

# Rental Housing in Minnesota: 1990

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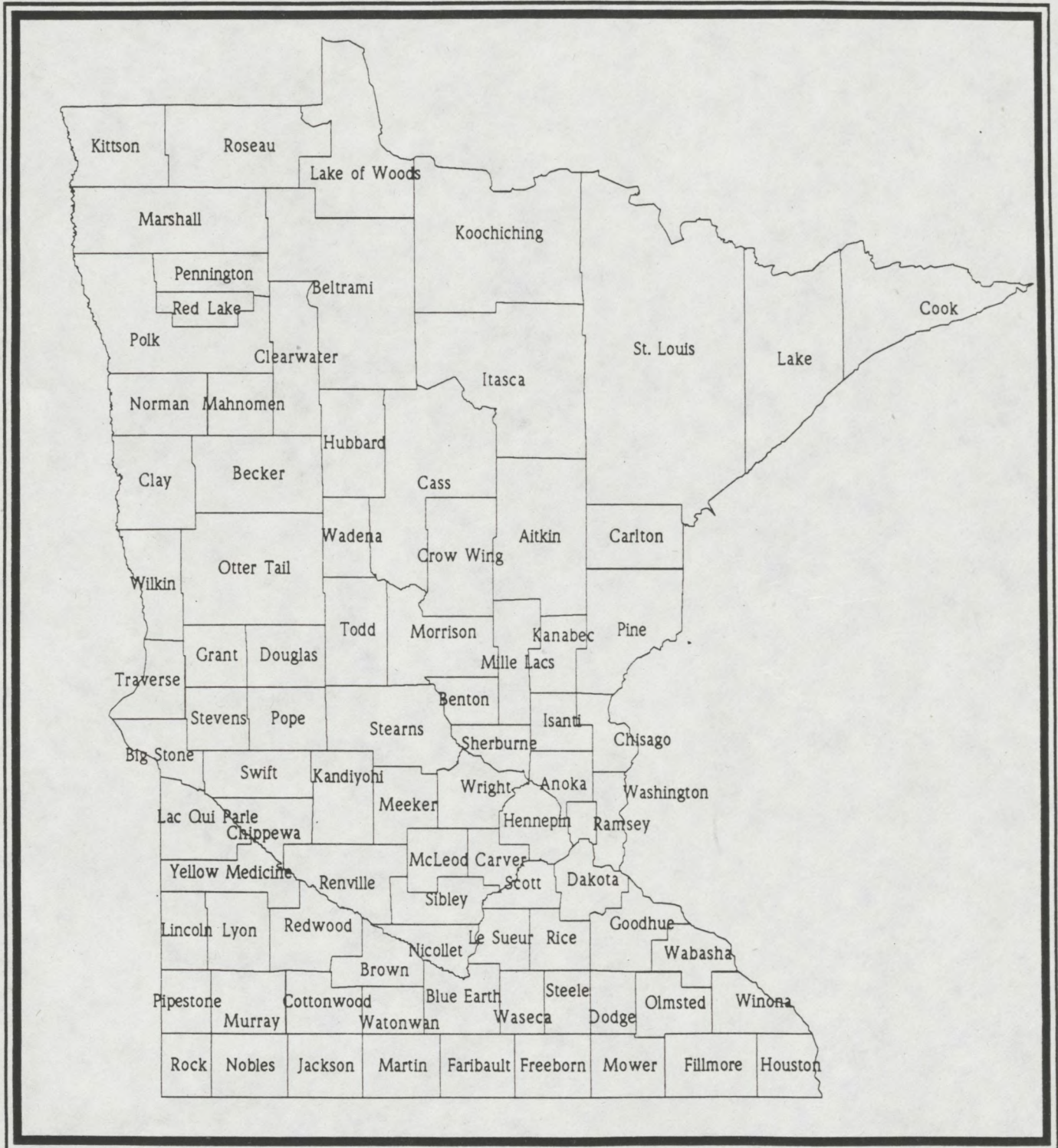
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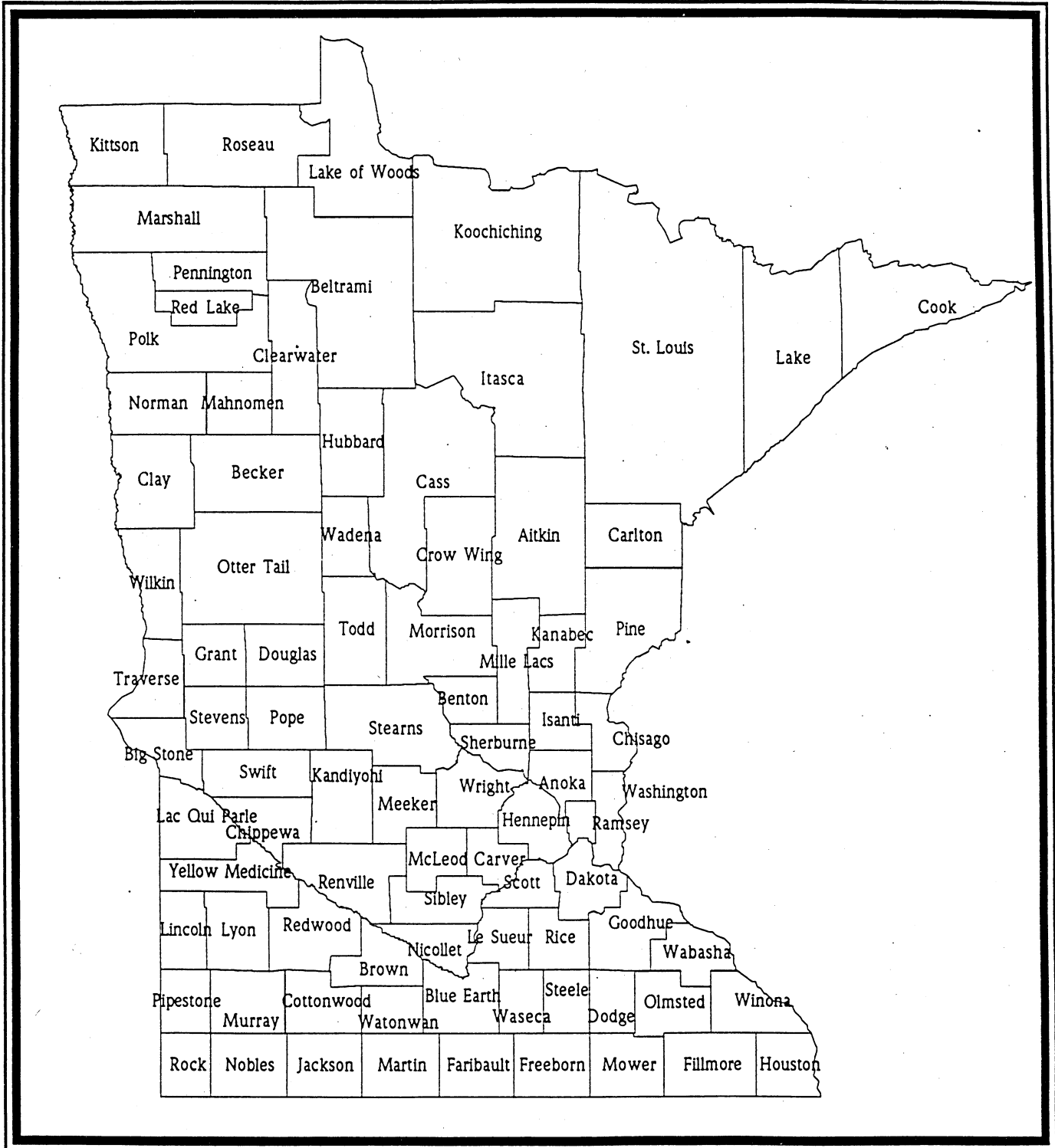
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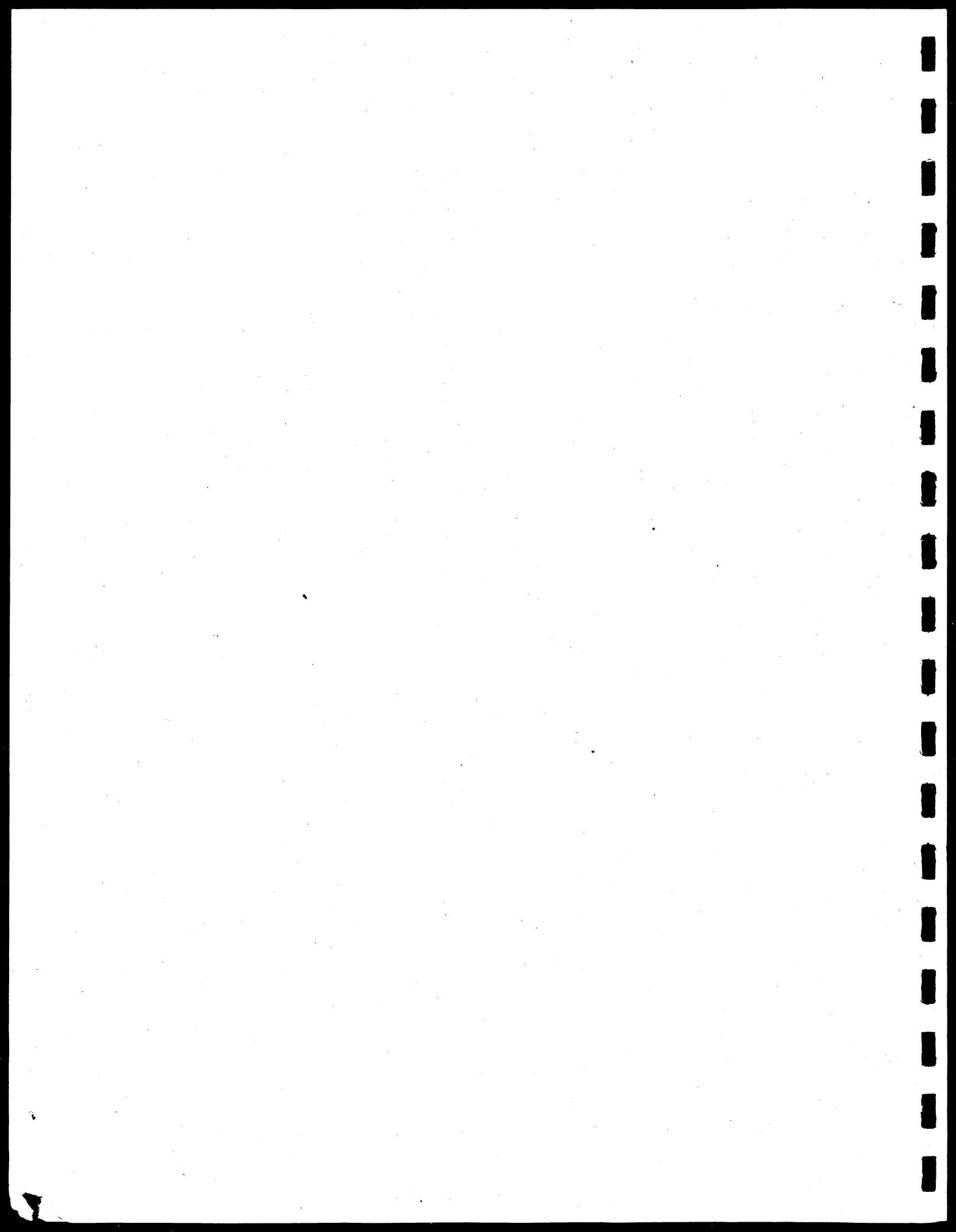


