Michigan’s
Fiscal and Economic Structure

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Property Tax Reduction in Michigan
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INTRODUCTION

In the past few years, there have been numerous attempts to limit state and local government spending and taxes. The most famous of these, Proposition 13 in California, passed by an almost two-to-one margin and reduced property taxes about $7 billion. At the present time, limitations of one sort or another are in effect in sixteen states, seven of which apply specifically to property taxes.

It is perhaps no coincidence that the most successful attempts to limit taxes have focused on the property tax. Widely recognized in opinion polls as the most unpopular tax in the land, the property tax fell into even greater disfavor in the 1970s. With residential property values increasing at a rate higher than the rate of inflation, property value assessment increases have become a matter of grave concern for many taxpayers. While these increases may have acted as catalysts for the proliferation of property tax relief plans in the 1970s, the public's dissatisfaction with the property tax may run deeper.

Is the public's apparent desire for property tax relief related solely to the tax itself? Current evidence suggests an alternative point of view. The property tax serves as a useful outlet for individuals' frustrations arising from a number of factors unrelated to the tax itself—declining real incomes, unemployment and so on. Why focus on the property tax? First, the tax is the primary source of revenue for local expenditures which provide services such as fire, police and education—services which directly affect individuals on a regular basis. Frustration about
the quality of public services may be directed against the revenue source which finances those services--the property tax. Second, the tax is authorized through a series of referenda. In many communities these property tax-service referenda provide the only direct outlet through which individuals can express their preferences. Third, the tax is often paid up-front, in a few large payments, rather than being withheld from individual pay checks. Even the use of bank escrow accounts does not fully eliminate the effect caused by relatively direct payment of the tax.

Is there anything special about Michigan that suggests it ought to be the focus of a tax-relief program? Unlike California, the Michigan state government has not used increases in assessed values to obtain higher taxes and a large government surplus. Increases in assessments have been slow relative to the recent California changes. And while property tax levies roughly doubled during the 1972 to 1979 period, the amount of state and local property taxes per $1,000 of state personal income steadily declined from $53 to $44, a 17 percent decrease. Examination of some national figures does not provide the answer to our question. A 1980 ACIR study reveals that in 1978 the amount of state and local property taxes paid per $1,000 of state personal income in Michigan was only 5 percent above the national average. Also, in Michigan in 1978, the property tax comprised 36.5 percent of all state and local taxes, while the national average was only slightly lower at 34.3 percent. Michigan taxes are higher than average, but not unusual in their magnitude. In fact, these figures are misleading, since they exclude the benefits from Michigan's property tax relief, or circuit-breaker program, one of the most extensive programs of its kind in the country. In 1979 for example, benefits of the circuit-breaker in Michigan equalled 9.5 percent of all property tax collections (ACIR 1980).

All of this evidence suggests that Michigan's property tax system is not very different from that of other states.
Why the apparent desire for tax reduction? Perhaps one answer lies in the residential portion of the property tax. Between 1971 and 1980 taxes on residential properties measured in current dollars rose about 2.5 times. And residential taxes per capita rose at a faster rate (150 percent) than average per capita personal income (133 percent). While these trends were moderated by the circuit-breaker system, the increase in two-earner households and in younger workers may cause our income per capita measure to overstate the growth of average homeowner income.

Whatever the reason however, there is a clear sentiment among many citizens that property tax reductions would be desirable. For some this sentiment is based on the belief that cuts in government expenditures can be made with little or no loss in real output. For others, however, real cuts in expenditures are expected and are desirable. Our objective here is not to answer the questions of why or whether cuts are desired and whether they really make sense at this time. Rather, we will take as given that property tax reductions are to be made, and we will ask, what are the advantages and disadvantages of making cuts in a number of different ways.

Before proceeding with the detailed analysis of alternative tax cut plans, some additional information will prove useful. In the next section we briefly review and characterize tax relief plans that have been in effect in other states, as well as the Michigan circuit-breaker. We will see that tax relief is not a new idea. Following this, in the third section, we begin the analytical portion of the chapter by discussing the set of criteria that one might use to evaluate property tax relief plans. Our focus will be on the distributional consequences of various plans, but other criteria are worthy of serious consideration as well. In the fourth section, we utilize data from a sample of 2,000 Michigan individuals in 1978 to analyze a set of reasonable tax reform plans. The fifth section describes the problem of program participation and how it can be improved, while
the last section contains some concluding comments.

TAX RELIEF PROGRAMS IN MICHIGAN AND OTHER STATES

Property Tax Relief in Other States

Homestead exemptions and credits are the most prevalent form of property tax relief. In 1979, homestead credits or exemptions were administered in thirty-seven states and the District of Columbia (Gold 1979). In eight of those states and the District of Columbia, benefits are not related to age. Approximately half of the remaining states only distribute benefits to senior citizens, while in the other half, nonelderly person households receive exemptions which are less than those received by senior-citizen households.

Most homestead credits are given either for the tax on a certain number of dollars of assessed valuation or a certain number of dollars of tax. However, several states have enacted credits which pay a certain percentage of property tax liability, sometimes up to a maximum amount.

Another widespread form of property tax relief is the circuit-breaker. As of mid-1979, twenty-eight states and the District of Columbia had circuit-breaker programs (Gold 1979). Most programs are only for elderly households, although nine cover nonsenior-citizen households. In addition, benefits from existing programs are skewed in favor of households with relatively low income. The four largest circuit-breakers in the country are in Minnesota, Oregon, Michigan, and Wisconsin. In 1979, these programs had per capita expenditures of $47.22, $36.32, $35.79 and $19.77 respectively (Gold 1981).

Deferral programs represent another type of relief. These programs enable homeowners to postpone all or part of their tax liability until they sell their home or die. At least eight states and the District of Columbia have deferral programs. Benefits in these programs are limited to the elderly.

