498	\$ 8,448	\$ 8,414
Income after tax.....			-60	-95	-413	-435	-233	-362	60	5	-45	-79
Change in income.....												
500 to 659 acres.....	63	11,876	11,703	11,647	11,244	11,185	11,480	11,422	11,861	11,805	11,703	11,648
Income after tax.....			-73	-229	-632	-691	-396	-454	-15	-71	-173	-228
Change in income.....												
Livestock farms												
260 to 339 acres.....	15	12,454	12,251	12,204	11,938	11,862	12,092	12,032	12,416	12,357	12,244	12,185
Income after tax.....			-203	-250	-516	-592	-362	-422	-38	-97	-210	-269
Change in income.....												
340 to 499 acres.....	19	14,998	14,775	14,689	14,514	14,423	14,651	14,562	14,967	14,881	14,719	14,636
Income after tax.....			-223	-309	-484	-575	-347	-436	-31	-117	-279	-362
Change in income.....												
LANDLORDS^b												
Grain farms												
260 to 339 acres.....	39	6,773	7,940	7,537	8,057	7,632	7,999	7,585	8,096	7,687	7,928	7,529
Income after tax.....			1,167	764	1,284	859	1,226	812	1,323	914	1,155	756
Change in income.....												
500 to 659 acres.....	15	13,554	15,270	14,653	15,663	15,016	15,467	14,835	15,468	14,852	15,047	14,459
Income after tax.....			1,696	1,099	2,109	1,462	1,913	1,281	1,914	1,298	1,493	905
Change in income.....												
Livestock farms												
260 to 339 acres.....	15	5,335	6,561	6,169	6,613	6,201	6,588	6,186	7,025	6,299	6,893	6,178
Income after tax.....			1,226	834	1,278	866	1,253	851	1,690	964	1,558	843
Change in income.....												
340 to 499 acres.....	19	7,618	9,019	8,546	9,198	8,671	9,108	8,609	9,189	8,710	8,993	8,526
Income after tax.....			1,401	928	1,580	1,053	1,485	991	1,571	1,092	1,375	908
Change in income.....												

^a Budget data from Illinois farm business records, University of Illinois at Urbana-Champaign and Illinois Farm Business Farm Management Association cooperating.

^b Nonfarm income of landlords is not known and is not included. In the increased state income tax, all farm income is taxed at 6.25 percent to displace the property tax for schools. This overstates (understates) the cost of the increased state income tax to landlords who have exemptions and deductions greater than (less than) nonfarm income. The federal surtax rates apply to the federal tax on farm income, assuming all income is taxable and there are no exemptions or deductions. To the extent that there is other nonfarm income which is not offset by exemptions and deductions, this procedure will understate the cost of the federal surtax.

Table 16. — Change in Income per Acre After Tax on Owner-Operated Farms if Property Tax for Schools Is Displaced by Increases in Other Taxes

By farm size, type, and soil rating	Number of farms ^a	Income after tax with property tax for schools displaced by									
		Increased state income tax		Increased state sales tax		Combination state income and sales taxes		Federal surtax plan A		Federal surtax plan B	
		Property tax displaced as a percentage of total property tax									
		75%	55%	75%	55%	75%	55%	75%	55%	75%	55%
Soils 100 to 76, mainly northern Illinois											
Grain farms											
Less than 180 acres.....	18	\$5.71	\$3.98	\$3.23	\$1.38	\$4.49	\$2.72	\$6.48	\$4.71	\$5.84	\$4.09
260 to 339 acres.....	69	3.43	2.09	3.26	1.84	3.36	1.99	4.11	2.76	3.14	1.84
500 to 659 acres.....	155	1.77	.80	1.74	.71	1.76	.78	2.00	1.05	.73	-.16
800 acres and over.....	37	.60	-.08	1.05	.55	.76	.25	.10	-.55	-1.74	-2.30
Livestock farms											
Less than 180 acres (hog).....	37	1.28	-.09	.07	-1.33	.37	-.68	2.46	1.13	.54	-.78
180 to 259 acres (hog).....	52	2.95	1.50	1.85	.08	2.70	.82	3.88	2.43	2.35	.95
260 to 339 acres.....	19	2.86	1.50	2.52	1.10	2.71	1.32	3.56	2.20	2.34	1.02
340 to 499 acres.....	18	2.03	.66	2.43	.89	2.26	.75	2.22	1.11	1.00	-.21
500 acres and over (hog).....	26	1.04	.09	.68	-.02	.89	.08	.81	.01	-.97	-1.66
Soils 55 to S, southern Illinois											
Grain farms											
180 to 259 acres.....	26	1.69	.93	-.02	-.84	.86	.07	2.28	1.51	1.78	1.02
340 to 499 acres.....	79	1.08	.40	.12	-.50	.62	.01	1.53	.82	.99	-.29
750 to 1,000 acres.....	33	.34	-.06	.10	-.40	.24	-.22	.45	.06	-.45	-.81
Hog farms											
180 to 259 acres.....	27	1.09	.29	-.98	-1.82	.09	-.73	1.86	1.05	1.03	.24
340 to 499 acres.....	52	.75	.18	-.51	-1.11	.15	-.42	1.23	.66	.51	-.03
500 acres and over.....	44	.58	.11	-.08	-.60	.28	-.34	.86	.39	.15	-.29

^a Budget data from Illinois farm business records, University of Illinois at Urbana-Champaign and Illinois Farm Business Farm Management Association cooperating.

LAND VALUE CHANGES FROM PROPERTY TAX DISPLACEMENT

Changes in land values, which may be described as windfall gains or losses, are derived by capitalizing the changes in annual income per acre by some accepted discount rate. For this purpose a rate of 5 percent was chosen. A lower rate would imply greater land value changes, while a higher rate would have less effect on value.

The school tax options would offer windfalls differing widely in value to farmers by tenure, size and type of farm, and soil rating. Windfalls to owner operators range from a gain of \$114.20 per acre (on grain farms of less than 180 acres with soil ratings of 100 to 76 under the state income tax option) to a loss of

Table 17. — Change in Income per Acre for Tenants and Landlords if Property Tax for Schools Is Displaced by Increases in Other Taxes

By farm size, type, and tenure	Number of farms ^a	Income after tax with property tax for schools displaced by									
		Increased state income tax		Increased state sales tax		Combination state income and sales taxes		Federal surtax plan A		Federal surtax plan B	
		75%	55%	75%	55%	75%	55%	75%	55%	75%	55%
Soil rating 100 to 76											
TENANTS											
Grain farms											
260 to 339 acres.....	39	\$ -.20	\$ -.32	\$ -1.38	\$ -1.45	\$ -.78	\$ -1.21	\$.13	\$.02	\$ -.15	\$ -.26
500 to 659 acres.....	63	-.30	-.39	-1.09	-1.19	-.68	-.78	-.03	-.12	-.30	-.39
Livestock farms											
260 to 339 acres.....	15	-.68	-.83	-1.72	-1.97	-1.21	-1.41	-.13	-.32	-.70	-.90
340 to 499 acres.....	19	-.53	-.74	-1.15	-1.37	-.83	-1.04	-.07	-.28	-.66	-.86
LANDLORDS^b											
Grain farms											
260 to 339 acres.....	39	3.89	2.55	4.28	2.86	4.09	2.61	4.41	3.05	3.85	2.52
500 to 659 acres.....	15	2.92	1.89	3.64	2.52	3.30	2.21	3.30	2.24	2.57	1.56
Livestock farms											
260 to 339 acres.....	15	4.09	2.78	4.26	2.89	4.17	2.83	5.63	3.21	5.19	2.81
340 to 499 acres.....	19	3.34	2.21	3.76	2.51	3.54	2.36	3.74	2.60	3.27	2.16

^a Budget data from Illinois farm business records, University of Illinois at Urbana-Champaign and Illinois Farm Business Farm Management Association cooperating.

^b Nonfarm income of landlords is not known and is not included. In the Illinois income tax alternative, all farm income is taxed at 6.25 percent to displace 75 percent or 55 percent of the property tax. This procedure will overstate (understate) the cost of the Illinois income tax to landlords who have exemptions or deductions more than (less than) nonfarm income. In the federal surtax alternative the marginal surtax rates apply to the federal tax on farm income, assuming all income is taxable and there are no exemptions or deductions. To the extent that there is other nonfarm income of the landlord which is not offset by exemptions and deductions, this procedure will understate the cost of the federal surtax.

