

# Changes in Shared Revenue and the Effects on Wisconsin Taxpayers

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## Foreword

This report analyzing recent changes in Wisconsin's Shared Revenue Program is the product of a collaboration between the Robert M. La Follette School of Public Affairs at the University of Wisconsin–Madison and the Wisconsin Department of Revenue. Our objective is to provide graduate students at La Follette the opportunity to improve their policy analysis skills while contributing to the capacity of the Department of Revenue to analyze and develop policies on issues of concern to the citizens of the State.

The La Follette School offers a two-year graduate program leading to a master's degree in public affairs. Students study policy analysis and public management, and pursue a concentration in a public policy area of their choice. They spend the first year and a half taking courses that provide them with the tools needed to analyze public policies. The authors of this report are all enrolled in Public Affairs 869, Workshop in Public Affairs, Domestic Issues. Although acquiring a set of policy analysis skills is important, there is no substitute for doing policy analysis as a means of learning policy analysis. Public Affairs 869 provides graduate students that opportunity.

The students were assigned to one of three project teams. One team worked on this project for the Department of Revenue, while the other teams worked on projects for the Wisconsin Joint Legislative Council, and the Budget and Management Division of the City of Milwaukee. The topic of this report—an analysis of the distributional impacts of changes in the state's Shared Revenue program—was chosen by the research staff of DOR in consultation with Secretary of Revenue Michael Morgan.

Wisconsin has a long history of providing its local governments with unconditional fiscal assistance. The state's Shared Revenue Program was designed to provide municipal and county governments with grants-in-aid that would allow them to reduce property taxes and would reduce fiscal disparities among governments resulting from the unequal spatial distribution within the state of per capita property values. Since the mid-1990s, the state has not increased the funding it has provided for the Shared Revenue Program, and in the past couple years it has suspended the use of the main formula it used to target grants to property poor municipalities and counties. The authors of this report have compiled data on the allocation of shared revenue funds between 1990 and 2004 in order to analyze changes in the distributional impacts of the Shared Revenue Program. They also analyze the joint impact of Shared Revenue and state aid to school districts.

Their report does not provide the final word on the complex issues the authors address. The graduate student authors are, after all, generally new to policy analysis, and the topic they have addressed is large and complex. Nevertheless,

much has been accomplished, and I trust that the students have learned a great deal, and that the Secretary and staff of the Department of Revenue will profit from their analysis of the Shared Revenue program.

This report would not have been possible without the support and encouragement of Secretary Morgan, and the advice and guidance of Deputy Secretary Laura Engan and DOR senior staff members Audra Brennan, Amelia Ramirez, Paul Ziegler, Daniel Huegel, and Rebecca Boldt.

The report also benefitted greatly from the active support of the staff of the La Follette School. Terry Shelton, the La Follette outreach director, contributed logistic support for the project. Karen FASTER, La Follette publications director, edited the report and shouldered the task of producing the final bound document.

I am very grateful to Wilbur R. Voigt whose generous gift to the La Follette School supports the La Follette School public affairs workshop projects. With his support, we are able to finance the production of the final reports, plus other expenses associated with the projects.

By involving La Follette students in the tough issues faced by state government, I hope they not only have learned a great deal about doing policy analysis but have gained an appreciation of the complexities and challenges facing state and local governments in Wisconsin. I also hope that this report will contribute to the work of the Department of Revenue and to the ongoing public discussions of state policies to provide financial assistance to local governments and property tax relief to Wisconsin's taxpayers.

Andrew Reschovsky  
May 1, 2006

## **Acknowledgments**

Many people contributed tremendous time and energy to this project. First, we would like to thank Paul Ziegler and Daniel Huegel from the Wisconsin Department of Revenue for providing us with a wealth of data to draw from as well as offering their invaluable assistance and advice.

We also extend our gratitude to Bai Linh Hoang, Martha Kraetsch, and Molly Regan, who provided valuable peer editorial feedback. Finally, thank you to Professor Andrew Reschovsky of the Robert M. La Follette School of Public Affairs at the University of Wisconsin-Madison for his guidance and continued feedback on our work.

## Executive Summary

In 1972, the State of Wisconsin implemented a revenue-sharing program utilizing a distributional formula to provide intergovernmental aid to counties and municipalities. The goal of this program was to provide tax relief and equalization of revenue capacity across municipalities. Although the main goal of Shared Revenue was to provide property tax relief, the program also increased the ability of lower per-capita property wealth municipalities to receive similar per resident revenue as wealthier local governments with similar property tax rates. This goal, which we refer to as “taxpayer equity” throughout the report, is the idea that different municipalities with similar property tax rates should be able to afford similar levels of expenditures on public services, regardless of property wealth. In 1995, the State began level-funding Shared Revenue, and in 2001 and 2003 changed the program and shut off the formula that was used to help equalize municipal tax bases. Wisconsin then made per-capita reductions to the 2001 amount of Shared Revenue payments for each municipality.

Conducted at the request of the Wisconsin Department of Revenue, this report examines whether the level-funding and subsequent reductions in Shared Revenue payments changed the tax rates that municipalities need to fund a given level of expenditures. We also examine whether the variation between each municipality’s property tax rate compared to their expenditures has grown since the level-funding and subsequent per-capita reductions to Shared Revenue. Finally, we examine whether increased state funding of schools has decreased property taxes enough for residents in low property wealth municipalities to compensate for the loss of Shared Revenue.

The level-funding and subsequent reduction to Shared Revenue payments reduced taxpayer equity. Based on our analysis, we conclude that fiscal disparities among municipalities have increased in recent years. The level of fiscal disparity among municipalities is the highest it has been since 1990. As long as the distribution formula remains unused, municipalities will continue to move further from the goal of taxpayer equity.