One more important type of property tax relief involves
limits on the annual increase of assessed values. By now, such limitations are in effect in seven states. The original intent as well as the design of these limitations vary greatly from state to state.

**The Michigan Circuit-Breaker (Homestead Property Tax Credit)**

The Michigan circuit-breaker provides an income tax credit to all property taxpayers who qualify regardless of their age, income or homeownership status. Program benefits are determined using a threshold approach which defines an acceptable tax burden as being 3.5 percent of household income for most taxpayers. Sixty percent of property tax payments beyond this level are refunded by the state to the taxpayer, up to a maximum of $1,200. For people aged sixty-five and over, 100 percent of the taxes paid over the threshold percentage of income are rebated up to a $1,200 maximum. Those elderly households with incomes less that $6,000 are assigned threshold percentages of 0, 1, 2, 3, depending on whether they have incomes in the $0-$3,000, $3,000-$3,999, $4,000-$4,999, or $5,000-$5,999 range. The handicapped and blind, some veterans and farm owners face different formulas. The state assumes that 17 percent of rent paid is the portion that goes to property taxes, so that renters substitute 17 percent of rent for taxes when calculating their credit.

Taxpayers must file a separate form with their Michigan state income tax returns in order to receive the circuit-breaker refund. Despite the need to file a separate form, over 1,330,000 Michigan residents received a total of over $380,000,000 in program benefits in 1979. Moreover, the average benefit to those who receive credits in Michigan is the third highest in the country. From 1975 to 1979, the average benefit to the general taxpayer successfully filing for a credit increased from $144.02 to $232.27. In the senior-citizen category, average benefits increased from $274.08 to $420.53 over the same period.
CRITERIA FOR EVALUATION OF TAX RELIEF PROGRAMS

In this section, we list and discuss a set of criteria for use in evaluating the various property tax relief plans. First, the tax relief program should be structured and administered so that it facilitates public understanding and maximum participation. Second, we must consider the fiscal implications of the various proposals. Assuming that a plan is meant to obtain relief for a targeted group in the population, the costs of the various plans in terms of foregone tax revenue will be very important. Comparing two programs which yield the same targeted benefits, the one with the smaller budgetary cost is preferred. In addition, the administrative cost associated with a given plan will be relevant to the decision maker. Plans which are difficult to administer may be dominated by "more expensive" plans that are administratively more manageable.

Third, we will want to judge the effects of the plans on equity, both horizontal and vertical. While horizontal equity with respect to income cannot be achieved with a tax on housing, it is still meaningful to ask whether identical properties are assessed equally. Such a measure of "horizontal equity" might also involve equal "effective tax payments" by renters in similar situations. Vertical equity entails consideration of income distributional effects.

We will see that for many tax reduction plans the goals of horizontal and vertical equity may conflict. For example, a plan which gives a lower assessment to an elderly low income individual will be horizontally inequitable, but progressive in terms of vertical equity. To the extent that there is a choice, we consider vertical equity to be the more important of the two. Thus, we will analyze plans to ascertain whether they have progressive, proportional, or regressive effects on the tax system as a whole. Because individuals often differ about the desirable distributional consequences of a tax system, we will avoid any normative judgments about distribution. We should point out that equity judgments are difficult here because for certain
taxpayers income and net worth may not be closely related. Thus, an individual with a low income but owning an expensive house will be viewed as paying a high percentage of current annual income in property taxes, whereas the ratio of property taxes to wealth will be substantially lower. Because of data limitations we will concern ourselves solely with equity as measured in relation to current income. In addition, there may be a limit to the amount of redistribution that can be accomplished at the state and local levels, given the incentives to households to move into low-taxing areas and out of high-taxing areas.

A fourth criterion is whether the program does benefit targeted groups such as the poor and the elderly. Finally, the effects of the plans on various classes of property (residential, commercial, industrial, farm, etc.) can be important. Unless otherwise indicated, a property tax structure which is balanced in terms of its treatment of different classes of property is desirable. For example, one benefit of a plan might be its ability to avoid a shift of the property tax burden from business onto homeowners.

ANALYSIS OF TAX-REDUCTION PLANS

Coverage of the Study

In our analysis we consider the current Michigan homestead property tax credit (circuit-breaker) along with a series of alternative tax reduction plans. In each of the cases under consideration it is possible and often desirable to target some of the benefits of the plan to special groups, such as renters and the elderly. The current homestead credit does both. However, in the interests of making our points clear and concise, we have chosen to focus our detailed analysis on the benefits that accrue to homeowners. We find further justification for not giving separate consideration to renters in our simulation analysis in the fact that renters do not receive a significant part of current benefits. According to Robert Kleine, Director of the Office of Revenue and Tax Analysis in the Michigan
Department of Management and Budget, renters receive somewhere between 6.2 and 6.6 percent of current benefits.

While we have no benchmark figure for determining the share of benefits which they deserve, renters seem to be shortchanged by the operation of the current system. Much of this problem may be a result of lower participation rates among renters. Data from our survey suggest that there may be a large discrepancy between homeowner and renter participation rates. Of those renters in our sample who were eligible for property tax credits of $1 or more, only 13.8 percent said they filed for their credit, while 59.4 percent of homeowners eligible for credits of $1 or more reported filing (Rubinfeld and Wolkoff 1980). Thus, a successful restructuring of the present program might do much to increase the renters’ share of circuit-breaker benefits. Benefits to renters might also be enhanced by raising the proportion of rent which renters can claim to pay in property taxes. In fact, early in 1981, Governor Milliken was backing a similar proposal which included a provision for raising the amount of rent which could be claimed as property tax from 17 percent to 25 percent.