Table 18. — Change in Value of Land to Owner Operators From Capitalization at Five Percent if Property Tax for Schools Is Displaced by Increases in Other Taxes

By farm size, type, and soil rating	Number of farms ^a	Income after tax with property tax for schools displaced by									
		Increased state income tax		Increased state sales tax		Combination state income and sales taxes		Federal surtax plan A		Federal surtax plan B	
		75%	55%	75%	55%	75%	55%	75%	55%	75%	55%
Soils 100 to 76, mainly northern Illinois											
Grain farms											
Less than 180 acres.....	18	\$114.20	\$79.60	\$64.60	\$27.60	\$89.80	\$54.51	\$129.60	\$94.20	\$117.00	\$81.80
260 to 339 acres.....	69	68.60	41.80	65.20	36.80	67.20	39.80	82.20	55.20	62.80	36.80
500 to 659 acres.....	155	35.40	16.00	34.80	14.20	35.20	15.60	40.00	21.00	14.60	3.20
800 acres and over.....	37	12.00	-1.60	21.00	11.00	15.20	5.00	-2.00	-11.00	-34.80	-46.00
Livestock farms											
Less than 180 acres (hog).....	37	25.60	-1.80	1.40	-26.60	7.40	-13.60	49.20	22.60	10.80	-15.60
180 to 259 acres (hog).....	52	59.00	30.00	37.00	1.60	54.00	16.40	77.60	48.60	47.00	19.00
260 to 339 acres.....	19	57.20	30.00	50.40	22.00	54.20	26.40	71.20	44.00	46.80	20.40
340 to 499 acres.....	18	40.60	13.20	48.60	17.80	45.20	15.00	44.40	22.20	20.00	-4.20
500 acres and over (hog).....	26	20.80	1.80	13.60	-.40	17.80	1.60	16.20	.20	-19.40	-33.20
Soils 55 to 5, southern Illinois											
Grain farms											
180 to 259 acres.....	26	33.80	18.60	-.40	-16.80	17.20	1.40	45.60	30.20	35.60	20.40
340 to 499 acres.....	79	21.60	8.00	2.40	-10.00	12.40	.20	30.60	16.40	19.80	5.80
750 to 1,000 acres.....	33	6.80	-1.20	2.00	-8.00	4.80	-4.40	9.00	1.20	-9.00	-16.20
Hog farms											
180 to 259 acres.....	27	21.80	5.80	-19.60	-36.40	1.80	-14.60	37.20	21.00	20.60	4.80
340 to 499 acres.....	52	15.00	3.60	-10.20	-22.20	3.00	-8.40	24.60	13.20	10.20	-.60
500 acres and over.....	44	11.60	2.20	-1.60	-12.00	5.60	-6.80	17.20	7.80	3.00	-5.80

^a Budget data from Illinois farm business records, University of Illinois at Urbana-Champaign and Illinois Farm Business Farm Management Association cooperating.

\$46.00 per acre (for grain farms of 800 acres or more under federal surtax plan B) (Table 18). Tenants have theoretical windfalls ranging from a gain of \$2.60 per acre (under federal surtax plan A for the smallest grain farms) to a loss of \$39.40 per acre (under the state sales tax option for livestock farms in the 260 to 339 acre range) (Table 19). Gains for landlords range from \$112.60 per acre (on livestock farms under federal surtax plan A) to \$31.20 per acre (for grain farms under plan B) (Table 19).

Since farmland and property has a common market these windfall gains and losses would be reflected in land prices, suggesting that land values would appreciate modestly in the range of about \$50 to \$75 per acre under an income tax option or a somewhat lesser amount under a sales tax option. However, there would be important longer term structural income and resource effects in size of farm and tenure which we shall now examine.

Table 19. — Change in Value of Land to Tenants and Landlords From Capitalization at Five Percent if Property Tax for Schools Is Displaced by Increases in Other Taxes

By farm size, type, and tenure	Number of farms ^a	Income after tax with property tax for schools displaced by									
		Increased state income tax		Increased state sales tax		Combination state income and sales taxes		Federal surtax plan A		Federal surtax plan B	
		75%	55%	75%	55%	75%	55%	75%	55%	75%	55%
Soil rating 100 to 76											
TENANTS											
Grain farms											
260 to 339 acres.....	39	\$ -4.00	\$ -6.40	\$ -27.60	\$ -29.00	\$ -15.60	\$ -24.20	\$ 2.60	\$.40	\$ -3.00	\$ -5.20
500 to 659 acres.....	63	-6.00	-7.80	-21.80	-23.80	-13.60	-15.60	-.60	-2.40	-6.00	-7.80
Livestock											
260 to 339 acres.....	15	-13.60	-16.60	-34.40	-39.40	-24.20	-28.20	-2.60	-6.40	-14.00	-18.00
340 to 499 acres.....	19	-10.60	-14.80	-23.00	-27.40	-16.60	-20.80	-1.40	-5.60	-13.20	-17.20
LANDLORDS											
Grain farms											
260 to 339 acres.....	39	77.80	51.00	85.60	57.20	81.80	50.20	88.20	61.00	77.00	50.40
500 to 659 acres.....	15	58.40	37.80	72.80	50.40	66.00	44.20	66.00	44.80	51.40	31.20
Livestock											
260 to 339 acres.....	15	81.80	55.60	85.20	57.80	83.40	56.60	112.60	64.20	103.80	56.20
340 to 499 acres.....	19	66.80	44.20	75.20	50.20	70.80	47.20	74.80	52.00	65.40	43.20

^a Budget data from Illinois farm business records, University of Illinois at Urbana-Champaign and Illinois Farm Business Farm Management Association cooperating.

LONGER TERM STRUCTURAL INCOME AND RESOURCE EFFECTS

Property tax displacement by the options in this study favor the small farm over the large one. The advantages would not be of sufficient strength, however, to counterbalance the recent trends toward large-scale tenant and part-owner operations, but they could retard these trends.

The effects of property tax displacement on farm tenure are more diverse. A popular concept of farming and a traditional goal of policy is a family proprietorship vested with full ownership of the land and capital assets in the farm business. In 1969, according to U.S. census data, there were 100,486 operating farms in Illinois of which 83.8 percent of the total were individual or family proprietorships, 14.9 percent were partnerships, largely family in origin, 0.6 percent were incorporated, and 0.7 percent were in some other category. Of the total, 37.5 percent were full owners, 34.2 percent were part owners, and 28.4 percent were tenants (Table 20). Farms operated by full owners were smaller than those operated by part owners or tenants, so that full owners operated only 24.7 percent of the land in commercial farms, part owners 45.9 percent, and tenants 29.4 percent (Table 20).

Farms operated by full owners were also of lower

quality than those operated by part owners or tenants, so that full owners operated only 21.6 percent of the land and buildings according to value, whereas part owners operated 45.3 percent and tenants 33.1 percent according to value. The comparison among counties (shown in Table 20) helps explain this situation. In Champaign County, for example, where cash grain farming predominates on top-rated soils, a higher percentage of the land is rented than in Wayne County where lower rated soils generally prevail. Overall, for the state as a whole, about 56 percent of the acreage of land in farms is leased or rented, whereas a higher percentage of the property according to value is leased.