The State’s commitment to fund two-thirds of school aid, on average, has not offset the increased fiscal disparity that results from cuts to Shared Revenue by reducing tax rate disparities between municipalities. From 2000 to 2004, most taxpayers saw a modest reduction in the property tax rates they faced. However, the wealthiest municipalities experienced the largest decrease in tax rates, while poorer municipalities experienced the smallest decrease. Municipalities in the poorest wealth decile have total property tax rates 37 percent higher than municipalities in the wealthiest decile. Municipal property tax levies increased in many municipalities from 2000 to 2004. However, on average, taxpayers in the wealthiest decile of municipalities saw a decrease in their municipal property tax

levy. Rather than offsetting the fiscal disparities that result because of cuts to Shared Revenue, state aid to schools combined with the changes to Shared Revenue seems to have reduced tax rate equity.

We recommend that the state resume allocating Shared Revenues using the aidable revenue formula. Our research suggests that further reductions in Shared Revenue allocations will increase fiscal disparities among Wisconsin's municipal governments and put additional pressure on municipalities to either raise property taxes or reduce municipal services. If such action is not feasible, we recommend in years in which the state increases Shared Revenue funding, to increase Shared Revenue allocations on an equal percentage basis. In other words, each municipality's increase in Shared Revenue would be an equal percentage of its previous year's aid payment. In this way, the largest aid increases in dollars per capita would tend to go to municipalities that are the most reliant on Shared Revenue. In years in which the Shared Revenue budget is reduced, reductions in payments could be made on a per capita basis. This would be most beneficial to municipalities with the largest per capita shared revenue allocations.

## Introduction

The State of Wisconsin has a long history of using revenue-sharing programs to provide property tax relief to Wisconsin taxpayers. In 1971, the state Legislature expanded the purpose of Shared Revenue to help equalize the revenue-raising ability of municipal governments as well. As a result, the 1972 version of the Shared Revenue program incorporated a formula with four components to calculate municipal aid. Though modified a few years later, these components maintained the explicit goal of increasing taxpayer equity.

Perfect taxpayer equity among municipal governments would exist if all governments that chose any given property tax rate would be guaranteed enough resources to finance the same level of per capita spending. Property poor municipalities would be given sufficient state aid so that they would be able to spend as much as property rich municipalities that utilized the same property tax rate. The goal of the Shared Revenue program was never perfect equity between the wealthiest and poorest municipalities. It would be prohibitively expensive to provide enough intergovernmental aid to equalize the revenue base of the poorest and wealthiest municipalities due to the large gap in equalized property wealth between those municipalities. We are concerned specifically about the difference in “tax price” that residents in lower wealth municipalities face compared with wealthier municipalities with similar tax rates. Tax price refers to the price to taxpayers, in mills, of a given level of expenditures. The tax rate-to-expenditure ratio, as we define below, is the tax price of \$1,000 in per capita expenditures.

The most dynamic equalizing element of the Shared Revenue formula was the aidable revenues component. Of the four components of the Shared Revenue system, aidable revenues most directly counteracts the differences in property wealth by guaranteeing municipalities a minimum tax base. The legislature determines the minimum tax base level, and therefore, determines whether municipalities are eligible for grants under the aidable revenues component. These grants, along with local property tax revenue, were designed to be equivalent to the amount of money a municipality could raise from property tax, if it were actually at (not below) the minimum guaranteed tax base. The aidable revenue component, along with the per-capita, utilities, and minimum guarantee components functioned together for many years. The Background section explains these components in further detail.

The State of Wisconsin level-funded the budget for Shared Revenue between 1995 and 2001, which led to a decrease in nominal payments municipalities received because of inflation. In other words, the state capped the total pool of resources available for Shared Revenue at the 1995 levels. In the 2001-03 legislative session, the Legislature discontinued the equalization formula and locked municipalities into the dollar amount of aid they received in Fiscal Year

2003 (July 1, 2003-June 30, 2004). The State then began a pattern of consecutive per-capita reductions of Shared Revenue payments to municipalities. In 2003, the State expanded these reductions to counties.

There are multiple factors that led to the level-funding and reduced funding of the Shared Revenue program. The State made several major financial commitments in the late-1990s and early-2000s that strained the capacity of the state budget. Total jail admissions increased from 160,785 in 1992 to an estimated 261,684 in 2002, an increase of 62.8 percent (Wisconsin Office of Justice Assistance, 2003). The Legislature committed to two-thirds funding of K-12 education, while Medicaid costs grew substantially. In Fiscal Year 2004 (July 1, 2004-June 30, 2005), the State spent \$4.5 billion on Medicaid, up 34 percent since FY 2000 (Kaiser Family Foundation, 2006).

There is concern that the level-funding and subsequent reductions to Shared Revenue may have lowered taxpayer equity. Therefore, the Wisconsin Department of Revenue (DOR) requested a study of the impact of these changes. The Department of Revenue requested that we provide an analysis of the effect of the Shared Revenue changes on taxpayers in municipalities across the State. In addition, the DOR would like us to examine whether the State's commitment to finance two-thirds of public school spending has lowered the total property tax levy residents face, reduced tax rate disparity, and thus helped offset increases in property taxation due to the reduction in Shared Revenue.

In this report, we first provide background information on Shared Revenue. We then analyze the effects of recent changes to the Shared Revenue program, focusing on taxpayer equity (and to a lesser degree, tax rate equity), and conclude with recommendations based on our analysis.