We consider the adequacy of renter subsidies to be important both on efficiency and on equity grounds. The efficiency issue is important because the current program (with little in the way of renter benefits) is likely to bias individual housing decisions away from renting and towards owning a home. The equity issue is also important, since renters tend to have lower incomes and are thus often ill-equipped to handle the burden of the property tax shifted onto them by landlords. Clearly, the distributional impact, and the progressivity in particular, of each of the plans to be discussed can be improved substantially with special targeting plans, and as we see it, there is little difference among these programs in the administrative problems that might arise were such targeting to be pursued.

**Participation in the Michigan Circuit-Breaker**

Our analysis of the Michigan property tax circuit-
breaker and various other tax relief alternatives uses survey data collected in November and December of 1978. The principal advantage of using these survey data rather than Treasury Department data in order to simulate the effects of various tax relief plans is that they enable us to study those households not receiving benefits which are nevertheless eligible to receive them. State data are taken from individual tax returns, so that those who did not file for the property tax credit are excluded from the sample. While suitable for the purpose of describing those that take part in the program, it provides no information about those not reached by the program.

Based on a sample of homeowners, we have estimated that while 59.4 percent of households eligible for property tax credits file for those credits, only 45.7 percent of eligible households with incomes less that $8,000 filed. (The corresponding number in the highest income group was 66.2 percent.) Hence, we have reason to believe that because of incomplete filing, the circuit-breaker program, which might have had a substantial redistributive effort down the income ladder, may even operate in the opposite direction. At the very least, the redistribution which actually takes place is less than that which would have taken place if all eligible households had participated in the program.

Theory

The plans that we wish to consider include the following basic options:

a. The homestead tax credit as currently used in Michigan.

b. The elimination of the homestead credit.

c. An equal dollar tax credit to all homesteads.

d. An equal assessment exemption to all homesteads.

e. An equal percentage tax cut to all households paying the property tax.
The number of plans to be considered is not limited to five, however. One reason is that any of plans c, d, or e can be implemented with the current homestead tax credit in place, or with the homestead credit removed. We will see that this choice can have substantial impact on the final distributional effects of the tax reduction scheme. A second reason is that the current homestead credit can be substantially improved in its distributional impact if the participation rate is improved. We will pursue this point in more detail later; for the moment, we will analyze all plans under the assumption that full participation occurs. This assumption most likely overstates the degree of progressivity resulting from any plan, but the bias is likely to be greatest for the current system in which participation is a serious problem.

The five types of plans listed appear to be quite distinct in their focus and presumably in their impact. However, their similarities should not be underestimated. A somewhat technical but useful way to see their similarities is to view each plan as a special case of a general plan which gives tax credits to individuals according to the following formula:

\[
\text{CREDIT} = \text{Minimum} \left( a (tAV - bY), L \right)
\]

where,

\( t \) = nominal millage rate on property (including all property tax sources),

\( AV \) = state equalized assessment on individual homestead,

\( tAV \) = property taxes paid (rate times base),

\( Y \) = household income,

\( a \) = credit rate, measuring the percentage of the excess of tax liabilities over income to be given as a credit,
b = income exemption rate, determining the percentage of income to be exempt from the credit allowance,

L = limit, the maximum tax credit allowable.

Thus, a, b and L are the parameters of the tax-credit formula that can be varied legislatively to select among alternative plans. Each of these three policy parameters may be chosen to be constant, or may vary with age, income, housing tenure, or other characteristics of households or houses.

How does such a relatively simple formula cover all of the possible tax reduction plans? Consider the five choices outlined above.

Plan a, the homestead tax credit is chosen by setting \( a = 0.6 \), \( b = 0.35 \), and \( L = $1,200 \), for the nonrenter, nonelderly population. Plan b, the elimination of the homestead credit, is simply chosen by setting \( a = 0 \).

Plan c, an equal dollar credit to all households, is chosen by setting \( a = 1 \), \( b = 0 \), and \( L = \) the dollar value of the credit to be given. In this case, the actual credit will be \( L \) or the tax liability, whichever is lower. The equal assessment exemption is somewhat different from the equal dollar credit, because tax rates vary among jurisdictions. The equal assessment exemption is achieved by setting \( a = 1 \), \( b = 0 \), and \( L = \) exemption \( \times t \). Finally, the equal percentage tax cut is achieved by setting \( b = 0 \) and \( a = \) the desired tax cut percentage. This plan may or may not involve an effective limit, \( L \).

To reiterate, all tax reductions involve choices among three parameters, and all are within the legislature's power to control. Our simulation analysis of alternative plans will consider changes in each of the three policy parameters, much as our analysis here has done.

Analysis

Having established a general formula for viewing various types of property tax relief plans, we proceed to
our analysis of several important special cases of that formula. In order to analyze the advantages and disadvantages of these plans relative to our criteria, we first need to discuss reasonable summary measures of their effects.

First, we need a means by which to gauge the vertical equity (income-distributional consequences) of the various plans. To focus on the income regressivity of the property tax, we calculate the income elasticity of the ratio of property taxes paid net of rebates/credits provided for in the relief plan. Specifically, the elasticity, \( \Theta \), is defined as follows:

\[
\Theta = \frac{d[(T-R)/Y]}{dY} \times \frac{\bar{Y}}{\bar{(T-R)/Y}}
\]

where \( T \) represents reported property taxes paid (annually), \( Y \) is household income, and \( R \) is our calculated estimate of relief that would be provided if the individual were to participate in the given plan. \( \Theta \) is calculated from a multiple regression using cross-sectional data from our survey. A multiple regression calculation is necessary because we have information about the relationship between tax payments and income for over 1,000 individuals. Since the relationship is not an exact linear one for all individuals, we calculate \( \Theta \) by fitting the best line which relates the percentage of income paid in property taxes to income itself. The summary measure turns out to be equal to -0.366 in Michigan if we do not take into account circuit-breaker benefits.