In respect to leasing practices, surveys in various parts of Illinois have revealed that farmers and women compose the large majority of landlords. The women landlords generally inherited the land from their husbands or other relatives. Their holdings are most likely to be modest with 80-acre and 160-acre tracts predominating. The average size of rented tracts is around 120 to 160 acres. The average size of farm for tenants and part owners suggests about two landlords for each one of these farm operators. Among the 100,486 Illinois farm operators in 1969, therefore, at least 72,000 would

Table 20. — Land Tenure Among Commercial Farms, Illinois and Selected Counties, 1969

Items and location	Full owners	Part owners ^a	All tenants	All corporations ^b
<i>percent</i>				
State of Illinois				
Number of farms.....	37.5	34.2	28.4	.6
Land in farms.....	24.7	45.9	29.4	1.3
Value of land and buildings ^c	21.6	45.3	33.1	1.7
Champaign County				
Number of farms.....	22.3	39.1	38.6	.3
Land in farms.....	12.7	48.9	38.4	.3
DeKalb County				
Number of farms.....	38.9	22.8	38.2	1.0
Land in farms.....	26.7	34.0	39.3	3.5
Warren County				
Number of farms.....	38.1	29.7	32.1	.4
Land in farms.....	25.1	41.6	33.3	.5
Sangamon County				
Number of farms.....	29.9	34.8	35.3	.7
Land in farms.....	16.5	45.7	37.8	1.6
Peoria County				
Number of farms.....	41.6	30.9	27.5	.6
Land in farms.....	25.5	44.6	29.9	1.6
Wayne County				
Number of farms.....	41.1	51.7	7.2	.4
Land in farms.....	26.6	66.6	6.8	1.1

^a Statewide these farmers rented 58.3 percent of their land.

^b Included in the three preceding tenure categories.

^c Not available by counties.

Source: U.S. Census of Agriculture, 1969.

own farmland and pay property taxes. In addition, there would be about 120,000 non-operating landlords who own farmland and pay property taxes on it.

The terms of a farm lease result from a general bargaining process between landowners and farmers interested in leasing their property. The lease terms resulting from this bargaining are market determined to

yield a competitive return to the landowner at a cost to the lessee in line with his expected net return. Share-rent leases as opposed to cash-rent leases are the rule in Illinois, for both grain and livestock farms. Fewer than 20 percent, however, are on livestock shares under which the landlord generally shares equally with the tenant in grain and livestock inventories plus some items of livestock equipment.

Under property tax displacement two forces would affect terms of leases. First, since tenants are modestly disadvantaged, demand might be reduced accordingly for land to rent. Second, although landlords generally gain by displacement, landholding would become relatively more profitable for current owners. As gains become capitalized in land values, and as terms of leases are adjusted to the new situation, the advantages to owners of renting would be equalized as compared with the alternative of selling.

In the long run in Illinois the volume of land under cultivation would not be changed appreciably solely as a result of tax displacement. Practically no crop land would become submarginal for cultivation. The amount of new land brought under cultivation as a result of displacement would be minuscule. Generally, minor changes in other inputs would result from tax displacement, and these could be either positive or negative.

Therefore, a significant predictable change in the supply function for agriculture is not projected as a result of tax displacement. Prices of farm products would not be changed appreciably. The benefits and penalties of the tax change would be retained by producers. In aggregate, Illinois farm income would be enhanced as suggested in the presentation of short-run changes in income after tax.

STATEWIDE PROPERTY TAX LEVY

Although a statewide property tax levy paid to the State of Illinois and returned to school districts on the basis of WADA or some other criterion can be used to obtain educational purposes similar to those achieved with the income or sales tax alternatives, the tax implications are quite different. There would be no shift away from the property tax as such. In fact, property taxes would increase if they were used for the policy purpose of equalizing educational support upward to levels of support achieved in (for instance) the upper one-twentieth of school districts plus categorical aid. Whether or not this is the purpose, the levy could be obtained in one of two ways: by creating a rider on the local levies, or by establishing a statewide system of improved property assessments.

Statewide Property Tax Levy as a Rider on Local Levies

Creating a rider on the local levies could be relatively simple. Present equalized assessment values could be utilized. Either the present school rates could

be frozen (and henceforth increased or decreased in a uniform proportion across the state, as the need arises) or a single statewide school rate could apply everywhere. The former would be more simple to establish but would raise obvious equity problems when the rates would vary from district to district in a way that has nothing to do with actual school funding. Using a single school rate would appear more equitable, but would cause a number of new problems.

The advantage of using a rider on the local levies is that it could be applied at short notice and at moderate cost. The county collectors could extend and collect the school tax and pay the funds into an account of the state treasury. In the short run, there might be few additional costs of administration, other than the statewide distribution apparatus which would be necessary under any statewide school funding system.

The disadvantages are quite apparent. Present inequities in the tax assessments would remain and would be brought into focus. This would be true whether the present differences in school rates among districts and properties were to remain, or whether a

uniform rate were to be applied. In the latter case, which appears the more logical, many taxpayers would find their tax bills substantially increased. In 1969, the school levy in Illinois averaged \$3.16 per \$100 equalized valuation. In Cook County it was \$3.33 and in other counties around Chicago it was on a similar or even higher level. Most rural counties had rates varying from \$2.25 to \$2.75. Thus, school rates paid by farm property would be increased in most areas. Many farmers would find their school tax increased by one-fifth to one-third, meaning an increase in the total property tax bill of perhaps 15 to 20 percent.

At present, some of the inequalities in assessments among counties are offset by the equalization process. With a uniform state levy rate, these inequalities would become more glaring. Within counties the differences in assessment levels among school districts would create new problems of inequality. Because of the existing differences in assessment levels or practices among different classes of property (as residence, business, or industrial property, and farmland) tax burdens would be redistributed in a manner that is difficult to foresee.

Statewide System of Improved Property Tax Levies

With substantial redistribution of the property tax load, the need for a thorough reform of the assessment

and equalization systems would be more evident, calling attention to the second alternative, that of levying the school tax in a new statewide tax system based on uniform and improved assessments. Although this could be defended on grounds of eventually attaining gains in equity, it would have the disadvantage of being quite costly and slow to bring into operation. It also would raise some spiny problems of principle and policy, such as that of reconsidering the rather different assessment scales often applied to different types of property (e.g., residential vs. business).

Finally, a statewide levy would raise the political question of whether local communities want to use the same assessment system as the state. Some localities use lower assessment rates on business property as a means of attracting new industry. They could continue to do this on the non-school portion of the property tax only if they continued to have some power over assessments, which is incompatible with the principles of a statewide levy. It would require two separate tax systems, which would be costlier and more complicated than having just one.

In summary, if property taxes on farmland are increased then the income effects generally will be the reverse of those obtained by displacing the school portion of the property tax by increases in income or sales taxes.

EFFECTS OF PROPERTY TAX DISPLACEMENT ON LAND CONVERSION AND DEVELOPMENT

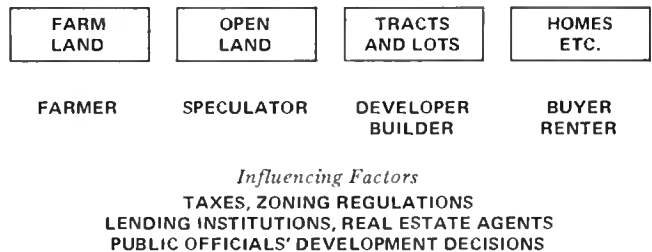
When land becomes susceptible to conversion and development for other uses, property tax displacement will influence land values and the actions of those active in the land market. The reductions in holding costs due to tax displacement will reduce the anticipated price increases necessary to induce a speculator to purchase land. Land will increase in value and ownership will change as new uses yield anticipated net returns in excess of the old.

Some questions are: What will be the reactions to tax displacement of the various participants in the market — farmers, speculators, brokers, businessmen, homeowners? What is the quantity of land conversion in Illinois that will be affected by tax displacement within a given time period? How much will land holding costs and land values be affected by the tax displacement? What will be the general nature of the impact of the tax options used for displacement?

Reactions to Tax Displacement

The reactions to property tax displacement can be visualized theoretically and more specifically by tracing the roles of participants in the process of land

conversion and development. In the illustration below land moves from the farmland category to an open land category when it is rezoned or when its accepted market value for a new use exceeds its value in farm use. As services are added and building takes place land moves from open land to serviced tracts and lots, and to homes plus other uses.



Among decision makers who control this process the farmer becomes a speculator or sells the land to a speculator, who then sells to a developer, who in turn sells to a builder, who finally sells to the owner. In many cases two or more functions are carried out by a single

decision maker. In each case, the transaction may occur directly or it may be arranged by a real estate agent. In almost every case the sale of the land will be contingent upon approval of a lending institution. In addition, the price and perhaps the sale also will depend on approval of a public body, elected or non-elected, such as a zoning board. For example, the sale may be contingent on rezoning of an area from agricultural to residential or commercial use.