We measure taxpayer equity through a series of calculations, beginning with a ratio of municipal property tax rate to per capita expenditures (t/E ratio). We determined the t/E ratio by taking the total expenditures of a given municipality and dividing that by the population to obtain the per-capita expenditures. We then divide the municipal mill rate by per-capita expenditures of each municipality and multiply the results by 1,000. This calculation results in a "t/E ratio" in terms of mills-per-\$1,000 of per-capita spending. A low t/E ratio indicates a high level of fiscal well-being, or the ability to support higher levels of per-capita spending at a given mill rate. A low t/E ratio could also mean that a municipality with a low t/E ratio requires a lower mill rate to achieve any given level of per-capita spending than a municipality with a high t/E ratio. A low t/E can result from high per-capita property wealth, large amounts of non-property tax funding such as fees and grants, or both. If municipal governments relied exclusively upon the property tax for revenue, we would expect large differences in t/E ratios among municipalities, with variation proportional to the variation in per-capita property values. If the

state designed a municipal grant system that had the effect of guaranteeing all municipalities an equal tax base, then every municipality would have the same value of its t/E ratio.

In general, the greater the variation in municipal tax rate-to-expenditure ratios, the greater the fiscal disparities among municipal governments. We are interested in the degree of variation. Because we are comparing variation across time, we cannot use the standard deviation as a measure of variation, or fiscal disparity; instead we calculate a coefficient of variation for each time period by dividing the standard deviation by the mean and multiplying by 100. Multiplying by 100 puts the standard deviation into percentage terms and allows us to compare the measures of disparity across time periods. We can only compare variability across time periods if we standardize in this way. We measure tax rate disparity in much the same way. We calculate average municipal, school district, and total property tax rates. We divide the standard deviation of these rates by the mean and multiply by 100 in order to have a measure of tax rate disparity that we can compare across periods. A more detailed description of the use of these measures can be found under the disparity heading in the Data Analysis section.

## Background

Local governments rely on a variety of revenue sources to provide important services such as public safety, sanitation, and K-12 education. One source is intergovernmental aid. The State of Wisconsin began providing revenue to local governments nearly 100 years ago, with a return-to-origin program that sent a portion of the state income tax revenue back to county and municipal governments. The general goal of the return-to-origin system was to provide local property tax relief. In the early 1970s, Wisconsin revised this system to better account for the diverse fiscal needs of municipalities and help equalize revenue.

The 1971 Biennial Budget Act, Act 125, Chapter 79, revised the Shared Revenue system by applying a formula for distribution of aid. The enabling legislation for this version of the Wisconsin Shared Revenue program states that beginning July 31, 1972, the Department of Administration would distribute \$35 per resident to each municipality with 16.25 percent of that money diverted to the county where the municipality is located. The bill also contained a provision to assist municipalities with low property wealth achieve similar revenue bases to other municipalities with the same tax rate. (Biennial Budget Act of 1971).

The goals of this new intergovernmental aid program were to provide property tax relief, equalize revenue-raising ability, and provide compensation for services provided to certain utility properties exempt from property taxation but subject to state taxes (Wisconsin Department of Revenue, 2005). Under the new system, the calculation of state aid came from four components: per-capita, utilities, percentage of excess levies, and minimum guarantee. This system was tweaked in 1976 and became known as the Shared Revenue program. The per-capita, utility, and minimum guarantee/maximum growth components remained in a modified form, but the aidable revenues component replaced the excess levies component. The majority of funding growth from this point on occurred within this new aidable revenues component.

The per-capita component provided the same amount of aid per resident to each city, town, and village, regardless of differences across regions in need, tax base, or level of public spending. This component served as a base in the formula, remaining essentially constant.

The utility component had three aspects: (1) a payment for light, heat, and power companies taxed by the State; (2) a payment for spent nuclear fuel storage; and (3) a minimum payment for certain electric generating plants. The utility component was intended to compensate local governments for the costs of providing public services to electric utilities.

The aidable revenues component attempted to offset variance in taxable property wealth. Governments received more aid under this component for having high net revenue effort and low per-capita property wealth (Huegel, 2003). Municipalities with property tax bases larger than the legislatively decided guaranteed base minimum receive no aidable revenue aid. The aidable revenues formulas are:

$$\text{Municipal Aidable Revenues Payment} = \text{3-Year Average of "Local Purpose Revenues"} \times \text{"Tax Base Weight"}$$

$$\text{County Aidable Revenues Payment} = 85\% \times \text{3-Year Average of "Local Purpose Revenues"} \times \text{"Tax Base Weight"}$$

Source: Huegel, 2003

“Local purpose revenues” is used as a measure for spending. The formula relies on a three-year average of local government revenues. Some of the categories that are included in the calculation are local purpose property taxes for municipalities (excludes school and other levies), county sales and use tax, various permit fees, and solid waste and recycling costs (Wisconsin Department of Revenue, 2005). The purpose of the three-year average is to prevent large fluctuations in payments from occurring. For example, a natural disaster would cause a big change in revenue in one given year, but would average out over time.

“Tax base weight” is used to measure how a locality’s equalized value per-capita compares to some standardized value per-capita. The formula for tax base weight is shown below.

$\text{Tax Base Weight} = 1 - \frac{\text{Local equalized value per person}}{\text{Standardized value per person}}$
---

Source: Huegel, 2003

Municipal local equalized value equals total equalized value of taxable property minus the equalized value of manufacturing real property plus the equalized value of exempt computer property. County local equalized value equals the total equalized value of taxable property minus the positive value increments of tax incremental financing districts plus the equalized value of exempt computers (excluding those in tax incremental financing districts). The standardized value per person acts like a guaranteed tax base (Huegel, 2003).

The aidable revenues formula works by “guaranteeing that each municipality with a per-capita tax base smaller than a legislatively chosen guaranteed tax base receives a grant that, when combined with the revenue raised from the local property tax, is equivalent to the amount of money the municipality, at its chosen tax rate, would be able to raise from the property tax if it had the guaranteed base,” (Reschovsky, 2002a).

The minimum guarantee/maximum growth component prevented large year-to-year changes in allocations to individual local governments. Annual increases were limited so that enough money was generated each year to guarantee that each municipality would receive at least 95 percent of the amount it received in the previous year.