By construction, \( \Theta \) has the property of being equal to zero when property taxes paid (after tax relief) are proportional to income, greater than zero when the system is progressive, and less than zero when the system is regressive. Thus, using current income as our income measure, we determine that the current tax system is regressive. However, the program becomes less regressive when we incorporate the effects of the circuit-breaker. Any
tax credits given under the circuit-breaker are deducted from current property tax liabilities before a new summary measure is calculated. With a circuit-breaker and full participation, the new measure of -0.168 is less negative than before, and shows, therefore, that the tax system is less regressive.

As a measure of the cost of the various programs in terms of foregone tax revenue, we calculate the average benefit provided by each plan. These average benefit figures are each related to the cost of the current circuit-breaker program (assuming full participation) by means of a cost index set equal to 1.00 for the current formula. In doing our analysis, we group the relief plans based on cost and compare alternatives which involve approximately equal revenue losses.

Besides vertical equity and program cost, benefits to targeted groups are an important consideration. Accordingly, in our table of summary statistics we report the average benefit to the elderly from the various relief plans. In addition, we report the average absolute benefit and relative share of total benefits by income group.

Now we are in a position to discuss the effects of various property tax relief alternatives, each of which is briefly described in Table 17.1. We note first that the current circuit-breaker formula also provides for substantial benefits to the elderly. While we calculate the average benefit to all homeowners to be $152.92, based on data from the 1978 survey, the average benefit to those sixty-five and older is more than twice that, $345.65. Those in the lowest income group (\(Y < 8,000\)) also do very well under the current circuit-breaker formula. While they comprise only 11.5 percent of our sample of homeowners, they receive over 21 percent of the benefits. Thus, the current circuit-breaker program, if fully taken advantage of, would significantly reduce the regressivity of the property tax and accrue substantial benefits to the poor and the elderly.

As we explained above, however, these figures can be
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<thead>
<tr>
<th>TAX RELIEF PROGRAM</th>
<th>θ</th>
<th>AVERAGE BENEFIT</th>
<th>COST INDEX</th>
<th>AVERAGE BENEFIT TO THE ELDERLY</th>
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<td>PLAN 1 Status quo circuit-breaker:</td>
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<td>60% rebate of Taxes paid over 0.025Y up to $1,200</td>
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1Our simulation assumes 100% participation in the circuit-breaker program.
misleading because they assume full participation in the program. Unfortunately, a big drawback to the current program is that participation is well below its maximum. Thus, the actual reduction in income regressivity under the present system might be much less than that under a system in which rebates were more or less automatic. Later in the chapter we discuss alternative plans for making rebates easier to obtain than they are presently.

First, we compare several plans which cost 40-50 percent more than the current system would if there were full participation, i.e., plans whose cost indexes are in the range of 1.40 to 1.45. These plans include modifications in the circuit-breaker formula, a 25 percent cut in operating millage coupled with elimination of the circuit-breaker, a $225 homestead credit combined with elimination of the circuit-breaker, and a $5,500 SEV exemption without any circuit-breaker benefits. Specifically, plan 2 involves changing the current circuit-breaker formula so that 100 percent instead of 60 percent of property taxes paid over 3.5 percent of income is rebated. The $1,200 maximum is maintained. Plan 3 lowers the threshold percentage of income paid in property taxes from 0.035 to 0.025. Thus, under plan 3, 60 percent of property taxes paid over 0.025 Y are refunded, up to a $1,200 maximum. Plan 4 provides for a homestead credit equal to 25 percent of property taxes paid with a maximum of $1,400. The circuit-breaker program is eliminated under this plan. Plan 5 involves reducing the property taxes of each household by $225 or the amount of taxes paid, whichever is less. In addition, the circuit-breaker is eliminated. Under plan 6, the circuit-breaker is eliminated and an exemption from $5,500 of state equalized assessed valuation is implemented in its place.

The effects of these plans on our measure of the income regressivity of the property tax vary widely. (See Table 17.1.) Under plan 2, we calculate \( \theta \) to be -0.091, about half of the value for the status quo and at least 50 percent
lower (in absolute value) than any of the other plans in its cost range. Thus, raising the rebate proportion from 0.6 to 1.0 substantially reduces the income regressivity of the property tax. This occurs because more lower than higher income households are eligible for credits when a 0.035 Y threshold level is established. Decreasing taxes for this "eligible" group by increasing the rebate proportion thus decreases the income regressivity of the property tax system as a whole.

While increasing the rebate proportion to 1.0 has desirable distributional effects, such a plan should be regarded with caution. The problem arises because stipulating that no property taxes beyond 3.5 percent of household income be levied amounts to giving a substantial portion of Michigan taxpayers a zero marginal tax rate. This zero marginal tax rate would remain in effect up to the point at which property taxes paid are equal to $1,200 more than 3.5 percent of the taxpayer's income. At that level, the $1,200 limit on circuit-breaker benefits would become effective.

Faced with such a situation, many taxpayers will demand at least as much in additional public services as would give them a property tax bill $1,200 above 3.5 percent of their incomes. This could create a substantial divergence between the value of public services and the cost of providing them. Whether the efficiency problem becomes worse over time as the increase in public services demanded triggers further increases in taxes depends upon whether fewer or more households are in the zero marginal tax rate range.

In addition to the efficiency problem, there is a fiscal problem of how to finance the increased public services demanded by an increasing number of taxpayers who are not required to pay for them. Thus, the cost of plans which raise the rebate proportion to 1.0 may be substantially understated by a simulation analysis which does not incorporate expenditure effects. It is worth noting that the current senior-citizen circuit-breaker
formula also provides for a rebate proportion of 1.0. Thus, raising the rebate proportion to 1.0 in the general circuit-breaker formula would not introduce a completely new phenomenon in Michigan property tax relief.