Vested interest groups, elected and non-elected officials, interact to provide the basic institutional framework under which this process occurs. They will determine building codes and tax rates, location of public facilities such as sewer lines, and the basic philosophy with respect to the emphasis on growth and development.

The prices at which transactions occur depend on each party's knowledge and expectations of future conditions, such as business or housing demand, directions of development, levels of economic activity, taxes and zoning classifications, location of transportation facilities and public utilities, etc. Information on present conditions and anticipations moves imperfectly among the parties involved. Some of the relevant information is generated by the actions of public bodies and is reported in the news media or in public records. Advantages may be gained by knowing in advance about actions to be taken. Unofficial actions taken by the various participants may be converted to the advantage of the parties who have access to this information. In addition, if a sufficient number of individuals involved in this process believe or expect that certain conditions will prevail in the future, that belief or expectation may be sufficient to move the development process in that direction. For example, if "everyone knows" that a city is going to expand in a given direction, that may be a sufficient condition for this to happen.

Quantity of Land Conversion in Illinois

Between the decennial censuses of 1960 and 1970 a total of 1,815 square miles, or about 1,161,800 acres, were annexed by the 383 cities in Illinois with 2,500 or more inhabitants in 1970. Of this total, about 142 square miles, or 91,000 acres, were annexed by the 47 cities with 30,000 or more inhabitants in 1970 (Table 21). The difference, 1,673 square miles or 1,070,800 acres, is estimated as having been annexed by cities with 2,500 to 30,000 inhabitants in 1970 (interpolated from Table 22).¹

City growth came from population increase and reduced population density. The 46 cities with 30,000 or more inhabitants in 1970, not counting Chicago, grew by 375,485 (in Table 21 from 2,046,574 to 2,422,059 inhabitants). Area increased by 141.2 square miles. Population per square mile decreased by 783. For each

square mile annexed, 2,659 inhabitants were added. Stated differently, for each new inhabitant about one-quarter acre was annexed. Chicago's density decreased by 888 per square mile with little change in the land base. Among the cities with 2,500 or more inhabitants in 1970 listed in Table 22, population per square mile decreased by 565. For each inhabitant added, about one-third acre was annexed (in Table 22, increase of 209,653 inhabitants and 64,832 acres). Thus, all classes of Illinois cities decreased in population density with the largest cities experiencing the greatest reduction in density. However, as the data in Tables 21 and 22 show, population density is highly correlated directly with city size.

These data are not a perfect measure of land conversion since the area annexed by a city does not accurately reflect the total process. Some cities have annexed considerable acreages of land still in farms. Some also have not annexed developed areas of considerable size. Also, not all of the areas annexed have been farmland, or even land. The city of Decatur, for example, has annexed much of Lake Decatur. Land taken for highways, open country building and recreational use, such as golf courses for example, is not included if it is outside annexed areas. The data can be interpreted, therefore, as only one measure — although a most significant one — of the order of magnitude of land conversion in Illinois.

Given that the total land area of Illinois is 35.8 million acres, about 3.1 percent of the total land in Illinois was annexed by Illinois cities between the decennial censuses, or approximately 0.3 percent annually. Farmland was 31.7 million acres in 1935. It decreased to 31.0 million in 1940, the same in 1950, 30.3 million in 1960, and 29.9 million in the 1970 census. Farmland classed as cropland decreased from 25.2 million in 1935, to hold between 23.6 million and 24.0 million during 1940-65. Cropland increased to 24.8 million acres in the 1970 census. The increase in cropland between the 1960 and 1970 censuses may be explained in terms of changes in farm programs. Also some land that was not cropped in 1960 was improved and transferred to crop use during the decade. Given continued population growth, or even zero population growth sometime before the middle of the 21st century, as is sometimes projected for America, clearly the question of land conversion from rural to other uses will be of significance to a society planning for an ordered future.

Under current property taxes, the farmland owner is influenced in two ways by the process of land annexation and conversion. If his land is assessed as urban, industrial, or residential, then his net farm income will decrease as real estate taxes increase. On the other hand, as development is anticipated the value of the land will increase, offering him the opportunity to sell the land at a profit and move the farm operation to another location. Sometimes land trades are arranged by speculators to accomplish this purpose. Of course, the increasing value of land does not provide

¹ The interpolated figures are derived from Table 22 by expanding the totals for the 76 cities to 383 cities and then subtracting the totals for the 47 cities listed in Table 21.

current income unless land is sold. Some farmers do not sell. They assume the additional role of a speculator, in which case the nature of the development process determines profitability. Differences in the reaction of farmers to this set of conditions is one of the root causes of the scattered nature of the development process.

Shifts of population to urban living apparently will continue for some time and land will continue to convert from rural to urban use. What will be the economic impacts on holding costs and land values if the property tax is displaced in part by increases in income or sales taxes?

Effects of Tax Displacement on Holding Costs and Land Values

As indicated, the decision-making processes guiding the shift of land from rural to urban uses is quite complex. No more than casual observation of urban development or a cursory sample of the literature concerning development is needed to appreciate the fact that the development process does not occur in a uniform manner. Terms like "leapfrogging," "sprawl," and "scatteration" sometimes describe the development process.

In spite of the complex decision processes and development patterns, it is possible to sketch the economic

Table 21. — 1960 and 1970 Population and Area for Illinois Cities With More Than 30,000 Inhabitants in 1970

	Population		Area, square miles		Population per square mile		Change from 1960 to 1970		
	1960	1970	1960	1970	1960	1970	In population	In area, square miles	In population per square mile
Alton.....	43,047	39,700	10.5	11.0	4,100	3,609	- 3,347	.5	- 491
Arlington Heights.....	27,878	64,884	6.4	14.0	4,356	4,635	37,006	7.6	279
Aurora.....	63,715	74,182	10.3	14.1	6,186	5,261	10,467	3.8	- 925
Belleville.....	37,264	41,699	7.4	9.6	5,036	4,344	4,435	2.2	- 692
Berwyn.....	54,224	52,502	3.9	3.9	13,904	13,462	- 1,722	.0	- 442
Bloomington.....	36,271	39,992	7.0	10.1	5,182	3,960	3,721	3.1	-1,222
Calumet City.....	25,000	32,956	6.3	6.6	3,968	4,993	7,956	.3	1,025
Champaign.....	49,583	56,532	6.5	8.3	7,628	6,811	6,949	1.8	- 817
Chicago Heights.....	34,331	40,900	7.4	7.6	4,639	5,382	6,569	.2	743
Cicero.....	69,130	67,058	5.8	5.8	11,919	11,562	- 2,072	.0	- 357
Danville.....	41,856	42,570	11.2	12.9	3,737	3,300	714	1.7	- 437
Decatur.....	78,004	90,397	16.4	30.6	4,756	2,954	12,393	14.2	-1,802
DeKalb.....	18,486	32,949	3.4	3.4	5,437	9,691	14,463	.0	4,254
Des Plaines.....	34,886	57,239	8.2	10.7	4,254	5,349	22,353	2.5	1,095
Downers Grove.....	21,154	32,751	5.5	11.0	3,846	2,977	11,597	5.5	- 869
East St. Louis.....	81,712	69,996	13.8	13.9	5,921	5,036	-11,716	.1	- 885
Elgin.....	49,447	55,691	8.8	14.6	5,619	3,814	6,244	5.8	-1,805
Elmhurst.....	36,991	50,547	6.5	9.5	5,691	5,321	13,556	3.0	- 370
Evanston.....	79,283	79,808	7.5	7.5	10,571	10,641	525	.0	70
Galesburg.....	37,243	36,290	7.5	12.2	4,966	2,975	- 953	4.7	-1,991
Granite City.....	40,073	40,440	7.4	8.0	5,415	5,055	367	.6	- 360
Harvey.....	29,071	34,636	5.1	6.0	5,700	5,773	5,565	.9	73
Highland Park.....	25,532	32,263	11.2	12.0	2,280	2,689	6,731	.8	409
Joliet.....	66,780	80,378	13.2	16.5	5,059	4,871	13,598	3.3	- 188
Kankakee.....	27,666	30,944	6.0	7.6	4,611	4,072	3,278	1.6	- 539
Lombard.....	22,561	35,977	5.8	9.0	3,890	3,997	13,416	3.2	107
Maywood.....	27,330	30,036	2.7	2.7	10,122	11,124	2,706	.0	1,002
Moline.....	42,705	46,237	9.1	11.2	4,693	4,128	3,532	2.1	- 565
Mount Prospect.....	18,906	34,995	4.0	9.5	4,727	3,684	16,089	5.5	-1,043
Niles.....	20,393	31,432	5.1	5.6	3,999	5,613	11,039	.5	1,614
North Chicago.....	22,938	47,275	4.9	5.9	4,681	8,013	24,337	1.0	3,332
Oak Lawn.....	27,471	60,305	6.3	8.3	4,361	7,266	32,834	2.0	2,905
Oak Park.....	61,093	62,511	4.7	4.7	12,999	13,300	1,418	.0	301
Park Forest.....	29,993	30,638	4.5	4.5	6,665	6,808	645	.0	143
Park Ridge.....	32,659	42,466	6.1	8.0	5,354	5,308	9,807	1.9	- 46
Pekin.....	28,146	31,375	5.4	9.1	5,212	3,448	3,229	3.7	-1,764
Peoria.....	103,162	126,963	14.6	37.4	7,066	3,395	23,801	22.8	-3,671
Quincy.....	43,793	45,288	7.0	11.9	6,256	3,806	1,495	4.9	-2,450
Rockford.....	126,706	147,370	24.8	34.2	5,109	4,309	20,644	9.4	- 800
Rock Island.....	51,863	50,166	11.8	13.9	4,395	3,609	- 1,697	2.1	- 786
Skokie.....	59,364	68,627	10.0	10.1	5,936	6,795	9,263	.1	859
Springfield.....	83,271	91,753	16.0	25.2	5,204	3,641	8,482	9.2	-1,563
Urbana.....	27,294	32,800	4.2	5.1	6,499	6,431	5,506	.9	- 68
Waukegan.....	55,719	65,269	10.7	16.1	5,207	4,054	9,550	5.4	-1,153
Wheaton.....	24,312	31,138	5.5	7.9	4,420	3,942	6,826	2.4	- 478
Wilmette.....	28,268	32,134	5.5	5.4	5,140	5,951	3,866	- .1	811
Total 46 cities.....	2,046,574	2,422,059	371.9	513.1			375,485	141.2	
Average 46 cities.....	44,490	52,653	8.1	11.2	5,503	4,720	8,163	3.1	- 783
Chicago.....	3,550,404	3,366,957	221.7	222.6	16,014	15,126	-183,447	.9	- 888