The breakdown of the payments for each component in the year 2001 is listed in Table 1 below.

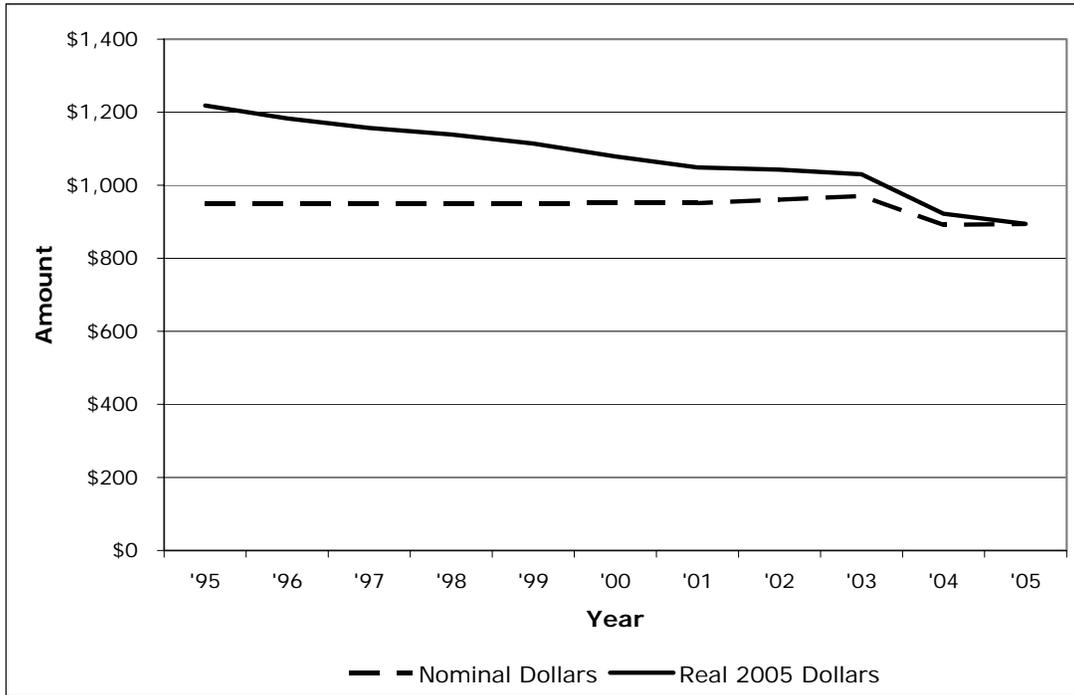
**Table 1**  
**Shared Revenue Payments by Component, 2001**

Component	Amount	Percent of Total Payments
Aidable Revenues	\$759,409,151	79.12 percent
Per-Capita	\$119,971,483	12.50 percent
Minimum/Maximum	\$52,126,785	5.43 percent
Utility	\$28,344,170	2.95 percent

Source: Huegel, 2003

As shown in Figure 1, between 1995 and 1999, the total budget allocated to Shared Revenue payments for counties and municipalities was frozen at \$950.6 million. The Shared Revenue budget increased slightly to \$951.2 million in 2000 and 2001, and increased nearly \$10 million in both 2002 and 2003. However, when adjusted by the 2005 Consumer Price Index, the total budget for Shared Revenue consistently decreased in real value every year since 1995.

**Figure 1**  
**Shared Revenue Payments 1995-2005 (Real and Nominal)**



Source: Wisconsin Department of Revenue, 2005

In 2001, the Legislature approved Act 109, which suspended the use of the Shared Revenue formula for calculating aid to municipalities for all components of Shared Revenue other than the utility payments. In 2003, the Legislature passed Act 33, which ceased recalculation of the county Shared Revenue formula. 2001 Act 109 and 2003 Act 33 created the new program to replace Shared Revenue called “County and Municipal Aid.” Under this program, which began in 2004, localities receive a fixed percentage of 2003 allocations from per-capita, maximum/minimum, and aidable revenues components of the Shared Revenue program. The State set these payments equal to the 2003 amounts, but then reduced them on a per-capita basis. Utility aid payments continue to be updated annually.

## State School Funding

During the mid-1990s, Shared Revenue was not the only policy change that affected property taxes. In 1995, Wisconsin Legislature increased its commitment to funding a larger share of the K-12 public education system by passing Act 27. Act 27 fulfilled the commitment suggested in 1993 Act 437 to raise the State’s average share of K-12 education funding to 66.7 percent. 1995 Act 27 significantly increased state aid to schools, from \$3.032 billion in the 1995-96 school year to \$4.035 billion in the 1996-97 school year (Wisconsin Department of Revenue, 2005).

The State supports K-12 education through three methods, (1) unrestricted general aids, (2) categorical aids, and (3) state school levy tax credits. As shown in Table 2, the general aids are by far the largest part of school aid, comprising more than 98 percent of state school aid. General aids are distributed based on a formula that helps equalize per pupil spending by providing districts with aid comparable to a state determine guaranteed property wealth per pupil. Categorical aids fund specific programs including special education and bilingual education programs. The state school levy tax credit is paid to municipalities to offset school property tax burdens.