Lowering the threshold proportion from 0.035 to 0.025 increases the regressivity of the tax slightly. Lower income individuals are not as prevalent in the group of those paying between 0.025 Y and 0.035 Y in property taxes. In fact, what seems to be happening is that the greater benefits being paid to those already eligible (disproportionately lower income households) serve to offset the disproportionate increase in higher income households receiving credits due to expanded eligibility, making plan 3 only slightly more regressive than the status quo.

Plans 4, 5, and 6 all involve the substitution of homestead credits or exemptions for the current circuit-breaker program. Under each of these plans, our measure of the income regressivity of the property tax is higher in absolute value than under the present tax system (including the circuit-breaker). This probably reflects the fact that benefits under these plans are at best unrelated to income (and probably positively related to income in the case of plan 4) while benefits seem to be inversely related to income under the circuit-breaker.

The least regressive of plans 4 to 6 are the $225 homestead credit with $0 = -0.280 and the $5,500 SEV exemption with $0 = -0.272. While our results show no appreciable difference between the effects of these two plans on the income regressivity of the property tax as a whole, in theory, there is reason to believe that the two plans will have differential impacts. The $5,500 SEV exemption, while providing approximately the same overall average benefit as the $225 credit, distributes higher benefits to those with higher tax rates. To the extent that tax rates are positively (negatively) correlated with income, plan 6, the SEV exemption, should be more regressive (progressive) than plan 5, the homestead credit. In our
sample the proxy individual property tax essentially uncorrelated with income and showed no effect.

The percentage homestead credit, plan 4, is easily the most regressive of the 5 plans simulated in the 1.40 - 1.45 range. This is understandable, as under plan 4 benefits are roughly proportional to taxes paid (except for the effect of the $1,400 maximum) and taxes paid are positively correlated with income. Under plans 5 and 6 (especially 5), benefits are more or less equal between households paying different amounts of property tax.

Since the present circuit-breaker formula is especially generous to the elderly, one might also expect plans 4 to 6 to substantially worsen the position of senior citizens. This is indeed the case. While the average benefit to the elderly is $345.65 under the current formula, it is only $227.75 under plan 6, $209.46 under plan 5 and $167.22 under plan 4. These large declines in absolute benefit levels combined with cost indexes of 1.4 make for even larger reductions in the elderly's share of program benefits. For example, the elderly receive 23.7 percent of program benefits under the current program, whereas they receive only 8.2 percent of the benefits under plan 4. As plans 2 and 3, the circuit-breaker modifications, do not involve any changes in the circuit-breaker formula for seniors, the absolute level of benefits for that group is the same under those plans as under the status quo formula. However, since the total amount of benefits distributed rises, the elderly's share drops to 16.7 percent under both plans.

For much the same reason as for the elderly, plans 4 to 6 significantly reduce even the absolute level of benefits to the lowest income group from the status quo level and lag far behind the circuit-breaker reforms with similar costs. The average benefit to those with incomes less than $8,000 under the $225 credit for example, is only $204.32 as compared with $348.55 and $295.42 for plans 2 and 3 respectively. The share of total benefits enjoyed by this income group is 10.9 percent under plan 5 as compared with
### TABLE 17.2
PERCENTAGE DISTRIBUTION OF DOLLAR CREDITS BY INCOME CLASS

<table>
<thead>
<tr>
<th></th>
<th>$0-$7,999</th>
<th>$8,000-$13,999</th>
<th>$14,000-$19,999</th>
<th>$20,000-$25,999</th>
<th>$26,000 &amp; up</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLAN 1</td>
<td>21.2</td>
<td>16.9</td>
<td>18.4</td>
<td>23.3</td>
<td>20.2</td>
</tr>
<tr>
<td>PLAN 2</td>
<td>18.6</td>
<td>16.3</td>
<td>19.4</td>
<td>24.4</td>
<td>21.4</td>
</tr>
<tr>
<td>PLAN 3</td>
<td>15.5</td>
<td>14.1</td>
<td>18.6</td>
<td>25.2</td>
<td>26.7</td>
</tr>
<tr>
<td>PLAN 4</td>
<td>10.4</td>
<td>17.9</td>
<td>26.4</td>
<td>38.3</td>
<td></td>
</tr>
<tr>
<td>PLAN 5</td>
<td>10.9</td>
<td>15.3</td>
<td>21.3</td>
<td>24.7</td>
<td>27.8</td>
</tr>
<tr>
<td>PLAN 6</td>
<td>11.8</td>
<td>14.1</td>
<td>21.1</td>
<td>25.1</td>
<td>27.8</td>
</tr>
<tr>
<td>PLAN 7</td>
<td>13.3</td>
<td>13.5</td>
<td>19.5</td>
<td>26.1</td>
<td>27.6</td>
</tr>
<tr>
<td>PLAN 8</td>
<td>12.6</td>
<td>12.5</td>
<td>17.7</td>
<td>24.9</td>
<td>32.2</td>
</tr>
<tr>
<td>PLAN 9</td>
<td>13.6</td>
<td>15.2</td>
<td>20.2</td>
<td>24.7</td>
<td>26.2</td>
</tr>
<tr>
<td>PLAN 10</td>
<td>14.6</td>
<td>14.4</td>
<td>19.2</td>
<td>24.7</td>
<td>27.1</td>
</tr>
</tbody>
</table>

### TABLE 17.3
PERCENTAGE DISTRIBUTION OF HOMEOWNERS BY INCOME CLASS

<table>
<thead>
<tr>
<th></th>
<th>$0-$7,999</th>
<th>$8,000-$13,999</th>
<th>$14,000-$19,999</th>
<th>$20,000-$25,999</th>
<th>$26,000 &amp; up</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTIRE SAMPLE (N=1,277)</td>
<td>11.6</td>
<td>16.1</td>
<td>21.1</td>
<td>24.4</td>
<td>28.9</td>
</tr>
</tbody>
</table>

In order to simulate the $5,500 SEV exemption we needed a proxy for each homeowner's property tax rate. We used the ratio of reported property taxes paid to half of reported market value. Those households (56) for which ratios of reported taxes paid to half of reported market value were less than 0.005 or greater than 0.1 were not included in the simulation of the SEV exemption plans.
18.6 percent and 15.5 percent under the circuit-breaker reforms. The discrepancies are even larger for plan 4. Those with incomes less than $8,000 fare the best under plan 2 as there is no expansion of program eligibility involved. Thus, the increased benefits are distributed only to those eligible for the current circuit-breaker program and those households tend to have lower incomes.