Source: U.S. Department of Commerce, *Areas of Illinois: 1960*, Area Measurement Reports, GE-20, July, 1967 and *1970 Census of Population*, pp. 132-135.

Table 22. — 1960 and 1970 Population and Area of 76 Cities Randomly Selected
From the 383 Illinois Cities With More Than 2,500 Inhabitants in 1970

	Population		Area, square miles		Population per square mile		Change from 1960 to 1970		
	1960	1970	1960	1970	1960	1970	In population	In area, square miles	In popula- tion per square mile
Anna	4,280	4,766	2.1	2.3	2,038	2,072	486	.2	34
Arlington Heights	27,878	64,884	6.4	14.0	4,356	4,635	37,006	7.6	279
Beardstown	6,294	6,222	1.3	1.9	4,842	3,275	— 72	.6	-1,567
Bellwood	20,729	22,096	2.4	2.4	8,637	9,207	1,367	.0	570
Bloomington	36,271	39,992	7.0	10.1	5,182	3,960	3,721	3.1	-1,222
Blue Island	19,618	22,958	3.4	4.6	5,770	4,991	3,340	1.2	- 779
Burnham	2,478	3,634	1.9	1.9	1,304	1,913	1,156	.0	609
Cahokia	15,829	20,649	7.9	10.9	2,004	1,894	4,820	3.0	- 110
Carmi	6,152	6,033	1.4	1.5	4,394	4,022	— 119	.1	- 372
Carpentersville	17,424	24,059	4.6	4.6	3,788	5,230	6,635	.0	1,442
Centreville	12,769	11,378	4.1	4.1	3,114	2,775	— 1,391	.0	- 339
Charleston	10,505	16,421	3.4	4.4	3,090	3,732	5,916	1.0	642
Cicero	69,130	67,058	5.8	5.8	11,919	11,562	— 2,072	.0	- 357
Clintondale	7,355	7,570	1.6	1.7	4,597	4,453	215	.1	- 144
Crestwood	1,213	5,543	1.9	1.9	638	2,917	4,330	.0	2,279
Creve Coeur	6,684	6,440	2.9	4.4	2,305	1,464	244	1.5	- 841
Dixmoor	3,076	4,735	1.5	1.5	2,051	3,157	1,659	.0	1,106
Dolton	18,746	25,937	4.4	5.0	4,261	5,187	7,191	.6	926
East Moline	16,732	20,832	5.9	7.2	2,836	2,893	4,100	1.3	57
East St. Louis	81,712	69,996	13.8	13.9	5,921	5,036	11,716	.1	- 885
Eureka	2,538	3,028	1.0	1.5	2,538	2,019	490	.5	- 519
Evergreen Park	24,178	25,487	3.2	3.2	7,556	7,965	1,309	.0	409
Fulton	3,387	3,630	1.6	2.2	2,117	1,650	243	.6	- 467
Galesburg	37,243	36,290	7.5	12.2	4,966	2,975	— 953	4.7	-1,991
Glencoe	10,472	10,542	3.9	3.9	2,685	2,703	70	.0	18
Glen Ellyn	15,972	21,909	4.8	5.6	3,328	3,912	5,937	.8	584
Hamilton	2,228	2,764	2.9	2.9	768	953	536	.0	185
Harrisburg	9,171	9,535	2.5	2.6	3,668	3,667	364	.1	- 1
Hickory Hills	2,707	13,176	1.3	2.6	2,082	5,068	10,469	1.3	2,986
Highland Park	25,532	32,263	11.2	12.0	2,280	2,689	6,704	.8	409
Hoopston	6,606	6,461	1.8	1.8	3,670	3,589	— 145	.0	- 81
Jacksonville	21,690	20,553	6.0	6.4	3,615	3,211	— 1,137	.4	- 404
Kewanee	16,324	15,762	5.1	5.5	3,201	2,866	— 562	.4	- 335
Knoxville	2,560	2,930	2.0	2.4	1,280	1,221	370	.4	- 59
La Salle	11,897	10,736	2.3	2.7	5,173	3,976	— 1,161	.4	-1,197
Lebanon	2,863	3,564	1.2	1.6	2,386	2,228	701	.4	- 158
Libertyville	8,560	11,684	4.0	7.0	2,140	1,669	3,124	3.0	- 471
Lincoln	16,890	17,582	3.8	4.7	4,445	3,741	692	.9	- 704
Lyons	9,936	11,124	1.9	1.9	5,229	5,855	1,188	.0	626
McLeansboro	2,951	2,630	1.1	1.1	2,683	2,391	— 321	.0	- 291
Marseilles	4,347	4,320	1.6	1.7	2,717	2,541	— 27	.1	- 176
Mascoutah	3,625	5,045	1.3	1.5	2,789	3,363	1,420	.2	574
Midlothian	6,605	15,939	1.7	2.5	3,885	6,376	9,334	.8	2,491
Moline	42,705	46,237	9.1	11.2	4,693	4,128	3,532	2.1	- 565
Morton	5,325	10,419	1.5	8.9	3,550	1,171	5,094	7.4	-2,379
Mount Morris	3,075	3,173	1.0	1.0	3,075	3,173	98	.0	98
Newton	2,901	3,024	1.2	1.6	2,418	1,890	123	.4	- 528
Nokomis	2,476	2,532	1.1	1.1	2,251	2,302	56	.0	51
Northlake	12,318	14,212	2.8	4.2	4,399	3,384	1,894	1.4	-1,015
North Riverside	7,989	8,097	1.4	1.7	5,706	4,763	108	.3	- 943
Olympia Fields	1,503	3,478	2.8	2.8	537	1,242	1,975	.0	705
Orland Park	2,592	6,391	2.0	4.0	1,296	1,598	3,799	2.0	302
Peoria	103,162	126,963	14.6	37.4	7,066	3,395	23,801	22.8	-3,671
Peru	10,460	11,772	2.7	4.9	3,874	2,402	1,312	2.2	-1,472
Pontiac	8,435	9,031	1.6	2.0	5,272	4,516	596	.4	- 756
Princeton	6,250	6,959	1.9	2.0	3,290	3,480	709	.1	190
River Grove	8,464	11,465	2.3	2.3	3,680	4,985	3,001	.0	1,305
Robbins	7,511	9,641	1.3	1.3	5,778	7,416	2,130	.0	1,638
Roselle	3,581	4,583	1.4	2.4	2,558	1,910	1,002	1.0	- 648
Rosewood Heights	4,572	3,391	2.5	2.0	1,829	1,696	— 1,181	-.5	- 133
Savanna	4,950	4,942	2.1	2.5	2,357	1,977	8	.4	- 380
Schiller Park	5,687	12,712	2.5	2.5	2,275	5,085	7,025	.0	2,810
South Holland	10,412	23,931	4.2	7.5	2,479	3,191	13,519	3.3	712
South Jacksonville	2,340	2,950	.8	1.2	2,925	2,458	610	.4	- 467
Stone Park	3,038	4,451	.3	.3	10,127	14,837	1,413	.0	4,710
Treator	16,868	15,600	3.4	5.9	4,961	2,644	— 1,268	2.5	-2,317
Swansea	3,018	5,432	1.5	1.9	2,012	2,859	2,414	.4	847
Taylorville	8,801	10,644	1.7	5.4	5,177	1,971	1,843	3.7	-3,206
Venice	5,380	4,680	1.8	1.8	2,989	2,600	700	.0	- 389
Villa Park	20,391	25,891	3.9	5.0	5,228	5,178	5,500	1.1	- 50