**Table 2: 2004-2005 School Aid**

General and Categorical School Aid 2004-2005 School Year	
Type of Aid	Amount of Aid
General Aid	\$4,317,545,900
Categorical Aid	\$540,431,200
Total Aid	\$4,857,977,100

Source: Wisconsin Department of Revenue, 2005

Along with providing this aid, the state also mandated a revenue cap that sets a fixed dollar amount districts can increase per pupil spending from one year to the next. In 2003, that limit was \$230. To override the revenue cap, school districts must have a majority of voters give approval of the override through a referendum. The goal of the revenue cap was to force localities to provide property tax relief. The revenue cap includes the funding that the district receives in state aid. If state aid and district property tax revenue exceed the revenue cap, the district must lower its tax levy (Reschovsky, 2002b). Through greater state funding of public education, localities have significantly reduced the school district property tax for local residents. In 1995, more than 100 school districts had tax levy rates that exceeded 17 mills, including 16 districts that had rates exceeding 20 mills. By 2004, with the exception of one district, school levy rates did not exceed 14 mills. The highest taxing districts in 1995, Beecher-Dunbar-Pembine, Niagra, and Goodman-Armstrong, each exceeded 23.5 mills. These districts lowered their mill rates between 10.5 and 13.5 mills by 2004 (Wisconsin Department of Public Instruction, 2006). This change in state school funding had considerable impact on the total property tax rate faced by the average taxpayer, which may help offset the reductions in Shared Revenue from the taxpayer's perspective.

## Shared Revenue and State School Funding

Municipal governments choose different levels of service provision based on the needs and wants of their residents. Some municipalities will choose to provide very few services. As a result, these municipalities often have lower tax rates to

reflect those preferences. Municipalities develop budgets for the services they provide based on their projected level of property tax revenue, revenue from fees, and intergovernmental state and federal aid. The new budget constraints imposed by level-funding and subsequent reductions in Shared Revenue may have forced some municipalities to raise more revenue or cut the level of services provided. Some municipalities might increase fees, seek out other intergovernmental grants, or raise their property tax rate to continue providing the previous level of services. Other municipalities may be forced to cut the level of services provided.

The greater property wealth per capita a municipality has, the lower the tax rate required to generate a given increase in revenue. For example, if the city of Beloit wanted to raise per capita expenditures by \$30, then with per capita property value of \$34,165, Beloit would have to raise the municipal mill rate by 11 percent, or 0.09 mills. However, if the City of Mequon chose to raise per capita expenditures by \$30, then with per capita value of \$148,346, Mequon would only need to increase the municipal mill rate by 4 percent, or 0.02 mills.

Lower per capita property wealth makes it difficult for municipalities to raise the same amount of revenue as higher per capita property wealth municipalities. The municipal levy is only one part of the bill taxpayers face. The school district levy is a major part of every taxpayer's bill. Taxpayers across Wisconsin face significantly lower school district property tax rates now than they did 11 years ago because of the State's commitment to two-thirds school funding. Taxpayers in low property wealth municipalities may also reside in low property wealth school districts, which receive a higher percentage of state school aid. In the following section, we examine how the level funding and subsequent reductions in Shared Revenue payments have affected the bill taxpayers face. We also explore whether taxpayers in areas with lower property wealth have seen significant enough decreases in their school district levies from increased state aid to K-12 public education that the Shared Revenue changes have not greatly affected their total tax bill.

## Data Analysis

### Fiscal Disparity

We examine how fiscal disparities have changed due to the level funding and subsequent per capita reductions in Shared Revenue payments, as well as the increase in state aid to schools. We calculate a tax rate-to-expenditure (t/E) ratio for each municipality. The t/E ratio is calculated using the per-capita expenditures of each municipality. We divide the municipal property tax rate, in mills, by per capita expenditures. The tax rate-to-expenditure ratio can be used as an indicator of the fiscal well-being of a municipality. A low ratio indicates that a municipality can finance a higher level of per-capita spending at a given mill rate, or alternatively, a municipality requires a relatively low mill rate to achieve any given level of per-capita spending. A low ratio results from a municipality having high per-capita property wealth, receiving large amounts of non-property tax funding such as fees and grants, or some combination of the two.

As shown in Table 3, in 2004, the municipal property tax rate in Monona was 5.4 mills and the per-capita municipal expenditures were \$1,400. Dividing the mill rate by the expenditures and multiplying the total by 1,000 results in a t/E ratio of 3.84 mills-per-\$1,000 per-capita expenditures. In the same year, Ingram had a municipal property tax rate of 2.0 mills and per-capita expenditures of \$520. Dividing the mill rate by expenditures and multiplying the total by 1,000 results in a t/E ratio of 3.82 mills-per-\$1,000 per-capita expenditures. The ratios are the same, because while Monona has more than six times the per-capita property wealth of Ingram, it received one-third the state aid of Ingram. If the only source of revenue for municipal governments were the property tax, we would expect large differences in t/E ratios among municipalities with the variation in these ratios proportional to the variation in per-capita property values. If the state designed a municipal grant system that had the effect of guaranteeing all municipalities an equal tax base, then every municipality would have the same value of its t/E ratio. In general, the greater the variation in municipal tax rate-to-expenditure ratios, the greater the fiscal disparities among municipal governments.

**Table 3**  
**Municipal Tax Rate-to-Expenditure**  
**Ratio, 2004**

	<b>Monona</b>	<b>Ingram</b>
Per-Capita Expenditures	\$1,400	\$520
Municipal Mill Rate	5.4 mills	2.0 mills
Mills per \$1,000 Per-Capita Expenditures	3.84	3.82
Per-Capita Intergovernmental Aid	\$150	\$510
Per-Capita Equalized Value	\$98,000	\$16,000

Source: Authors' calculation using data from  
Wisconsin Department of Revenue, 2006

One shortcoming of this analysis is that we do not address the possibility that costs of services are higher in some municipalities than in others. In other words, because of differences in area cost of living, or in characteristics of municipal populations, some places may have to spend more dollars in order to deliver the same level of public service than other places. The result is that municipalities with the same or similar t/E ratios may be able to provide very different levels of services at a given tax rate. We believe that an analysis that focuses on cost-adjusted taxpayer equity would be valuable. However, due to our time constraints and resource limitations, we are unable to expand our analysis to include the measure of costs.