As may be seen in Table 17.2, the middle income groups ($14,000 - $19,999 and $20,000 - $25,999) receive approximately the same share of the benefits under all of the plans simulated in the 1.40 - 1.45 cost range, although they do slightly better under plans 5 and 6. The distributional difference between the plans simulated lie in their impact on the upper and lower income groups. For example, while those in the highest income group receive 38.3 percent of the benefits under plan 4, they receive only 21.4 percent of the benefits under plan 2. Conversely, the lowest income group receives 18.6 percent of the benefits under plan 2 while receiving only 7.0 percent under plan 4.

We now move on to our analysis of four more expensive property tax relief plans. Plan 7 is another modification of the circuit-breaker formula. It provides for a 100 percent rebate of property taxes paid above 2.5 percent of income. Plan 8 cuts property taxes by 25 percent up to a $1,400 maximum and retains the current circuit-breaker program and formula. Circuit-breaker benefit calculations are based on the property tax owed after deducting the 25 percent credit. Under plan 9, each homestead is given a $225 property tax credit. In addition, circuit-breaker benefits are distributed based on the current formula using the property tax owed after the credit in the benefit calculations. Finally, plan 10 provides for a $5,500 SEV exemption and retains the current circuit-breaker formula, calculating benefits using property tax paid on the new, lower assessment figure. Thus, plans 8 to 10 correspond to plans 4 to 6 respectively, but differ in that they retain the circuit-breaker.
Assuming full participation, plans 8, 9, and 10 each cost about twice as much as the current circuit-breaker program. The reduction in property taxes attributable to the credits or exemption produces a decline in circuit-breaker costs which keeps the total cost of these plans to only twice that of the current program, compared with a cost index of at least 1.4 for plans 4 to 6 which eliminate the circuit-breaker.

Despite the reduction in circuit-breaker benefits under plans 8 to 10, retaining the circuit-breaker substantially reduces income regressivity relative to the corresponding plans analyzed above. While $\theta$ is calculated to be $-0.366$ under plan 4, it is only $-0.186$ under plan 8. Thus, retaining the circuit-breaker makes reducing property taxes 25 percent only slightly more regressive than the status quo. Under plans 5 and 6, $\theta$ is calculated to be $-0.280$ and $-0.272$ respectively, but under plans 9 and 10 it drops well below even the status quo value of 6 ($-0.109$ and $-0.093$ respectively versus $-0.168$ for the status quo).

The elderly and the lower income groups are also much better off when the circuit-breaker is retained. For example, while the cost of plan 8 is only 1.4 times the cost of plan 4, benefits to the lowest income group under plan 8 are over 2.4 times the benefits received under plan 4. Similarly, under plan 8 benefits received by the elderly are over twice as great as benefits received under plan 4. While the differences between benefits received by the poor and the elderly are less prominent in the cases of plan 5 compared with 9 and 6 with 10, they still substantial. Moreover, a large part of the added share of benefits received by low income groups when the circuit-breaker is retained is shifted away from the highest income group rather than the middle income groups.

Now consider a comparison of plans 7 to 10. Just as before, the effects of the various plans on the income regressivity of the property tax system differ substantially. Under plan 7, we calculate $\theta$ to be $-0.090$, 
about half the value of \( n \) that we obtain for plan 8. Slightly more regressive than plan 2 are plans 9 and 10 in which benefits before adding in the circuit-breaker are more or less independent of income. Overall, three of the four plans in this cost range substantially reduce the status quo level of income regressivity.

In relative terms, the elderly do not fare as well under any of the four plans as under the present system. While the elderly obtain over 23 percent of the benefits under the circuit-breaker formula, they only get 11.1 percent of the benefits under plan 7. Senior citizens command their highest share of benefits under plan 10 with 14.5 percent, still well below the status quo level. Under plans 8 and 9, senior citizens also receive approximately 14 percent of the total benefits.

In relative terms, the two lower income groups (\( Y \leq 8,000 \) and \( 8,000 < Y \leq 13,999 \)) fare best under plans 9 and 10 with respective combined shares of 28.8 percent and 29.0 percent. As expected, these groups did worst under plan 8 with a combined share of 25.1 percent. The combined share of the two middle income groups (\( 14,000 - 19,999 \) and \( 20,000 - 25,999 \)) is approximately equal under plans 7 - 10.

The **Classified Property Tax**

One type of tax relief which is frequently discussed provides for varying amounts of relief to different classes or property. This is usually accomplished by establishing different assessment ratios for different property classes, the so-called "classified property tax." Presumably, if such a tax relief program were implemented in Michigan, residential and agricultural property would receive the biggest assessment ratio reductions.

It is important to recognize that the purpose of adopting such a plan may go beyond providing tax relief. As a result, an evaluation of classification relief plans may not fit well into the analytical framework that we employed...
in looking at plans 1 to 10. However, we can employ that approach to evaluate classification as a means of providing relief to homeowners (and renters), presumably the primary goal of any of the plans currently under consideration in the legislature.