(Table 22, cont'd)

	Population		Area, square miles		Population per square mile		Change from 1960 to 1970		
	1960	1970	1960	1970	1960	1970	In population	In area, square miles	In popula- tion per square mile
	Waukegan.....	55,719	65,269	10.7	16.1	5,207	4,054	9,550	5.4	-1,153
West Chicago.....	6,854	10,111	2.7	5.5	2,539	1,838	3,257	2.8	- 701
Wheaton.....	24,312	31,138	5.5	7.9	4,420	3,942	6,826	2.4	- 478
White Hall.....	3,012	2,979	2.2	2.2	1,369	1,354	- 33	.0	- 15
Woodstock.....	8,897	10,226	2.8	4.7	3,178	2,176	1,329	1.9	-1,002
Zion.....	11,941	17,268	4.6	5.8	2,596	2,977	5,237	1.2	381
Total 76 cities.....	1,058,096	1,267,749	259.3	360.6			209,653	101.3	
Average 76 cities.....	13,922	16,681	3.41	4.74	4,081	3,516	2,759	1.33	- 565

Source: U.S. Department of Commerce, *Areas of Illinois: 1960*, Area Measurement Reports, GE-20, July, 1967 and 1970 *Census of Population*, pp. 132-135.

Table 23.— Effects of Property Tax Displacement on \$100 Investment in Development Property Assessed at 50 Percent With Tax Increasing 5 Percent Annually

Tax displacement	Tax rate	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<i>Taxes paid by years^a</i>											
None.....	\$4.50	\$2.25	\$2.36	\$2.48	\$2.60	\$2.73	\$2.87	\$3.02	\$3.17	\$3.32	\$3.49
55 percent.....	2.02	1.01	1.06	1.12	1.17	1.23	1.29	1.36	1.42	1.50	1.57
75 percent.....	1.12	.56	.59	.62	.65	.68	.72	.75	.79	.83	.87
<i>Holding costs including taxes and 6 percent interest on \$100 by years^b</i>											
None.....	\$4.50	\$8.25	\$8.36	\$8.48	\$8.60	\$8.73	\$8.87	\$9.02	\$9.17	\$9.32	\$9.49
55 percent.....	2.02	7.01	7.06	7.12	7.17	7.23	7.29	7.36	7.42	7.50	7.57
75 percent.....	1.12	6.56	6.59	6.62	6.65	6.68	6.72	6.75	6.79	6.83	6.87
<i>Holding costs including taxes and 6 percent interest on \$100 compounded and cumulated^c</i>											
None.....	\$4.50	\$8.25	\$17.10	\$26.61	\$36.81	\$47.75	\$59.48	\$72.07	\$85.56	\$100.02	\$115.51
55 percent.....	2.02	7.01	14.49	22.47	30.99	39.99	49.68	60.03	71.04	82.80	95.35
75 percent.....	1.12	6.56	13.54	20.97	28.89	37.30	46.26	55.79	65.92	76.70	88.18

^a Taxes in year N = taxes in (N-1) (1.05)
Thus taxes in year 2 = (\$2.25) (1.05) = \$2.36
And taxes in year 3 = (\$2.36) (1.05) = \$2.48

^b Taxes plus \$6.00
^c Initial year costs when N = 1 = taxes plus interest
Then cumulated costs in year N = cumulated costs in (N-1) 1.06 + costs in N
Thus cumulated costs in year 2 = \$8.25 (1.06) + \$8.36
= \$8.74 + \$8.36
= \$17.10
And cumulated costs in year 3 = \$17.10 (1.06) + \$8.48
= \$18.13 + \$8.48
= \$26.61

nature of the market for land involved in the development process and to comment further on the reaction of decision makers to this market. From such an analysis an appreciation of the impact of changes in tax law on holding costs and land values can be gained, which is the purpose of this section.

Let us begin by assuming that land is worth \$500 per acre for use in farming. As the city expands, the price increases to \$3,500 per acre, and \$6,500 is spent developing approximately two and one-half serviced lots resulting in a hypothetical selling price of approximately \$10,000 per acre. The speed or velocity at which such a price change occurs will vary depending upon the width of the rural-urban fringe and other factors. The price change may occur swiftly, or the price profile may be rather steep if development is compressed in a

narrow band around the city. The profile may be more gently sloping if development covers a wider area. The width of the development fringe and the rate of the development process, both varying widely within and among urban areas, determine the profitability of holding land for speculative purposes. The highest profit rates are associated with rapid development on a narrow fringe area.

If we are given an initial land price, interest charge, and tax rate we can calculate the effects of tax displacement on an investment in development property.

In Table 23, the effects of property displacement on an investment in development property are simulated by taxes increasing 5 percent annually during a ten-year period with no displacement, 55 percent displacement, and 75 percent displacement. An investment of \$100 is

assessed at 50 percent of market value and a tax rate of \$4.50 per \$100 assessed value is assumed for no displacement (near medians in Tables 11 and 12). Then taxes paid, holding costs by years, and holding costs compounded and cumulated can be compared for years from one to ten.

In Table 24, with holding costs discounted at 6 percent, and sale values discounted at zero, 6 percent, and 12 percent, effects are again compared for no displacement,

55 percent, and 75 percent displacement. The discounting of sale values may be visualized as representing the position of investors or speculators discounting the future by zero, 6 percent, or 12 percent annually.