In each period, we divide the standard deviation of the t/E ratio by the non-population weighted average t/E ratio to calculate the coefficient of variation. A higher coefficient of variation indicates that a larger amount of dispersion from the mean and a higher level of fiscal disparities exist. A smaller coefficient of variation indicates that a smaller level of fiscal disparities and greater tax-base equity exists. If we were interested only in variability in one period of time, we could use the standard deviation. Over time, however, the mean and the standard deviation may fluctuate. In 1995, the standard deviation of the t/E ratio was 3.44 mills-per-\$1,000 per capita expenditures and in 2004, the standard deviation was 3.07 mills-per-\$1,000 per capita expenditures. If we used the standard deviation as the measure of fiscal disparity, then we would incorrectly conclude that fiscal disparity was greater in 1995 than in 2004. The mean t/E ratio in 1995 was 7.01 mills-per-\$1,000 per capita expenditures and in 2004 the mean was 5.97 mills-per-\$1,000 per capita expenditures. In absolute terms, the standard deviation is lower in 2004 than in 1995. However, in 1995, the coefficient-of-variation is 49.2 percent, and in 2004 the coefficient-of-variation is 51.4 percent, meaning that the

standard deviation was 49.2 percent of the mean, and in 2004 the standard deviation was 51.4 percent of the mean. When we standardize the standard deviation as a percentage of the mean we can see that there is a higher level of fiscal disparity in 2004 than in 1995. We use data organized by municipality from the Wisconsin Department of Revenue on expenditures, property tax levies, municipality mill rates, fee revenue, aid receipts, and equalized value. We utilize data for the following fiscal years: 1989-90, 1994-95, 1999-2000, and 2003-04. We adjust all dollar values into 2004 dollars using the Consumer Price Index. The Shared Revenue system is providing less equalization if the coefficient of variation increases. If the coefficient of variation decreases, then fiscal disparities are being reduced over time.

We divide the municipalities into deciles based on equalized value in 2000 and hold those deciles constant across all periods. We are most interested in the effects of policy changes that occur between Fiscal Years 2000 and 2004 (July 1, 2000-June 30, 2004). We decided to set the equalized value deciles based on Fiscal Year 2000 property wealth because we want to be able to see how the policy changes affected the poorest municipalities as a group. We are confident that organizing our analysis in this way allows us to best identify those effects. Our primary unit of analysis is the municipality. For this reason, we have elected to create deciles with equal numbers of municipalities as opposed to population-weighted deciles. We may be unable to account fully for the effects of the policy on larger municipalities because they will be weighted at the same level as the more numerous small municipalities.

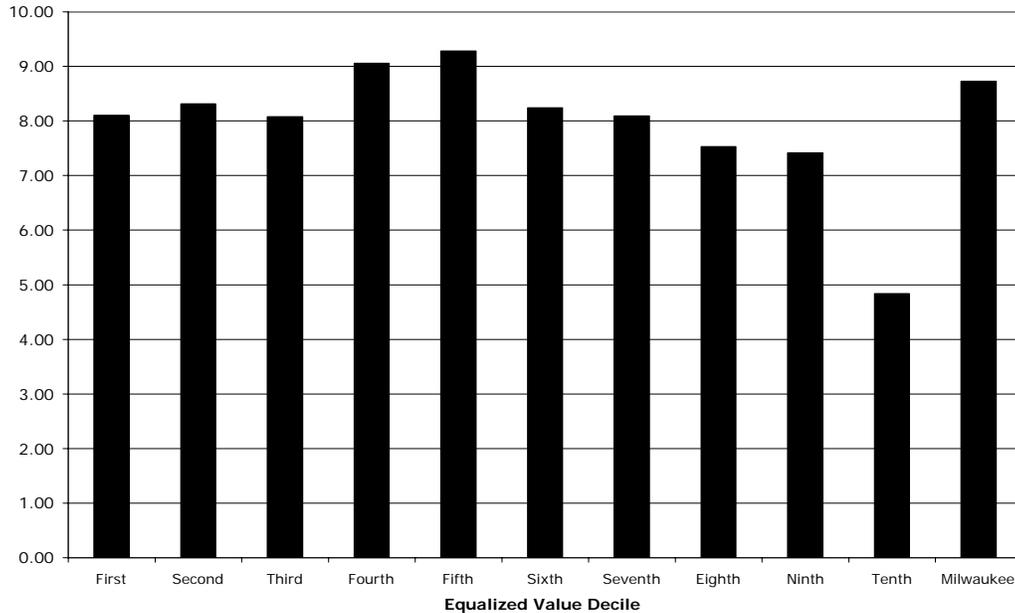
One exception, Milwaukee, is home to approximately 11 percent of the state's total population. Milwaukee has higher spending needs and relatively low per-capita property wealth. For these reasons, we feel that it is important to analyze separately the policy effects on the City of Milwaukee. We divide the rest of the state into equalized property value deciles, and then consider Milwaukee as an additional comparison group.

In addition to examining Milwaukee separately, we perform a regional analysis to determine if the Shared Revenue level- funding and subsequent reductions had different effects on tax price in different regions. Please see Appendix B for further information about regional affects.

As Figure 2 below demonstrates, in 1990, we find that, on average, municipalities in all equalized value deciles required a municipal property tax rate of roughly 8 mills to finance annual per-capita expenditures of \$1,000. Municipalities in the fourth and fifth middle property wealth deciles required approximately 9 mills for the same level of spending, while those in the wealthiest decile required a tax rate of less than 5 mills. Milwaukee needed a tax rate of slightly less than 9 mills to finance the same level of per-capita spending. On average, seven of the equalized

value deciles and Milwaukee had t/E ratios within 1 mill of the state average, however, only 41 percent of the state’s population live in municipalities with a t/E ratio within 1 mill of the state average. The coefficient of variation of 53.1 percent indicates that there is fairly large dispersion around the mean.