A REPORT TO THE MINNESOTA LEGISLATURE  
THE EFFECT OF PROPERTY TAXES ON RENTAL HOUSING



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## Executive Summary

### A Portrait from 1990 Census Data

#### Census data paints the following picture of renters and rental housing in 1990:

- ✦ 28.2% of Minnesota households were renters, almost unchanged from 1980 and significantly below the national proportion of 35.8%.
- ✦ The areas with the highest growth rates for renter households were generally along a line from Rochester to St. Cloud, excluding the fully developed portions of the metropolitan area.
- ✦ There was an actual decline in the number of renter households in 28 counties from 1980 to 1990
- ✦ Non white households were 2 to 2.5 times as likely to be renters as white households in 1990.
- ✦ 1 to 4 unit dwellings provided almost 40% of occupied rental housing units. Apartment buildings with 5 or more units provided 58% of rental housing units in 1990.
- ✦ 40% of the rental housing stock in Duluth, Minneapolis, and St. Paul was built before 1940.
- ✦ Over 93% of the rental housing stock in the inner suburbs of the Twin Cities was built after 1950.
- ✦ Large renter households grew at a faster rate than small renter households. The result was an increase in the average size of renter households and some increase in traditional measures of crowding for renter households.
- ✦ Real median income of renter households declined from 1980 to 1990 by 3.6%. It decreased by more than 15% in 29 counties and grew by more than 5% in only 4 counties. The real median income of owner households increased somewhat over the same period.
- ✦ Median income of renter households in 1990 was 47% of the median household income for owner households.
- ✦ Over 43% of renter households in 1990 had incomes that were less than 50% of median household income for the county in which they live.
- ✦ For the state as a whole, median gross rents increased by 79% to \$422 a month from 1980 to 1990.
- ✦ 72% of very low income renter households (income less than 50% of median county household income) were paying 30% or more of their income for rent.
- ✦ 59% of low income renter households (income less than 80% of median county household income) were paying 30% or more of their income for rent.
- ✦ Both of the 72% and 59% figures represent an increase over 1980.

### Property Taxes and Rental Housing

- ✦ Principles of economics suggest that increases(decreases) property taxes should lead to increases(decreases) in rents although the full impact will not be felt immediately.
- ✦ Statistical work using data from 134 metropolitan areas across the country is consistent with the proposition that rents vary directly with property taxes.
- ✦ In 1992 apartments in Minnesota accounted for a little over 4% of total market value and paid almost 7% of total property taxes for an effective tax rate of 4.13%.
- ✦ Property taxes on apartments in Minnesota consistently rank among the highest in the nation. Data from the Institute for Real Estate Management for 1991 for four types of apartment buildings and 141 metropolitan areas shows the following rankings for cities in Minnesota:
- ✦ The statistical work reported here and basic principles of economics suggest that the system of preferential tax classifications lowers rents for eligible tenants.
- ✦ There has been little change in the proportion of residential rental property with preferential tax classifications. This percentage was 8% from 1983 to 1990. It rose to 9.5% in 1992 and appears to have declined somewhat for taxes payable in 1993.
- ✦ The Minnesota system of preferential tax classification for low income and subsidized rental housing has become extraordinarily complicated.
- ✦ There is a strong case to be made for simplification and stability of the system of preferential classification for subsidized rental housing in particular and the property tax system in general.



## Rental Housing in Minnesota: 1990

This report on rental housing in Minnesota has two major subdivisions. The first uses 1990 census data to provide a description of Minnesota renters and rental housing in 1990. The second focuses on the economics of property taxes and rental housing.

### A Portrait from 1990 Census Data

The following description of rental housing in Minnesota is based on the most recent 1990 US Census data, specifically data from Summary Tape File 3 (STF3). STF3 offers the most complete housing data currently available. Data in STF3 are organized as two way comparisons, e.g., type of tenure by age, the ratio of rent-to-income by broad income classes. It would be most desirable to be able to analyze the ratio of rent to income by income and age. With currently available data, this more detailed examination is not possible.

For this report, data on rental housing are organized at multiple levels of aggregation: the state as a whole, county level data, and the 13 Minnesota development regions. In addition, data are examined with a metropolitan/non-metropolitan division. Within the metropolitan area, data are reported for the central cities, Minneapolis and St. Paul, along with development policy areas identified by the Metropolitan Council. Data are also reported separately for the five largest out state cities, Duluth, Mankato, Moorhead, Rochester and St. Cloud.

### Renter Households

From 1980 to 1990 the number of renter households in Minnesota grew by 13.3%, close to but somewhat less than the growth in total households, 14.0%. The growth in renter and owner households was about twice the growth in total population of 7.3%. However growth was not uniform over the state. Figure 1 shows the percentage growth in renter households by county. The area of fastest growth was generally along a line from Rochester to St. Cloud, excluding the fully developed portions of the metropolitan area. As seen in Figure 1, 28 outstate counties showed an actual drop in the number of renter households. This pattern of renter household growth is similar to data on population growth from 1980 to 1990 reported by Hart (1992).<sup>1</sup> Detailed data are reported in Appendix Table 1.