Considered as a means of providing relief to homeowners, classification is essentially equivalent to a program which reduces property tax liabilities proportionately. We see only three differences between lowering the assessment ratio on residential property under a classification tax relief plan on the one hand, and proposals like plans 4 and 8 on the other. First, for a given amount of tax relief to residential property, the classification plan is more costly because it provides benefits to other property classes as well. Second, plans 4 and 8 have a maximum tax credit which saves the state money and improves the progressivity of the plans. Third, with constitutionally mandated tax rate limits currently in effect in Michigan, a program of assessment ratio reduction could arbitrarily limit the spending of some jurisdictions while leaving others completely unaffected. On net, a tax liability reduction seems preferable to a lowering of the assessment ratio under a classification tax relief plan.

In addition to being dominated by proposals like plans 4 and 8, classification tax relief plans suffer from another important disadvantage. Like plans 4 and 9, assessment ratio reductions provide benefits which are roughly proportional to property taxes paid. Hence, those with higher incomes tend to receive higher benefits, making such plans much more regressive than any of the plans simulated other than 4 and 8.

Overall, classification appears to be an inferior means of providing tax relief to homeowners. However, there may be other reasons for considering a classified property tax system. First, such a system may be more efficient than one in which effective tax rates are the same for different property classes. Grieson (1974) argues that maximum
efficiency is achieved when those property classes which are most immobile are taxed most highly. This is true because the "deadweight loss" (as a result of reduced output) caused by the imposition of a tax is minimized when those who are least responsive to the impact of a tax are taxed at a higher rate.

This not only makes intuitive sense, but may very well be the operable effect of current assessment practice. For example, the structure of effective tax rates in Massachusetts seems fully consistent with the view that more mobile structures are afforded tax breaks by assessors. Holland and Oldman (1977) found effective tax rates on new commercial property to be substantially lower (3.7 percent) than on old commercial property (10.6 percent). Residential properties faced an average effective tax rate of 5.5 percent, somewhat less than the state average.

A classified property tax system in which commercial property is assessed at a higher rate than residential property might therefore be justified on efficiency grounds, as commercial property (other than new commercial property) is more immobile than residential property. Industrial property, perhaps the most mobile property class, currently receives large property tax breaks in Michigan as a result of generous abatement programs (such as P.A. 198). Thus, in a sense Michigan does have a classified property tax system. (Note also P.A. 116 for farmers.) Expanding the degree of classification in the system by constitutionally mandating specific assessment ratios for the various classes of property may not be the best way to achieve efficiency, however. The problem is that the conditions which dictate what the various property class burdens and assessment ratios should be (mobility, relative market values of property classes, etc.) may change. A rigid standard for assessment ratios may be inefficient.

In addition to improving efficiency, a classification system might be used to shift part of the burden of the property tax from one property class to another. For
example, it might be thought that homeowners bear too large a share of the property tax burden. Then, by making the assessment ratio on residential property lower than the assessment ratio for other classes of property, part of the homeowners' share of the property tax burden could be shifted onto other property classes.

It should be noted that the credits and exemptions which we simulated also have the effect of reducing the homeowners' share of the property tax burden. The principal advantage of classification is that frequent adjustments need not be made as a result of inflation and rising property values, whereas many of the plans we simulated would require such adjustments. On the other hand, unchanging assessment ratios do not make for constancy of the homeowners' share of the property tax burden. The operation of the same factors that created the need for a shift of the tax burden away from homeowners may produce further problems that necessitate frequent adjustment of assessment ratios. Thus, a constitutionally mandated assessment ratio schedule seems less capable of preventing undesired shifts in the relative property tax burdens than plans which provide for more frequent adjustments.

In sum, classification seems to be an inferior means of providing property tax relief to homeowners. However, such a system may be desirable on efficiency grounds or for the purposes of altering the relative tax burdens of different classes of property. If either of these latter goals is to be pursued, constitutionally mandated assessment ratios are probably too inflexible to provide for either maximum efficiency or the desired balance of property tax burdens.

THE PROBLEM OF INCOMPLETE PARTICIPATION: MODIFYING THE CIRCUIT-BREAKER

We have shown that a number of different property tax reduction plans can be designed by setting three parameters in our tax credit formula. If the participation rate can be increased in the current tax relief program, progressivity
of the tax will be increased, as will the public's perception of the tax reductions that are available. We are not in a position to provide all of the details of a program to increase participation, but we do believe that there are several prospects, not necessarily mutually exclusive, that ought to be given serious consideration. Their costs are low compared to the cost of introducing a major new tax reduction program and their benefits may be substantial.

**A Program to Educate the Public about the Circuit-breaker**

Current participation rates are highest among the elderly; in part because they receive substantial benefits, but also because the program has been advertised as treating the elderly in a special way. On the other hand, those with low incomes and renters are likely to have the lowest participation rates. An informational advertising campaign directed at renters and lower income households could improve participation substantially. This campaign might be achieved in a number of ways, but one relatively simple approach would be to require all property tax bills sent to homeowners to include detailed information about the circuit-breaker and its workings. Renters could be reached if all landlords were required to provide equivalent information when a rental agreement is signed and when a guideline of renters' rights is given to the renter.

**Front-loading the Circuit-breaker**

Low participation results because individuals file separate forms to receive the circuit-breaker credit, and because the credit is given as a credit on the state personal income tax and not on the property tax directly. Two possible plans to front-load and make the tax credit more visible might be considered. The first moves the credit from the income tax to the property tax, but requires a separate form, while the second involves no additional forms to be filled out (at least regularly) by individuals.