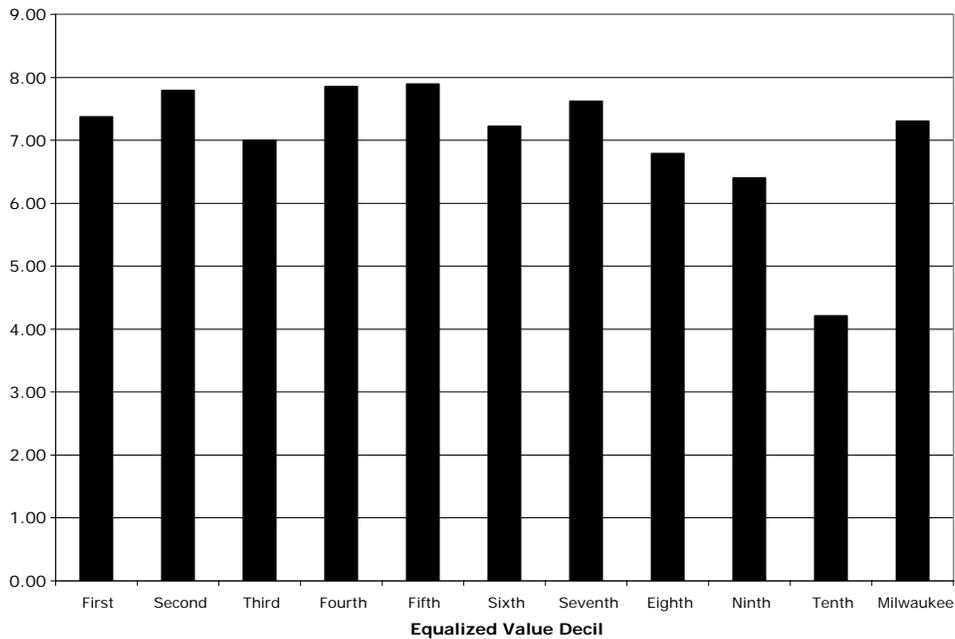
**Figure 2**  
**Mills-per-\$1,000 of Expenditures in 1990 by Equalized Value Decile**



Note: The first decile comprises the municipalities with the lowest equalized property values.  
 Source: Authors’ calculation using data from Wisconsin Department of Revenue, 2006

As Figure 3 indicates, in 1995, all comparison groups required a lower tax rate to finance \$1,000 in expenditures than they did in the previous period. In absolute terms, municipalities in all deciles, as well as Milwaukee, are better off than in 1990. This phenomenon is most likely attributable to increasing property wealth for the wealthiest municipalities and increased aid for the poorest municipalities. The coefficient of variation is 49.2 percent, indicating that fiscal disparities were reduced slightly from 1990 to 1995. Aside from the wealthiest decile, all equalized value deciles have t/E ratios within 1 mill of the state average. In addition, 44.6 percent of the state’s residents live in municipalities with a t/E ratio within 1 mill of the state average. In general, wealthier municipalities have lower t/E ratios than do poorer municipalities. That difference is smaller in 1995 than in 1990, indicating that the Shared Revenue program was successful in providing equalization aid to the lowest property wealth municipalities.

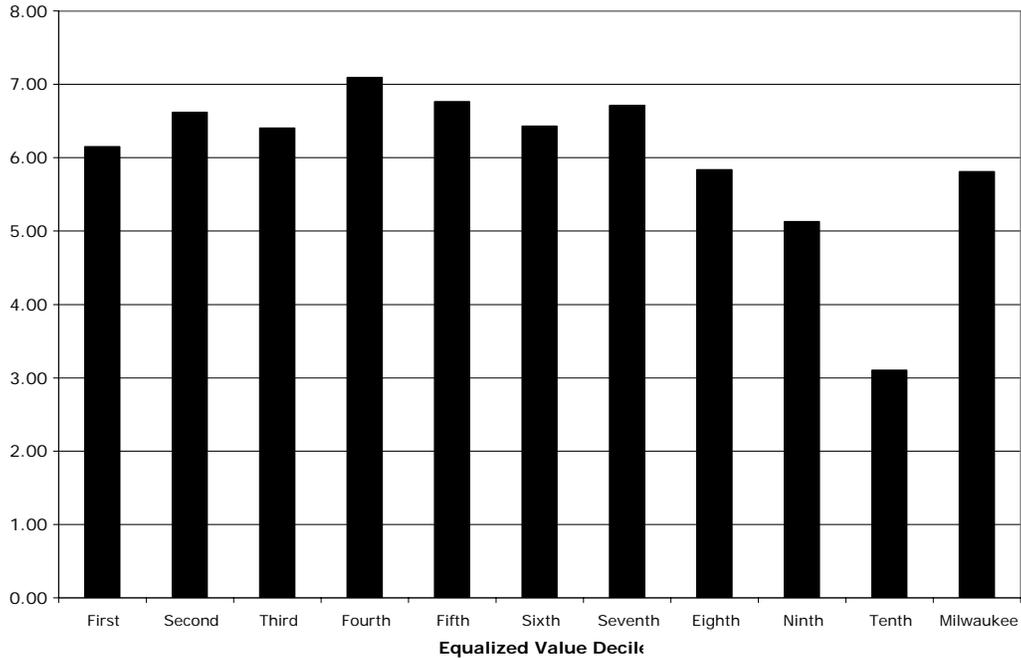
**Figure 3**  
**Mills-per-\$1,000 Expenditures 1995,**  
**by Equalized Value Decile**



Note: The first decile comprises the municipalities with the lowest equalized property values.  
 Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