Figure 2 shows renter households as a percentage of total households in 1990. For the state as a whole, 28.2% percent of households were renters in 1990, a proportion that decreased only slightly from its 1980 value of 28.3% and is less than the national proportion of 35.8%. Counties with the highest proportions of renters are those with the largest cities and/or those with significant numbers of college students seeking rental housing. In Minneapolis and St. Paul almost 50% of households are renters, a proportion matched only in Mankato and St. Cloud.

In 1990 for the state as a whole, nonwhite households were 2 to 2.5 times as likely to be renters as white households. While 27% of white households were renters, 64% of nonwhite households were renters. The pattern by counties is more difficult to interpret as the number of nonwhite households is so small in many counties. Information on the number of households by race and ethnicity along with the proportion of renter households by race and ethnicity is reported in Appendix Table 2.

What types of units did renters occupy in 1990? For the state as a whole, single family housing units, either attached or detached, accounted for 21% of occupied rental housing units. Adding 2 to 4 unit buildings accounted for almost 40% of occupied rental units. For the state as a whole mobile homes provided less than 2% of occupied rental units, although in six counties mobile homes accounted for over

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10% of occupied rental housing units. Apartment buildings with five or more units accounted for 58% of occupied rental housing units across the state. In the seven county metropolitan area, they accounted for 68.5% of rental housing units. See Appendix Table 3 for more information.

### Age of the Rental Housing Stock

The Census collects information on the year of construction. The accuracy of this information in the case of rental housing is somewhat unclear, although there is less reason to expect that mistakes vary systematically across counties. For the state as a whole, 1990 census data shows a median year of construction for rental units of 1967, somewhat newer than the median year of construction reported for all units of 1963. However, the overall median hides a great deal of variation across the state.

The state's larger cities, Duluth, Minneapolis, and St. Paul, have the oldest housing stocks and the oldest rental housing stocks in the state. The median year of construction for all residential units for both Duluth and Minneapolis is 1939. For St. Paul it is 1944. While rental housing units are of somewhat more recent construction in all three cities, it is worth noting that 40% of the rental housing stock in these three cities is now over 50 years old. For the state as a whole almost one quarter of the rental housing stock is over 50 years old. By contrast, in communities immediately surrounding Minneapolis and St. Paul just over 93% of the rental housing stock was built after 1950.<sup>2</sup>

Tables 1 to 3 list the ten counties at the extreme ends of the distribution on the following measures of the age of the rental housing stock: median year of construction, the proportion of rental housing built during the 1980's, and the proportion of rental housing that is over 50 years old. More complete information is reported in Appendix Table 4.

### Crowding

Crowding has traditionally been analyzed by looking at the proportion of housing units with more than 1.01 or 1.51 people per room. Census data for the state for owner-occupied housing units shows that both measures declined substantially from 1980 to 1990, 2.12% to 1.20% and 0.31% to 0.24%. For renter occupied housing units there was an increase in both measures of crowding. Rental units with 1.01 or more people per room increased from 2.65% to 3.76% of the total while the percentage for units with 1.51 or more people per room increased from 0.91% to 1.53%. See Appendix table 5 for more detail.

These measures of crowding are consistent with data on the increase in households by size of household reported in Table 4 for the state as a whole. While the percentage increase in the number of households is similar for owners and renters, there was a much larger percentage increase in persons living in renter households than in owner households, 12.9% as compared to 6.2%. Consistent with these differences in the growth of households and persons, the increases in owner households were concentrated among smaller households with actual declines in the number of large owner households. For renters, exactly the reverse was the case with the largest renter households showing the highest rates of growth.

### Lack of Plumbing Facilities

From 1980 to 1990 there was a substantial decline in the proportion of units without access to complete plumbing facilities. For owner occupied units the decline was from 1.42% to 0.52%. For rental units the decline was from 3.78% to 0.69%. Not surprisingly the counties with the largest proportions of units without complete plumbing facilities are found outside the metropolitan area. For all but nine counties in the state, the proportion of rental units without complete plumbing facilities is less



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than 2% of total units. More detailed information on the incidence of complete plumbing facilities is reported in Appendix Table 5.

Census data used to include information on the number of substandard units. Such measures have been discontinued due to concerns about the subjective nature of such determinations. For a period of time it was popular to use data on units without complete plumbing facilities as a proxy measure of substandard housing. With the substantial increase in indoor plumbing since World War II and with increased sensitivity to other elements of substandard housing, the appropriateness of data on access to plumbing facilities as a measure of substandard housing is open to serious question.<sup>3</sup> Its applicability to a state with a substantial rural population is also less clear. As the most recent census data makes clear, the proportion of units without access to complete plumbing facilities is now extremely low and the vast majority of these cases are probably explained by special circumstances.

### Income of Renter Households

The period from 1979 to 1989<sup>4</sup> saw substantial growth in the dollar level of median household income. However, adjusting for inflation shows only a very small increase in real income. For the state as a whole, nominal median household income increased by 74.0% from 1979 to 1989. Over the same period, the cost of living as measured by the Minneapolis-St. Paul Consumer Price Index increased by 72.3%, implying an increase in real income of only 1%.<sup>5</sup> Figure 3 shows changes in median real household income by county. For most counties, increases were between plus and minus five percent. Nine counties had an increase greater than 5%, and four counties experienced a decrease greater than 15%.

With available census data, median income for renter households must be estimated by interpolation. For comparability the same linear interpolation procedure was applied to both the 1980 and 1990 census data. For the state as a whole, median nominal renter household income increased by 66.1%. With inflation of 72.3%, the smaller increase in nominal income translates into a 3.6% decline in median real renter household income. In only four counties did median real renter household income increase by more than 5%. In 29 counties it decreased by more than 15%. The county by county information is shown in Figure 4.

Renter households have significantly lower incomes on average than owner households. When median renter household income is measured against the overall median income, it declined from 62% in 1980 to just over 59% in 1990. In 1990 median renter household income was only 47% of the median for owner households. Figure 5 shows the distribution of renter and owner households in 1990 by broad income classes. See also Appendix Table 6.

Not only do renter households have less income than owner households, but there is an increasing concentration of very poor households among renter households. In 1980 41.6% of renter households had very low incomes, that is their incomes were less than half of the overall median household income for the county in which they lived. From 1980 to 1990 the number of very low income renter households increased by 21% as compared to the overall growth in renter households of 13.3%. As a result the proportion of very low income renter households increased by almost two percentage points to 43.4%. While in 1990 only 28.2% of all households across the state were renters, over 62% of very low income households were renters. More complete information is reported in Appendix Tables 7 and 8.

In 1980 the county with the largest concentration of poor renter households was Chisago county where

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very low income renters were 52% of renter households. In only two other counties was there a similar concentration of very low income renter households. In 1990 there were 17 counties where more than 50% of renter households had incomes that were 50% or less of the overall county median.

### Rents

Census data reports that for the state as a whole median gross rent increased from 1980 to 1990 by 78.8% from \$236 to \$422. Figure 6 shows median gross rents across the state in 1990. Rents might increase for a number of reasons: In a period of inflation it would not be surprising if rents increased along with the price of other goods as a landlord's cost of doing business would also be expected to be increasing. Any difference between the increase in cost and the increase in rents would be reflected in a change in landlord net income. Even without a change in costs or profits, median rents could change if the size and/or quality of rental units changes. For example, it would not be surprising if rents increased by more than the rate of inflation if renters occupied larger or better rental units. Census data on median rents do not provide enough information to decompose the overall increase in rents as they do not include appropriate information on changes in costs, profits, and the size and quality of rental units.