In Table 25, annual increases in sale values are set equal to holding costs discounted at 6 percent and 12 percent and these data are diagrammed in Figure 3. The two sets of curves in Figure 3 rising slowly from years one to ten depict the percentage increases in sale

Table 24. — Holding Costs and Sale Values Discounted Under Property Tax Displacement on \$100 Investment Assessed at 50 Percent With Tax Increasing 5 Percent Annually

Tax displacement	Tax rate	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<i>Holding costs including taxes and 6 percent interest on \$100, discounted at 6 percent and cumulated^a</i>											
None.....	\$4.50	\$7.78	\$15.22	\$22.34	\$29.16	\$35.68	\$41.93	\$47.93	\$53.68	\$59.20	\$64.50
55 percent.....	2.02	6.61	12.90	18.87	24.55	29.88	35.02	39.92	44.57	49.01	53.24
75 percent.....	1.12	6.19	12.05	17.61	22.88	27.87	32.61	37.10	41.36	45.40	49.24
<i>Sale value equal to holding costs including taxes and 6 percent interest on \$100, discount at 6 percent and cumulated^b</i>											
None.....	\$4.50	\$107.78	\$115.22	\$122.34	\$129.16	\$135.68	\$141.93	\$147.93	\$153.68	\$159.20	\$164.50
55 percent.....	2.02	106.61	112.90	118.87	124.55	129.88	135.02	139.92	144.57	149.01	153.24
75 percent.....	1.12	106.19	112.05	117.61	122.88	127.87	132.61	137.10	141.36	145.40	149.24
<i>Sale values, discounted at 6 percent, equal to holding costs including taxes and 6 percent interest on \$100, discounted at 6 percent and cumulated^c</i>											
None.....	\$4.50	\$114.25	\$129.46	\$145.71	\$163.06	\$181.58	\$201.34	\$222.44	\$244.95	\$268.97	\$294.60
55 percent.....	2.02	113.01	126.85	141.57	157.24	173.82	191.54	210.40	230.43	251.75	274.44
75 percent.....	1.12	112.56	125.90	140.07	155.14	171.13	188.12	206.16	225.32	245.65	267.27
<i>Sale values, discounted at 12 percent, equal to holding costs including taxes and 6 percent interest on \$100, discounted at 6 percent and cumulated^d</i>											
None.....	\$4.50	\$120.71	\$144.53	\$171.88	\$203.23	\$239.11	\$280.14	\$327.03	\$380.51	\$441.48	\$510.92
55 percent.....	2.02	119.40	141.62	167.00	196.98	228.89	266.50	309.32	357.96	413.22	475.95
75 percent.....	1.12	118.93	140.56	165.23	193.35	225.35	261.75	303.09	350.01	403.21	463.52

^a Initial year costs when N = 1 = \$8.25 ÷ 1.06 = \$7.78
 Then cumulated costs in year N = cumulated costs in (N-1) + costs in N ÷ (1.06)^N
 Thus cumulated costs in year 2 = \$7.78 + \$8.36 ÷ 1.1236 = \$7.78 + \$7.44 = \$15.22
 And cumulated costs in year 3 = \$15.22 + \$8.48 ÷ 1.1910 = \$15.22 + \$7.12 = \$22.34
^b Holding costs discounted and cumulated plus \$100.

^c Sale value in year N = Initial investment plus holding costs discounted and cumulated times (1.06)^N
 Thus sale value in year 1 = (\$100 + \$7.78) (1.06) = (\$107.78) (1.06) = \$114.25
 And sale value in year 2 = (\$100 + \$15.22) (1.06)² = (\$115.22) (1.1236) = \$129.46
^d Sale value in year N = Initial investment plus holding costs discounted and cumulated times (1.12)^N
 Thus sale value in year 2 = (\$100 + \$15.22) (1.12)² = (\$115.22) (1.344) = \$154.53
 And sale value in year 10 = (\$100 + \$64.50) (1.12)¹⁰ = (\$164.50) (3.1059) = \$510.92

Table 25. — Annual Percentage Increases in Sale Values Equal to Holding Costs Including Taxes and Interest at 6 Percent on \$100, Discounted at 6 Percent and at 12 Percent and Cumulated

Tax displacement	Tax rate	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<i>Sale value discounted at 6 percent minus initial investment divided by the number of years^a</i>											
None.....	\$4.50	14.2	14.7	15.2	15.8	16.3	16.9	17.5	18.1	18.8	19.5
55 percent.....	2.02	13.0	13.4	13.9	14.3	14.8	15.3	15.8	16.3	16.9	17.4
75 percent.....	1.12	12.6	13.0	13.4	13.8	14.2	14.7	15.2	15.7	16.2	16.7
<i>Sale value discounted at 12 percent minus initial investment divided by the number of years^b</i>											
None.....	\$4.50	20.7	22.3	24.0	25.8	27.8	30.0	32.4	35.1	37.9	41.1
55 percent.....	2.02	19.4	20.8	22.3	24.2	25.8	27.8	29.9	32.2	34.2	37.6
75 percent.....	1.12	18.9	20.3	21.7	23.3	25.1	27.0	29.0	31.3	33.7	36.4

^a Percent increase in year 1 = 14.25 or 14.2 from Table 24.
 Then percent increase in year N = (sale value in year N - \$100) ÷ N
 Thus percent increase in year 2 = (\$129.46 - \$100.00) ÷ 2 = \$29.46 ÷ 2 = \$14.73 or 14.7
 And percent increase in year 3 = (\$145.71 - \$100.00) ÷ 3 = \$45.71 ÷ 3 = \$15.23 or 15.2
^b Percent increase in year 1 = 20.71 or 20.7 from Table 24.
 Thus percent increase in year 2 = (\$144.53 - \$100.00) ÷ 2 = \$44.53 ÷ 2 = \$22.26 or 22.3
 And percent increase in year 3 = (\$171.88 - \$100.00) ÷ 3 = \$71.88 ÷ 3 = \$23.96 or 24.0

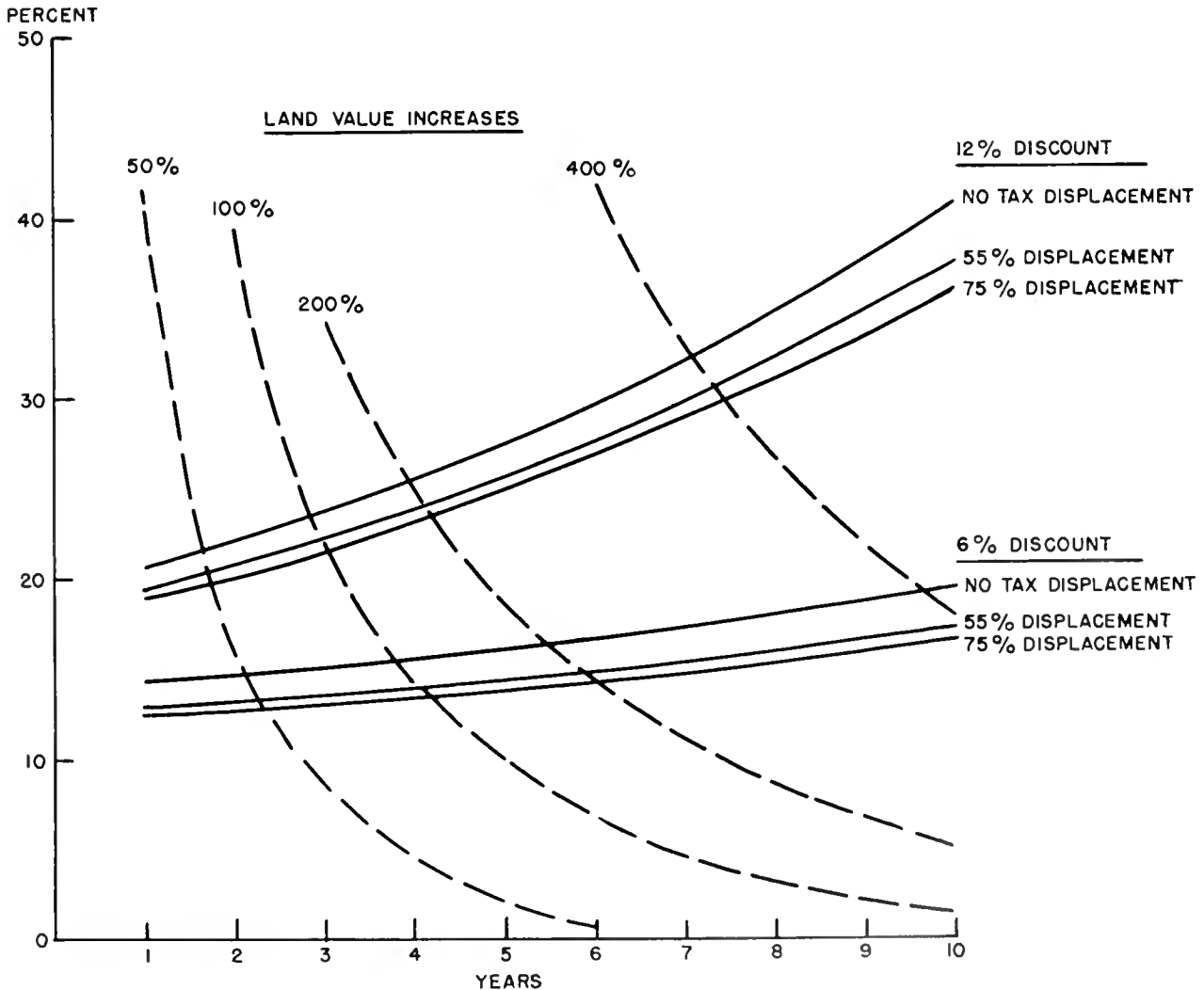
values to equal discounted holding costs. The inference is that the longer land is held the higher must be the anticipated rate of price appreciation for a speculator to purchase development property.