**Making the credit a property tax credit.** Once or twice each year, local governments issue property tax bills. At these
times, the billing notice could include a form to be filed
fe to be required to send such forms to their
tenants.) The applicant would be given information about
taxes that would be due based on current millage rates as
applied to the current equalized assessed value of the
property. The homeowner would need to supply his or her
past year's household income, selected from the appropriate
line on the past year's state income tax form. Those not
filing income tax returns would be given additional
instructions on how to estimate the prior year's income.
The individual would also have to certify that the homestead
is eligible for the credit and whether the individual is a
senior citizen and eligible for special status. The
individual could be given enough information to calculate
the credit, but ideally this would be done by the local
assessor's office. The tax credit can then be deducted
directly from the individual's tax liability when the next
tax bill is sent, or conceivably mailed as a separate check.

There are a number of technical administrative
complications involved in making such a program operable,
but we do not see them as being insurmountable. It would be
important for the state to administer the program in a
consistent and fair manner, and for details about the timing
of bills and credits to be worked out. In addition, some
computer-based method would be needed to check, at least on
a random basis, on the reporting of last year's taxable
income.

Eliminating the tax credit form. The preceding plan suffers
from one risk - that a substantial number of individuals
will not complete the tax credit forms, making increased
participation somewhat problematic. A better scheme in
terms of participation would be to have the city assessor
and the state determine all credits directly. To complete
such a scheme, individuals would be required on state income
tax forms to fill in sufficient information to make the
credit calculation possible. (This would not help those who
do not file.) Age is already given, but rental-owner status and rent paid would be needed, as would additional information about income not included in taxable state income that would be included in the circuit-breaker determination under existing rules. The most important item is social security benefits, but unemployment insurance and other cash transfers are now also included. The city (or state) would then use computerized preceding-year's information to calculate the household's tax credit. The credit would then appear on the individual's property tax bill if a homeowner, and would be sent as a check from the local assessor if a renter. There are added costs here in terms of state-local confidentiality problems and computer costs, but the outcome is likely to be a more progressive tax relief program.

CONCLUSIONS

The property tax in Michigan, relative to the tax in other states, does not appear to be unusually burdensome, especially in light of the current homestead property tax credit program. Thus, the question of whether property taxes ought to be reduced is still an open one. However, if reductions are to take place, we have seen that there are a substantial number of reduction plans available which can be achieved legislatively. If a more progressive property tax system is the goal, the most obvious policy and the cheapest is to improve the administration of the current tax credit program, through a front-loading system. The front-load increases participation as well. The net effect is a better public awareness of the program's benefits, and a more progressive property tax.

If more substantial reductions are to take place, a number of alternative plans are worth treating. Once again, all can be viewed as variations on a state income tax credit plan, and thus not inherently different in structure from the present system. Of these alternative plans, the most progressive plan is one which increases the circuit-breaker
rebate from 60 percent to 100 percent while lowering the threshold from 3.5 to 2.5 percent. However, such a plan may involve serious problems associated with the incentive effects produced by zero marginal tax rates. Among the remaining plans, a 25 percent reduction in tax liabilities is less progressive than a fixed $225 homestead credit or a $5,500 SEV exemption, the difference arising primarily because the latter two plans yield essentially equal credits for all, while the 25 percent reduction gives greater benefits to those with larger houses and, other things equal, higher incomes. Among the latter two plans, a $225 credit and a $5,500 SEV exemption, our simulation shows little difference.

NOTES, CHAPTER 17

'The survey followed the 1978 election and included questions about house value, family income, property tax payments and filing for the circuit-breaker credit. There were 338 households that did not answer the question concerning household income. We were able to assign predicted income values for all but fifty-three of these households by using a multiple regression model to arrive at predicted income values. The model was estimated from the rest of the sample and used the following predictors of income: race, age, education, occupation, sex of head, hours employed by head and wife. No assignment was given to those who failed to answer any questions used to create the predictor variables. For more on the survey design and its purpose, see Courant, Gramlich and Rubinfeld (1979).

'There may be a problem with the simple step function approach employed in the current senior-citizen formula, since it is possible that an individual could make himself better off by deliberately earning less income. Specifically, an individual could increase the sum of his income and his property tax credit by earning less. This feature of the senior-citizen formula is a consequence of assigning threshold percentages by means of a step function; a very small increase in income can result in a large "jump" in the threshold percentage. For example, suppose Mr. A has
an income of $3,999 and Mr. B has an income of $4,001. Under the current senior-citizen formula, Mr. A receives a rebate for any property taxes paid over 0.01 \times 3,999 = $40, while Mr. B's rebate is only for the property taxes paid over 0.02 \times 4,001 = $80. Thus, by earning $2 less income Mr. B can receive $40 more in property tax credits.

As far as we can tell, the 17 percent attempts to account for the shifting of the tax onto renters and is based on Netzer (1966, p. 28). The data which follow were taken from the State of Michigan, Office of Revenue and Tax Analysis: Property Tax Fact Sheets.

We were not able to calculate rebates for 228 of the 2,000 households because of nonresponse on such key variables as house value, income or homeownership status. After eliminating renters as well, our sample size fell to 1,277.

We have chosen to specify a linear form with the elasticity calculated at the point of means to avoid distortions which arise (for low income individuals) when a constant elasticity formulation is used.

The term regressive is used here only to measure the direct relationship between taxes and current income. We wish to make no further presumption about the true "incidence" of the property tax. Whatever that incidence may be, our empirical results suggest the relationship between various tax relief plans and that incidence.

In a personal conversation, Gary Olsen, of the staff of the Taxation Committee of the Michigan House of Representatives, said that the consensus opinion in Lansing was that the participation rate among those eligible for credits was in the 60-70 percent range for nonelderly households.

The measure of household income required for the circuit-breaker does not currently appear as a line on the state income tax return. Thus, a slight change in the state income tax return may be needed. Conversely, the measure of household income required for the circuit-breaker could be changed in order to correspond to a line on the income tax form.

One could make failure to file a credit form a form of tax delinquency, but even if enforceable for homeowners, this procedure would not help much with renters.
REFERENCES, CHAPTER 17