The rent component of the Consumer Price Index (CPI) is designed to measure the change in market rents for a standard apartment, that is one of constant size and quality, and might help one to interpret the increase in rents as measured by the census. Over the period 1980 to 1990 the rent component of the CPI for the Twin Cities increased by 61.7%. This increase is very close to the increase in the overall Twin Cities CPI but almost 10 percentage points lower than the increase in the rent component of the national CPI. The magnitude of this difference is surprising and somewhat unusual. Apartment vacancies in the metropolitan area showed a significant increase in the late 1980's while vacancy rates for the rest of the country did not. The rent component of the Twin Cities CPI is consistent with an interpretation that increased vacancies held down rents vis-a-vis the rest of the country. However, there is less evidence that increases in the cost of providing rental housing were lower in the Twin Cities than elsewhere. Using the Minneapolis-St. Paul CPI, one gets a picture of larger or better apartments on average and some suggestion of a price/cost squeeze on landlords.

Figures 7 and 10 show estimates of the number of rental units at different rent levels for the state as a whole and for three geographic subdivisions. In these diagrams 1980 rents have been adjusted to 1990 dollars using the increase in the rent component of the Twin Cities CPI. There is one further adjustment as census data on the number of rental units by rent show a somewhat smaller total than data on the number of renter households. For the state as a whole the difference is 6.8% in 1980 and 4.1% in 1990. The pattern is similar in 1980 and 1990, very small discrepancies in the metropolitan area and larger differences outstate. For each census and for each geographic area, data on the number of units for each rent interval were adjusted by the overall percentage discrepancy for that area.

Figure 7 suggests that for the state as a whole there was little change in the number of units renting for \$400 a month or less with most of the increase in rental units occurring at higher rent levels. However this statewide picture masks some significant differences. While there was little change in the overall number of rental housing units from 1980 to 1990 within the central cities of Minneapolis and St. Paul, there was a substantial reduction in the number of units renting for less than \$400 a month offset by an increase in the number of rental units with higher rents. Within the metropolitan area but outside the central cities there was a smaller loss in the number of units with rents of \$400 or less and a substantial increase in the number of units with higher rents. Outside the metropolitan area almost all of the increase in rental units were at rent levels of under \$400 a month.



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### The Ratio of Rent to Income

It has become traditional to look at the ratio of rent to income as a measure of rent burden. Historically ratios of 25% and more recently ratios of 30% have come to be considered excessive. Data on the ratio of rent to income for low income renter households in 1980 and 1990 are included in Appendix Tables 7 and 8. These numbers need to be interpreted with care. In particular the number of renter households with a high ratio of rent to income for any single year is likely to be an overestimate of the number of households with income related rent problems that should be a concern of public policy for at least several reasons.

Household income is more variable than rent. Looking only at low income renter households measures not only those households whose incomes are consistently low but also those households whose incomes are temporarily low. Households with a high ratio of rent to income but whose incomes are only temporarily low will see their ratio of rent to income decline as their income increases.

One also expects that the ratio of rent to income may be high for some younger households who willing choose to spend a high proportion of their current income on housing in anticipation that their income will soon increase as they accumulate work experience. Some of these households may also be receiving significant financial help from their parents that is not captured in census measures of household income. Students would be a particular example. Unfortunately data currently available for the 1990 census do not allow one to measure the importance of these groups.

Comments above, about groups for which there might be less policy concern about the ratio of rent to income, should not be interpreted to imply that there should be no public policy concern about the ratio of rent to income for any households. There clearly are a number of households for whom poverty is not a sometime thing but rather a condition with which they must cope for a number of years. These are situations of legitimate public policy concern.

While data on the number of households with a high ratio of rent to income may be misleadingly high for any single year, there is less reason to discount changes over time. From 1980 to 1990 almost all traditional measures of rent burden deteriorated, showing a larger number and a larger proportion of low income renter families with a significant rent burden. In 1990, just under three quarters of very low income renter households had rent payments of at least 30% of income. The 72.3% figure is an increase of almost three percentage points from 1980. When one adds renter households with incomes of 50% to 80% of county median household income, the proportion of renter households paying 30% of their income for rent declines to 58.9%. However, it is important to note that the 58.9% figure for 1990 is still an increase of just over three percentage points from 1980. Counties with the largest proportions of low income renter households paying 30% or more of their income for rent are shown in Table 5.

Households with high ratios of rent to income are overwhelmingly poor. In 1990 for the state as a whole, very low income renter households paying at least 30% of their income in rent accounted for over 75% of all households paying at least 30% of their income for rent. Those earning less than 80% of county median household income, paying at least 30% of their income for rent accounted for 94% of all households with high ratios of rent to income.

Demographic and economic changes over the decade would have led many housing analysts to expect that measures of rent burden would have declined not increased. Aging of the baby boomers should have moved a greater proportion of younger households into years of higher earnings, and the state of the

economy in 1989 and 1990, as measured by the unemployment rate, was stronger than that of 1979 and 1980. It is against these changes, that should have allowed an improvement in the financial situation of renters, that increases in the proportion of low income renter households and increases in the ratio of rent to income shown in Appendix Tables 7 and 8 are especially discouraging.

## **Property Taxes and Rental Housing**

### **The Incidence of Property Taxes**

**E**conomic analysis of the impact of property taxes on rental housing is traditionally based on an analysis of the implications of equilibrium in competitive markets with profit maximizing landlord/investors. The assumption of equilibrium means that at the margin rents are offering landlord/investors a risk adjusted rate of return that is competitive with returns on alternative investments. An increase in property taxes increases costs for a landlord/investors. Without an increase in rents, the return to landlord/investors is diminished and there is an incentive to direct investment away from rental housing and to other forms of investment. Only as rents rises and/or as the costs of supplying rental housing units declines will investments in rental housing again offer a competitive risk adjusted rate of return.

While an increase in property taxes immediately increases costs, it is less clear that landlord/investors will be able to increase rents immediately. In the short run rents should be determined by the interaction of market demand and supply. The stock of rental housing can be increased through new construction or conversion from other uses. It can be reduced through lack of maintenance, conversion to alternative uses, or demolition. However, all of these actions take some time to accomplish. As a result there can be little change in the stock of rental housing in the short run. Thus, following an increase in property taxes, there can be little change in the stock of rental housing and less room for landlord/investors to be able to charge higher rents immediately.

However, it would be a serious mistake to assume that following an increase in property taxes there would never be an impact on rents. Over time the stock of rental housing would be expected to decline as the reduced return to landlord/investors leads them to direct investment in other directions — rental housing in other parts of the country and/or investment in other sectors of the economy. As the stock of rental housing declines, market rents should rise and equilibrium would be reestablished when the return to rental housing again offers a competitive risk adjusted rate of return. Similarly, a decline in property taxes is not likely to lead to an immediate reduction in rents. Only over time, as the increased returns to rental housing induces an expansion of the stock of rental housing, will market forces come into to play to force a reduction in rents.

Do rents rise and fall dollar for dollar with changes in property taxes? The answer to this question is complicated and depends upon a number of factors. For example, if one were talking about an increase in property taxes applied to all rental housing in the country, it may well be that rents would not rise dollar for dollar as the movement of capital out of rental housing into other sectors of the economy would be expected to reduce returns to investment in these other sectors somewhat. In this case rising rents are likely to intercept declining returns in other sectors at some point short of a dollar for dollar rise. On the other hand, if one is talking about increases in property taxes in a single taxing jurisdiction, it is less clear that the outflow of investment from rental housing in that jurisdiction would be sufficient to have a measurable impact on the rate of return in other parts or sectors of the economy. In this case, it is more likely that rents will rise dollar for dollar with property taxes.<sup>6</sup>



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If, following an increase in property taxes, the cost of providing rental housing declines as the stock of rental housing declines, then in the new equilibrium it may be that rents need not increase dollar for dollar with the increase in taxes. Long run equilibrium requires only that rents offer a competitive return when measured against the cost of supplying rental housing. Major categories of costs included financing, construction materials, labor and land. The cost of financing and the prices of many construction materials are determined in national markets and are unlikely to be affected by changes in construction activity or the size of a single local market. Labor costs, even within a single state or area, are likely to be dominated by macroeconomic forces not changes in property taxes. The impact of property taxes on local land prices is the cost category where there may be a link to local property taxes. Lower land prices would reduce the cost of providing rental housing and would contribute to the re-establishment of competitive returns with a less than dollar for dollar increase in rents. Formal analysis of the links between property taxes and land prices suggests that the impact on land prices depends in a complex way on a number of factors — the price elasticities of demand and the elasticities of factor substitution, factor proportions in different sectors and jurisdictions of the economy, the movement of mobile factors between sectors and jurisdictions, the relative size of sectors and jurisdictions, productivity changes, the nature of aggregate factor supplies and opportunities for alternative land use.<sup>7</sup>

In an attempt to try and measure the relationship between rents and taxes, econometric techniques were used to see if differences in rents across cities are related to differences in property taxes.<sup>8</sup> In such an exercise one needs to be careful to control for other factors that might affect rents. For example, differences in construction costs across metropolitan areas would be expected to lead to differences in rents even if property taxes were the same in all areas. Similarly, large differences in population growth or in the construction of apartments in the recent past would also be expected to affect rents. As described below it was possible to control for some of the other factors but not others. When examining the impact of property taxes on rents, the inability to control for all other factors would not be a serious problem if variation in the unmeasured factors is uncorrelated with the variation in property taxes.