Given an assumption of property values increasing by 50 percent, 100 percent, 200 percent, or 400 percent, curves can be drawn as in Figure 3 through points describing the annual discounted percentage increases required to obtain such property value increases. If property values are to increase by 100 percent in two years, an annual discounted increase of 39 percent is required, in four years an annual discounted increase of 14.6 percent is required, in six years an annual discounted increase of 6.8 percent is required, and so on. To increase values by 200 percent in four years, an annual discounted increase of 24.8 percent is required.

The intersection of the two sets of lines indicate the interaction among anticipated price increases, holding costs, and ownership periods. The general inference from the diagram is that, although the differences in

tax rates are large, the assumptions concerning property appreciation in the development process are such that they swamp the effects of property tax displacement. Figure 3 may suggest that the speculator who anticipates that a property will double or triple in value in three or four years will be only marginally affected by property tax displacement. The higher the rate of appreciation anticipated the less will be the effect of property tax displacement.

Of course, reduction in holding costs due to tax displacement will be capitalized into current land values. Thus, at the time the tax law is changed land values will increase and we can identify the nature of these effects. The reductions in holding costs from property tax displacement are equivalent to increases in net income to the land holder less effects of increases in other taxes. Therefore, such reductions can be capitalized into land values and expressed as marginal increases in value. Given the \$100 investment, how much will land



Annual discounted percent increase associated with selected overall price increases necessary to offset capital and real estate tax costs. (Fig. 3)

values appreciate as a result of tax displacement, if all other factors remain the same?

In Table 23, taxes paid on the \$100 investment initially decline by \$1.24 with the 55-percent displacement (\$2.25 less \$1.01). If \$1.24 is capitalized at 5 percent (\$1.24 divided by 0.05) the gain in land value or windfall is \$24.80, a gain of one-fourth. If \$1.24 is capitalized at 6 percent the windfall is \$20.67, approximately one-fifth. At 7 percent the windfall is \$17.71. At 8 percent it is \$15.55, and so on.

Capital gain or windfall varies directly with the magnitude of tax displacement and inversely with the rate at which such gain is capitalized. If land values appreciate proportionately to the assumed tax increase (5 percent annually) then the windfall from tax displacement will remain a constant percent of land value. If the rate of increase in land values is greater than the rate of increase in tax liabilities, as is the usual case in fast-developing properties due to the lag in revision of assessments, then the windfall gain will be a declining proportion of land value. In the opposite case when tax liabilities increase at a more rapid rate than land values, the effect of a tax displacement will be increasing in terms of the proportion of land value. A displacement of \$1.24, for example, is more significant on a \$100 property that has not appreciated in value than on the same property that has doubled in market value but not in assessed value.

The general conclusion is that tax displacement will cause property values to appreciate through reduction of holding costs. The magnitude of such appreciation can be calculated, given the market and assessed values, the tax change, and the discount rate. Generally, the effects of the tax displacement will be of lesser influence in the market for development properties than in land that continues in a given use, such as farming. In either case, effects on the decision of speculators are marginal. The volume of speculation in the market does not change as a result of displacement once the change in costs has been capitalized. Speculation is a function of change in land values, not of level of values. The market will adjust to the tax changes assumed; no dramatic change in speculative behavior should be expected.

It should be recognized that some speculative activity may occur in anticipation of the tax displacement. This would be an attempt by the speculator to capture the windfall gains generated. There is no reason to expect that this activity would be concentrated in developing areas.

Impact of Alternative Tax Options

Except for the nominal real estate transfer tax of 50 cents for each \$500 value of real estate transferred, in which the state sells revenue stamps to counties for 25 cents per \$500 of real estate transferred, sales taxes

are not levied on real estate transactions in Illinois; and, unless land transfer is made subject to the sales tax, increases in profits from holding land will not be altered substantially by increasing the sales tax. Any reductions in property taxes will accrue to the property owner as a windfall gain as noted.

Increases in the state or federal income tax, in contrast to the sales tax, have quite complex effects due to the wide variety of circumstances and options under which these taxes are calculated. That is, with prudent tax planning, the investor will not be liable for the full federal capital gains tax nor the state income taxes on the increased value. The property can be traded for other property, or the proceeds of the sale used to purchase like income-producing property so that these taxes can be avoided. The income from the sale can be invested in depreciable property and thus converted into tax-free income. A variety of other options are open to the investor, ranking from complex solutions to simple income averaging. Therefore, any estimate of impacts based on assumed conditions, while valid in terms of those conditions may not be generalizable.

However, two effects of substituting income taxes for property taxes can be discussed. One is on the investor during the period of ownership, the other is at the time of sale. During the period of ownership the owner will experience a decrease in real estate tax liability. To the extent that taxable income is increased, as is shown for example in Table 23, there will be an increase in income taxes paid, partially offsetting the decrease in property tax.

The other impact at the time of sale occurs if federal taxes on capital gains and state income taxes are not avoided by one or more of the strategies noted above. If the tax is fully paid this shifts the set of curves depicting gross percentage increases in Figure 3 slightly downward. For example, the 30.33 percent annual increase obtained in the sale of land for 400 percent of purchase price after six years of ownership will be reduced to 28.72 percent by imposition of a 2½-percent state income tax on the total price appreciation. If sales taxes are imposed on land transactions the results will be generally similar to increases in income taxes.

Conclusion: Effects of Tax Displacement on Land Conversion


Although the land conversion and development process is complex and sometimes unsystematic in nature, both in terms of the institutional framework underlying the process and in terms of the economic aspects, several conclusions can be drawn. The real estate tax displaced by 55 percent to 75 percent as illustrated in this study will increase the profitability of land holding by reducing the carrying costs. The magnitude of the price changes are such that the marginal change in holding costs may be swamped by other factors affect-

ing the decision of the speculator such as the degree of uncertainty existing in the market. The reduction in tax liability will lessen the pressure on farm operators owning land in the rural-urban fringe to sell in avoidance of increasing taxes. But increases in land prices will make such sale more immediately attractive.

In the process of land conversion the displacement of the property tax by non-property tax options will generally enhance the position of current land owners. If the sales tax is not applied to property transactions the full gain will normally accrue to property owners. This gain can be dampened somewhat, and land price increases marginally restrained, by use of one or more of the income tax options or by applying the sales tax to land or property transactions. An increase in income tax or a sales tax on property transfer would be only

partially offsetting, however. Immediately or in the long run, it can be concluded that current owners of land will experience windfall gain in displacement of the property tax by options considered in this study.

In conclusion, the general hypothesis is not rejected. If the local property tax for schools is displaced by increases in other taxes there will be gains in equity and efficiency both in the tax system and in support for schools. The tax system will be made more uniform among taxpayers in similar income and family situations. Support for schools can be equalized upward among school districts as recommended in responsible studies and court decisions. School tax options in this study are examples that offer important gains in equity and efficiency to agriculture and the general economy.



“... Our first wish is that all men should be educated fully to full humanity; not only one individual, nor a few, nor even many, but all men together and single, young and old, rich and poor, of high and lowly birth, men and women — in a word, all whose fate it is to be born human beings; so that at last the whole of the human race may become educated, men of all ages, all conditions, both sexes and all nations. Our second wish is that every man should be wholly educated rightly formed not only in one single matter or in a few or even in many, but in all things which perfect human nature . . .”

Johann Amos Comenius (Jan Amos Komenský), *The Pampaedia*, 1650.



UNIVERSITY OF ILLINOIS-URBANA
Q.630.71L6B
BULLETIN. URBANA
744 1973

C008



3 0112 019530978