Regression equations were estimated to explain the variation in median apartment rent per square foot for a sample of 254 observations from 134 metropolitan areas as reported by the Institute for Real Estate Management (IREM). IREM collects data on specific buildings and then reports metropolitan area medians for up to four apartment types: elevator buildings, 12-24 unit low-rise apartment buildings, low-rise buildings with 25 or more units, and garden style buildings.<sup>9</sup> The data used in the regression analysis come from 4,172 apartment buildings that include 786,760 apartments. In addition to property taxes variables used to explain median rent per square foot included a measure of the differences in construction costs across metropolitan areas, operating and maintenance expenditures, the average size of apartments, and per capita income.<sup>10</sup> Complete descriptions and data sources are included in Appendix Table 9.

Property taxes, as rents, were measured per square foot. The measure of construction costs was an index of the variation in construction costs across metropolitan areas from Means Assemblies Cost Data. One would expect that apartment buildings that offer higher levels of maintenance and services would command higher rents. Operating and maintenance costs, measured on a cost per square foot basis, were included to control for these differences. Data on average apartment size was included to allow for any systematic differences that might be related to the size of an apartment.

Table 7 reports the first set of regression results. The last four columns of Table 7 report regression results for each type of building separately. For all cases except elevator buildings, the smallest sample, property taxes are statistically significant in explaining the variation in median rents. The first column combines observations on all four types of buildings into one regression while allowing for separate intercepts for

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each building type. Statistical tests are consistent with combining the separate regressions into one.<sup>11</sup> By pooling the sub samples and increasing the sample size one can increase the precision with which one estimates the impact of the separate variables.

Note that in all regressions rents vary directly with construction costs as one would expect. Higher construction costs increase the cost of investing in apartment buildings and, other things equal, require higher rents in order to provide a competitive rate of return. The coefficient on apartment size although not always statistically significant is negative suggesting that rents per square foot are somewhat smaller as apartments gets bigger. The size of the coefficient does not imply that larger apartments rent for less, but rather that an apartment that is twice as big rents for something less than twice as much. Rents vary directly with operating and maintenance expenditures as one might expect. Finally rents vary directly with property taxes. The coefficient on property taxes in the combined regression is 1.43 implying that differences in property taxes per square foot of \$1.00 are associated with differences in rents of \$1.43. The standard error for each coefficient measures the statistical imprecision of the associated estimated coefficient. Formal statistical tests make one highly confident that higher property taxes increase rents but less confident that they increase rents more than dollar for dollar.<sup>12</sup>

It was not possible to include all other variables that might be important in explaining variation in rents in the regression equations reported in Table 7. Most importantly one might wonder about land prices, capital gains and demand factors. How does the inability to include measures of these factors affect the results reported in Table 7? Land prices, like construction costs, are an important determinant of the cost of investing in apartment buildings. Other things equal, higher land prices should lead to higher rents. However there is no good measure of the variation in land prices across metropolitan areas. From a statistical viewpoint the critical question is whether land prices are correlated with any of the variables already included in the equation<sup>13</sup>. If they are then the regression may already be allowing for the influence of land prices. Given our interest in the impact of property taxes on rents, it is most important to know whether land prices are correlated with property taxes. Traditional views of property taxes suggest that higher property taxes should lead to lower land prices which in turn should lower the cost of apartment buildings and moderate somewhat the increase in rents necessary to cover the cost of higher taxes. On this view if one had data on land prices one would expect a somewhat larger coefficient on property taxes. With the inclusion of land prices, the estimated coefficient on property taxes should measure the impact on rents holding land prices constant. When data on land prices are not included in the regression equation, the coefficient on property taxes should be somewhat smaller to account for the negative correlation with land prices. All of this argues that the coefficients on property taxes reported in Table 7 may be somewhat lower than they would be if it were possible to include data on land prices.

Capital gains would be an alternative source of return for landlord/investors and, if sustained, should be associated with lower rents. Unfortunately there is no good measure of capital gains on rental properties for different metropolitan areas. It is also unclear how capital gains might be correlated with any of the included variables. As a general rule property taxes are high in the midwest where real estate prices appear to have been the most stable and low in the west and south, areas which experienced significant capital gains in real estate for much of the 1980s. From this perspective, the inclusion of a measure of capital gains might be expected to reduce the estimated coefficient on property taxes somewhat.

Imbalances between demand and supply factors could also be an important determinant of the variation in rents across metropolitan areas. Other things equal, an area with higher vacancies should have lower rents and an area with lower vacancies should have higher rents. Unfortunately it was not possible to identify an appropriate source of data on vacancies for the metropolitan areas in this sample.



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Table 8 reports results for the same regressions as Table 7 but with the inclusion of data on personal income per capita. The estimated coefficient on per capita income is statistically significant. This statistical significance is also reflected in the higher overall explanatory power of the regression as seen in the increase of the R squared statistic for the regression equations in Table 8 as compared with those in Table 7. It may be that per capita income is measuring demand factors and/or it may be that it is correlated with land prices. In either case, the inclusion of per capita income does not change any of the conclusions as regards the importance of property taxes as an important factor in explaining the variation in rents across metropolitan areas.

What do these results from differences across metropolitan areas imply about a change in property taxes within a single metropolitan area or state? Here it is important to distinguish between short run and long run effects. As argued above, rents in the short run will be determined by demand and supply. As rents rise above long run cost factors there is an incentive to expand the supply of rental housing. As rents fall below long run costs there is an incentive to reduce the supply of rental housing through conversion, demolition, and reduced construction and maintenance. Thus if property taxes are changed in a specific area, it is unlikely that there will be an immediate reduction of rents.<sup>14</sup> Rather the impact will occur over time. If rents were at equilibrium levels initially, a reduction in property taxes should, over time, induce an increase in rental housing that will in turn lower rents. It is possible that some of the reduction in rents might occur as increased maintenance without an increase in rents. That is, unchanged rents would then buy better rental housing. In a world with inflation, rents are unlikely to decline. Rather following a reduction in property taxes they should, for a period time, increase at a somewhat lower rate than otherwise. An increase in property taxes should have opposite results. That is one would expect little immediate impact as there is not enough time for any adjustment in the balance of demand and supply. Over time one would expect rents to be higher than they would otherwise have been or maintenance to be lower than it otherwise would have been as the market adjusts rents to offer landlord/investors a risk adjusted competitive rate of return.

### Property Taxes and Rental Housing in Minnesota

In 1987 the Minnesota Tax Study Commission concluded that "Minnesota has the complex property tax system in the nation."<sup>15</sup> There is no reason to change that conclusion. Under current state law property is assigned to one of 14 different classes. Subdivisions within these classes make for a total of 34 separate rate and class distinctions for taxes payable in 1993.

Even if one knows the class and rate for a particular piece of property, the determination of the actual or effective tax rate is further complicated as it depends upon the total and type of other properties within the same tax jurisdiction and upon total spending. For example, actual taxes on apartments with equivalent market values but in different taxing jurisdictions will differ as there are differences in locally financed spending and/or as there are differences in the amount and composition of other property.

Effective taxes for different types of property for 1992 are shown in Table 9. Note that for the state as a whole the effective tax rate on apartments was 4.13%, exceeding the statutory class rate of 3.5%. In 1992 apartments accounted for a little over 4% of total market value and yet paid almost 7% of total property taxes. Only commercial and industrial property had a higher effective tax rate. A small decline in the class rate for unsubsidized apartments is scheduled to become effective for taxes payable in 1993. The impact of this reduction in the class rate on effective rates is difficult to estimate as it will depend upon changes in class rates for other property as well as trends in total spending vis-a-vis trends in total tax capacity, the sum of class rates times market value for all types of property.

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How do property taxes on rental housing in Minnesota compare with those in other states? For the most part data from the Census of Government and from the Advisory Commission on Intergovernmental Relations are reported for property taxes in general. Data at this level of aggregation obscures the impact of the substantial differences in property taxes documented in Table 9. Data from IREM allows one to compare property taxes on apartments across a large number of metropolitan areas. This data shows that property taxes on apartments are significantly higher in Minnesota than in other parts of the countries. Tables 10 to 13 report data for each type of apartment building.<sup>16</sup> In each table metropolitan areas are ranked by the magnitude of median property taxes per square foot. Minnesota cities are at or very near the top of each table. For example, Table 13 shows that for garden apartments taxes in Minneapolis-St. Paul and St. Cloud rank 2nd and 20th out of 137 metropolitan areas. Property taxes on garden apartments in Minneapolis-St. Paul are over twice the average of other metropolitan areas, while in St. Cloud they are 50% greater. Similar rankings and comparisons occur for each of the three other building types.<sup>17</sup>

### Preferential Tax Classifications

With regard to property taxes payable on rental housing in Minnesota the law recognizes three major classes: residential non-homestead, apartments, and subsidized rental housing. Within the class of subsidized rental housing eligibility for preferential class rates depends upon a bewildering array of other factors including type of ownership, type of financing, tenant income and whether buildings have undergone significant rehabilitation. While well meaning this proliferation of classes and eligibility has created an extraordinarily complicated system that frustrates assessors and has the potential to undermine confidence in the equity and efficiency of the property tax system for rental housing. Appendix B contains detailed information from the Department of Revenue on preferential property classifications. This information shows ten subdivisions of class 4c or 4d that qualify for preferential class rates.

The intent of these preferential classes is to reduce the cost of providing rental housing to low income tenants. However the complexity of the system and a period of time when qualifying income limits were independent of household size have raised serious questions about the equity and efficiency of the whole system. After June 1992, income eligibility is dependent upon household size, but issues about income certification and the overall complexity of the system remain. County assessors have been responsible for income certification. Many have felt ill equipped to perform this task. An increasing use of third party certification has developed, although questions still remain about the accuracy of income information in some cases.

What differences would one expect with a system of preferential property tax rates for low income rental housing? If there is no limit on the number of rental units that can qualify for the preferential class rate, if renters can easily move between apartments, and if landlords can easily specialize in providing low income rental housing, then one would expect market competition to pass on property tax savings to renters in the form of lower rents for similar apartments. In the limit, no landlord facing similar operating, building, and land costs could provide equivalent rental housing for low income households and earn a competitive return on her investment without the preferential tax class rate. Landlords with higher taxes would need to charge higher rents to earn a competitive return. Thus one should not be surprised to see an increasing proportion of landlords attempting to qualify existing buildings for preferential tax status.

If there is a limit on the number of properties that can qualify for preferential class rates or if renters face substantial moving costs, then the forces of market competition need not work to pass the benefits of lower property taxes on to low income renters. While non-profit entities might be expected to adjust



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rents as property taxes are adjusted, it is less clear why profit seeking landlords would do so. As described in the notes to the chart of preferential tax classes in Appendix B, eligibility for some of the classes puts limits on the return landlords can earn or requires that landlords devote significant monies and/or establish reserves for upgrading and remodeling. With regard to requirements on upgrading and remodeling, the final result may be that rents are not be lower but the quality of rental housing should be greater.

If the operating and maintenance costs of low income rental projects are higher, preferential tax classifications that allow landlords to specialize in providing low income rental housing might simply offset the higher operating costs with little net impact on rents. However if operating and maintenance costs of low income rental housing are higher then rents would be even higher or quality would be lower in the absence of a preferential tax classification.

Does the Minnesota system of preferential property tax classes reduce rents for renter households? This is actually a complicated questions for which a more definitive answer was beyond the scope of this study. Perhaps the most direct way to answer the question would be to compare rents for a large sample of units with preferential classification and a large sample of units without preferential classification. Gathering the appropriate data for sufficiently large samples of units with and without preferential classifications is a significant undertaking. For example, to adequately control for important factors that affect rents within the metropolitan area one would need information on the size of apartments as well as other amenities and characteristics.<sup>18</sup> One could then do econometric work, similar in spirit to that described above and see if, after controlling for important factors unrelated to differences in tax classification, there was a significant difference in rents.

The evidence from this study is more indirect and combines the econometric evidence of the link between property taxes and rents with the discussion of basic economic principles above. Combining both pieces of information suggests that the system of preferential classification does translate into reduced rents.

Some have wondered whether the current or a somewhat expanded system of renters' credits might not substitute for the whole system of preferential classifications. This issue is similar to the national debate about cost or demand side subsidies. Demand side subsidies attempt to increase the ability of low income households to purchase better housing through unrestricted income transfers or by some form of price subsidy, for example rent stamps, that are controlled by the tenant and not limited to specific buildings. The renters' credit works as a form of price subsidy, although one that comes with a significant delay in time. To the extent that low income households are cash constrained, the ability of the renters' credit to provide an effective price subsidy is substantially reduced. Experience at the national level suggests that housing policies pursue a number of goals and that a mix of demand and supply side subsidies, rather than the use of only one or the other, is likely to be most effective.<sup>19</sup>

Data from the Department of Revenue shows the use of preferential property tax classes for rental housing since 1983. The data are presented in Figures 11 and 12. In Figure 11 the market value of residential rental property with preferential class rates is presented as a percentage of the total market value of all residential rental property. Figure 12 shows the distribution of rental property with preferential class rates across the state. Note that the highest proportionate use of preferential property tax classes is found outside the metropolitan area. For the state as a whole there was little trend over the period 1983 to 1990 with some increase in recent years. The proportion of property with preferential tax classification was 8% from 1983 through 1990. By 1992 this proportion had increased to 9.5%. The magnitude of the recent increase is exaggerated somewhat by experience in Minneapolis where one large project lost its preferential classification for several years. Preliminary data for 1993 shows little change in the use of

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preferential property tax classes for 1993 as compared with 1992. The market value of properties with preferential property taxes grew by 3.13% while total market value of rental properties increased by 5.16%.

It is not easy to decide whether the proportions reported in Figure 11 are large or small. When measured against the proportion of low income or very low income renters the percentages appear small, although one would expect percentages based on the value of properties with lower market values to be somewhat smaller than percentages based on the number of households.<sup>20</sup>

Some have been concerned about the recent increase in the proportion of property with preferential classifications, especially increased applications by owners of existing buildings. To some extent this concern has been directed at the period of time when the qualifying levels of tenant income were independent of household size. Qualifying levels of income are now linked to household size. It is important to remember that a substantial amount of low income rental housing has traditionally come from existing buildings. Construction of new units to provide low income housing almost always requires extensive public subsidies. With an increasing proportion of low and very low income renters and with suggestions of a price/cost squeeze on landlords, an increased interest in preferential tax classifications on the part of landlord/investors, both private and nonprofit, should not be surprising. To the extent that the purpose of the preferential tax classifications is to reduce rents for eligible tenants, there should be less concern about attempts to qualify existing buildings. Rate of return restrictions, requirements for significant remodeling and competitive market forces when preferential classifications are not restricted should work lower rents to eligible tenants.

Who lives in rental housing with preferential tax classifications? It was initially hoped that this study could examine data on the income of renters in properties with preferential tax classifications. Unfortunately it was not possible to establish an appropriate database as the availability of information about renter incomes through public agencies was restricted because of concerns about data privacy. Some evidence is provided by data from the Minnesota Housing Finance Agency (MHFA). MHFA collects extensive data on projects it has financed, although even here information from individual projects may be missing data on specific items of interest.

In 1991 the market value of 252 Housing Finance Agency projects with tax adjustments was estimated at \$387 million or 31.1% of the statewide total of rental properties with preferential tax classifications. For the most part these are Section 8 or Section 236 projects. Information on average tenant incomes was available for 215 projects in 71 out of 87 counties across the state. In 1991 the overall average income for renters in these 215 MHFA projects was \$9,195. The average was somewhat higher in the metropolitan area, but less than \$10,500 for all seven metropolitan area counties. When measured against county median income from the 1990 census, these projects show a statewide average of tenant income to median county household income of 34.5% with a range from 21.73% to 56.81%.<sup>21</sup> For only 10 counties was the ratio greater than 40%.

## Conclusions and Recommendations

- ▼ Property taxes on apartments in Minnesota are among the highest in the country.
- ▼ There is good reason to believe that apartment property taxes make rents higher than they otherwise would be.
- ▼ The system of preferential tax classification for low income housing works to lower rents for low income renters.
- ▼ There has been little change in the proportion of residential rental property with preferential tax classifications. This percentage was 8% from 1983 to 1990. It rose to 9.5% in 1992. Preliminary data suggests a small decline for taxes payable in 1993.
- ▼ The Minnesota system of preferential tax classification for low income and subsidized rental housing has become extraordinarily complicated. The complexity of the system is a significant source of frustration for assessors and has the potential to undermine confidence in the equity and efficiency of the property tax system for rental housing.
- ▼ There is a strong case to be made for simplification and stability.

As documented above property taxes on apartments in Minnesota are among if not the highest in the nation. As confirmed by the statistical work reported above higher property taxes are associated with higher rents. There is no reason to believe that markets for rental housing in Minnesota would not operate in a similar fashion. The system of preferential tax classification, by lowering property taxes for qualifying projects, works to lower rents for eligible tenants. As landlords compete to provide rental housing for low income individuals it is not surprising that they will want to qualify existing buildings for preferential tax classifications. To the extent that the purpose of the preferential tax classifications is to reduce rents for eligible tenants, there should be less concern about attempts to qualify existing buildings.

At the same time there is legitimate and understandable concern about the complexity of the overall system of preferential tax classifications. A number of observers would generalize that concern to the whole property tax system. If actions to simplify the system of preferential tax classifications are seen as an opportunity to raise class rates, the result will be to increase rents for low income renters. There is much to recommend broader based plans such as the Model Revenue System of the Department of Revenue or the property tax recommendations of the recent proposal by the Minnesota Taxpayers Association. These plans eliminate preferential classes but do so as part of a plan to make effective tax rates for different types of property more equal, that is to minimize the variation in effective tax rates reported in Table 8. These proposals would dramatically simplify the administration of the property tax system for rental housing without adverse impacts on rent. Whatever direction may be taken, the legislature should avoid the temptation to tinker with the system every year. If not the result can only be increased complexity and confusion with a resulting loss of confidence.



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1 "Population Crisis in Rural Minnesota", John Fraser Hart, CURA reporter, Vol. XXII, No. 4, December 1992, pp. 7-10.

2 "Communities immediately surrounding..." refers to the Metropolitan Council's Fully Developed Area, other than Minneapolis and St. Paul, what is here called the Fully Developed Ring.

3 For example, the Annual Housing Survey uses measures of physical and operating deficiencies to measure housing quality for the 44 metropolitan areas that it surveys on a 4 year cycle.

4 Census data measures household income with a one year lag. That is household reported in the 1990 census is for 1989. Income reported by the census is a measure of cash income but does not include in-kind income including medicaid, food stamps and housing subsidies. The exclusion of these forms of income support have lead some observers to question the accuracy of poverty estimates based on census income information. Including these forms of in-kind public support reduces somewhat estimates of the incidence of poverty at a point in time. When looking at changes over the 1980's measures of poverty that include in-kind transfer show the same increase as measures that exclude in-kind transfers. That is, exclusion of in-kind transfers makes no difference as regards changes in poverty. See "Why were poverty rates so high in the 1980's", Rebecca M. Blank, National Bureau of Economic Research, Working Paper No. 3878, October 1991.

5 There is a serious question as to whether the use of the Twin Cities CPI is appropriate for the non metropolitan areas of the state. Two points may be made. 1) Even if the cost of the basket of consumer goods in the Twin Cities CPI overstates the cost of living outside the metropolitan area, the change in the cost of the Twin Cities' market basket may still closely resemble the change in the cost of living outside the metropolitan area. 2) It is unclear what alternative measure one could use. From 1979 to 1989, the cost of living as measured by the national CPI increased by 70.8%, almost as much as the increase in the Twin Cities CPI. Using the national, as opposed to the Twin Cities CPI, makes little difference as it shows a statewide increase in median real household income of only 2%.

6 For a fuller discussion of these issues and those in the next paragraph, see Peter Mieszkowski, "The Property Tax: An Excise Tax or a Profits Tax", *Journal of Public Economics*, I (1972) pp. 73-96; William C. Myslinski, "Price-Allocation Implications of Property Tax Incidence on Renters", Ph.D. thesis, University of Minnesota, June 1974; and Henry Aaron, *Who Pays the Property Tax*, The Brookings Institution: Washington DC, 1975.

7 See the discussion in Mieszkowski and Myslinski for complete details.

8 One might also try and measure the relationship between rents and taxes by looking at how the change in rents over time are correlated with changes in property taxes. As in the work reported here, one would need to control for changes in other factors that influence rents. The structure of property taxes in Minnesota mitigates against basing either analysis — one based on differences in the level of rents or one based on differences in the change in rents — on data from just Minnesota. To estimate the relationship between rents and property taxes one needs a sample with sufficient variation in property taxes. The system of property classification in Minnesota works to minimize variation in property taxes across communities within the state.

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9 The minimum number of buildings for a single observation was 3. The maximum was 152. The full IREM report contains data for 141 metropolitan areas. It was not possible to identify construction cost information for 7 metropolitan areas. The eight observations from these metropolitan areas were not included in the regression analysis.

10 It is sometime argued that IREM data reflects the upper end of the rent distribution and is thus unrepresentative of apartments as a whole. Two comments are relevant to this point. 1) For Minneapolis-St. Paul, IREM data for 1991 shows a median rent of \$507 while census data for the seven county metro area shows median rents in 1990 ranging from \$442 to \$542 and an overall median of \$483. While the IREM data is somewhat higher, it does not appear to be too dissimilar from the census median measured a year earlier. 2) We are using IREM data to measure variation across metropolitan areas. For this sort of comparison it is probably more important to measure rents from a similar point on the rent distribution in each metropolitan area and less important exactly where.

11 More specifically, the test of the hypothesis that all of the slope parameters for each type of apartment are equal yields an F statistic of 0.640 which is not significant at the .01 level.

12 More formally, at traditional levels of statistical significance one can reject the hypothesis that the coefficient on taxes is zero but one cannot reject the hypothesis that this coefficient is equal to 1.0.

13 If data on land prices were available, one would need to recognize that taxes may affect land prices and land prices might be correlated with the error term of the regression equation.

14 One possible exception might be rental housing provided by charitable nonprofit organizations who might very well pass-through any reduction in property taxes immediately.

15 Final Report of the Minnesota Tax Study Commission: Volume 1 Findings and Recommendations, (Butterworths: ST. Paul, 1986) p. 273.

16 When comparing property taxes, the eight observations for which information about construction cost was missing have been added back into the sample.

17 Tables 10 to 13 report property taxes per square foot while property taxes are usually levied on the basis of market or assessed value. Would correcting for differences in market value change the relative ranking of Minnesota taxes? Information on building costs was used to adjust data on taxes per square foot for the 134 metropolitan areas for which building cost information is available. The rankings of Minnesota cities was unchanged following this adjustment.

18 When comparing rents for a large sample of conventional apartments drawn from a large number of metropolitan areas, it is not unreasonable to expect that these factors will be uncorrelated with the variables of interest.

19 See Do Housing Allowances Work, Katherine L. Bradbury and Anthony Downs, eds., (The Brookings Institution: Washington DC) 1991, especially the comments by Henry Aaron, pp. 67-99.

20 Rental properties with 1 to 3 units, classified as non-homestead residential housing, also carry a reduced class rate vis-a-vis apartment buildings and are not included in Figure 11. Qualification for the non-homestead residential class rate depends upon the size of buildings, not tenant income. The point is not that all such units are an available source of low income rental property. Many, perhaps most, are not. Census data available to date does not allow one to identify how many of these units are providing rental housing to low income renters.

21 The use of income data for 1991 in the numerator and 1989 in the denominator will make the ratios

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larger than they would be if both were measured for the same year.



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### Figures

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Figure 1  
Percent Change In Renter Households, 1980 to 1990

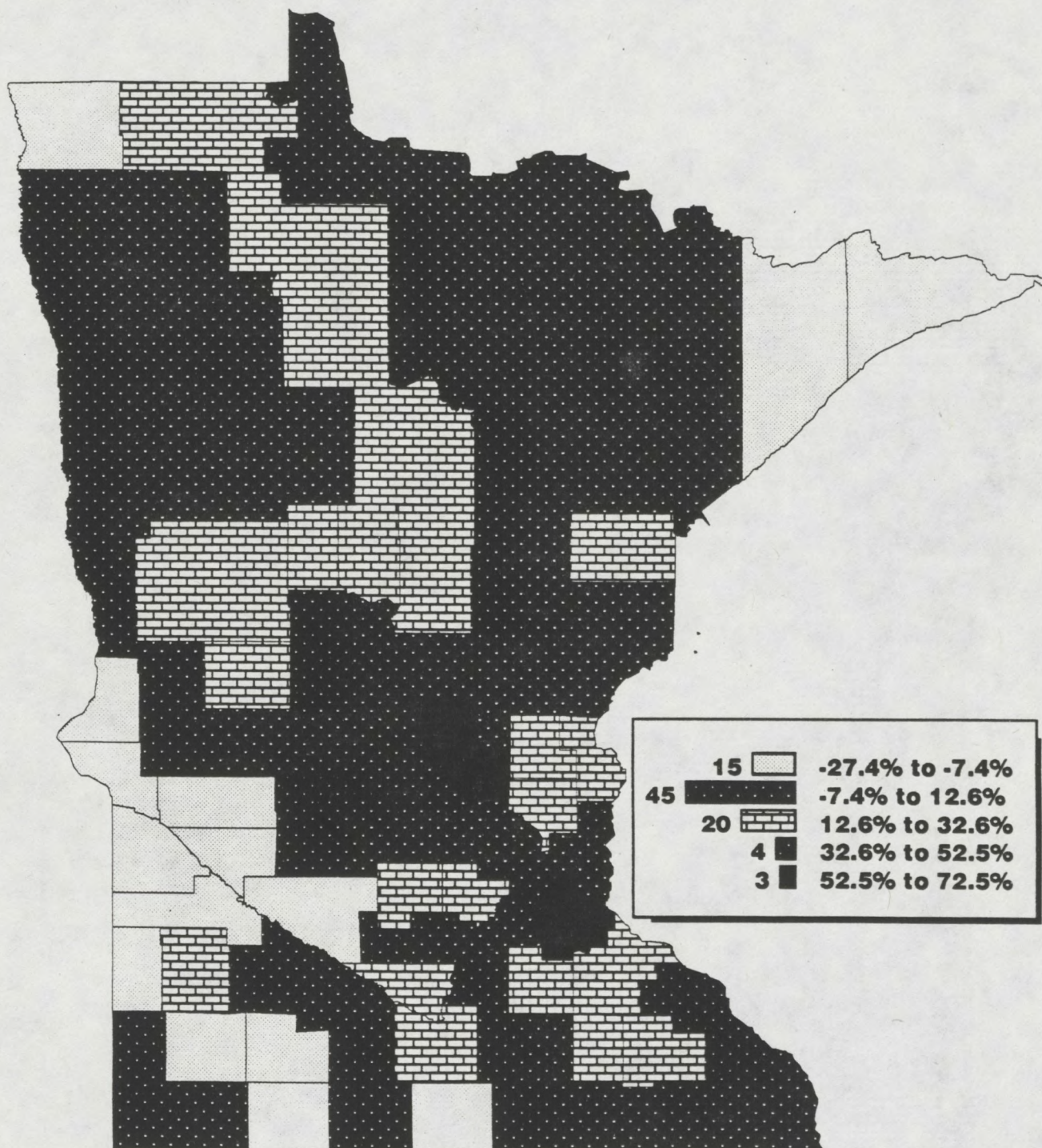
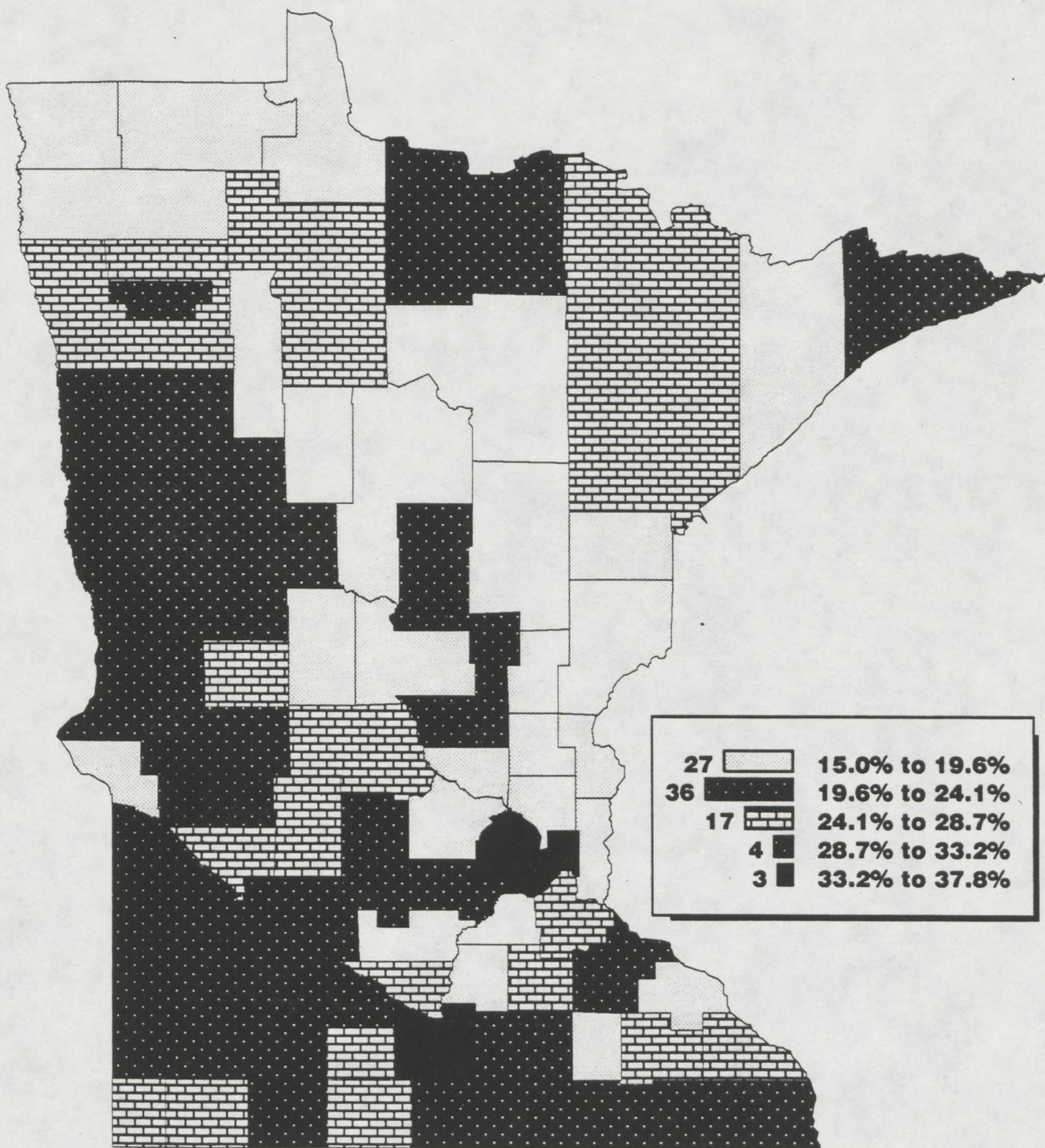




Figure 2  
Percentage of Households That Were Renters, 1990



27		15.0% to 19.6%
36		19.6% to 24.1%
17		24.1% to 28.7%
4		28.7% to 33.2%
3		33.2% to 37.8%