As Figure 4 illustrates, in Fiscal Year 2000 (July 1, 2000-June 30, 2001), municipalities in all equalized value deciles have lower t/E ratios due to the combination of increased property wealth and state aid. It is striking that municipalities in the bottom eight deciles have very similar ratios despite the large property wealth difference. The average t/E ratios in these deciles range from 5.84 mills-per-\$1,000 expenditures to 7.09 mills-per-\$1,000 expenditures. This relatively small range exists despite average per-capita property wealth ranging from \$23,500 per resident to \$60,000 per resident. In Fiscal Year 2000, the gap between the highest and lowest t/E ratios, by equalized value decile, was 3.99 mills-per-\$1,000 expenditures. On average, each of the seven poorest deciles has a t/E ratio above the state average. The policy in place in 2000 resulted in increased taxpayer equity for these eight deciles and Milwaukee. The coefficient of variation in this period, 48.7 percent, indicates that fiscal disparities decreased from 1995 to 2000. Additionally, 45.6 percent of the state's residents now live in municipalities with t/E ratios within 1 mill of the state average. We considered the possibility that the increased equity could be, in part, the result of per capita property wealth becoming more equal. We find that per capita property wealth has increased across all equalized value deciles; however the percentage increases are higher in the high property wealth deciles than in the poor property wealth deciles. These data support the conclusion that the policy in place from 1995 to 2000 has resulted in a slight reduction in fiscal disparity.

**Figure 4: Mills-per-\$1,000 of Expenditures in 2000, by Equalized Value Decile**



Note: The first decile comprises the municipalities with the lowest equalized property values.  
 Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

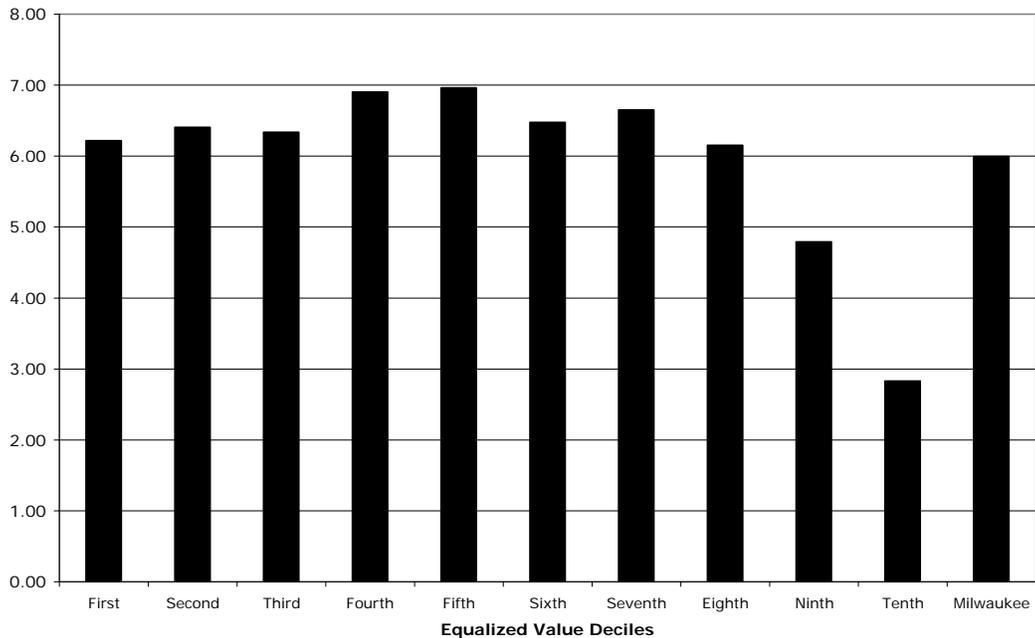
**Table 4  
 Mills-per-\$1,000 of Expenditures  
 by Equalized Value Decile Over Time (in 2004 Dollars)**

Decile	1990	1995	2000	2004
First	8.10	7.37	6.15	6.22
Second	8.31	7.79	6.62	6.41
Third	8.08	7.00	6.40	6.34
Fourth	9.06	7.85	7.09	6.90
Fifth	9.27	7.90	6.76	6.96
Sixth	8.24	7.22	6.43	6.48
Seventh	8.09	7.62	6.71	6.65
Eighth	7.53	6.79	5.84	6.15
Ninth	7.41	6.40	5.13	4.79
Tenth	4.84	4.21	3.10	2.83
Milwaukee	8.72	7.30	5.81	5.99
State Average	7.89	7.01	6.02	5.97
Spread from Highest t/E to Lowest t/E	4.43	3.69	3.99	4.13
<hr/>				
Coefficient of variation	53.1 percent	49.2 percent	48.7 percent	51.4 percent
Percent within 1 Mill of Average	41.0 percent	44.6 percent	45.6 percent	46.8 percent

Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

We are most interested in changes shown in Table 4 that occurred between 2000 and 2004 and in intra-decile differences that result. During this period, there was a significant policy shift. The equalizing component of Shared Revenue, the aidable revenue formula, was essentially turned off. Despite this change, Shared Revenue is still a fairly effective tax-base equalizing municipal grant program because current aid payments are based on past aid payments calculated while the aidable revenue formula was active. In the short term we should not see large increases in fiscal disparity. However, as time passes and municipalities become less like they were in the base year, in terms of changes in equalized value or spending preferences, Shared Revenue will become less effective as an equalizing program. As Figure 5 below demonstrates, there is very little intra-decile variation in the t/E ratios of the eight poorest equalized value deciles. The range of t/E ratios for this group is from 6.15 mills-per-\$1,000 expenditures to 6.96 mills-per-\$1,000 expenditures. In 2004, municipalities in the wealthiest equalized value decile have t/E ratios less than half those of municipalities in the eight poorest municipalities. The spread between the highest and lowest t/E ratios, by equalized value decile, is 4.13. So while we see very little disparity between the eight poorest equalized value deciles, we see an increase in the gap between the highest and lowest t/E ratios.

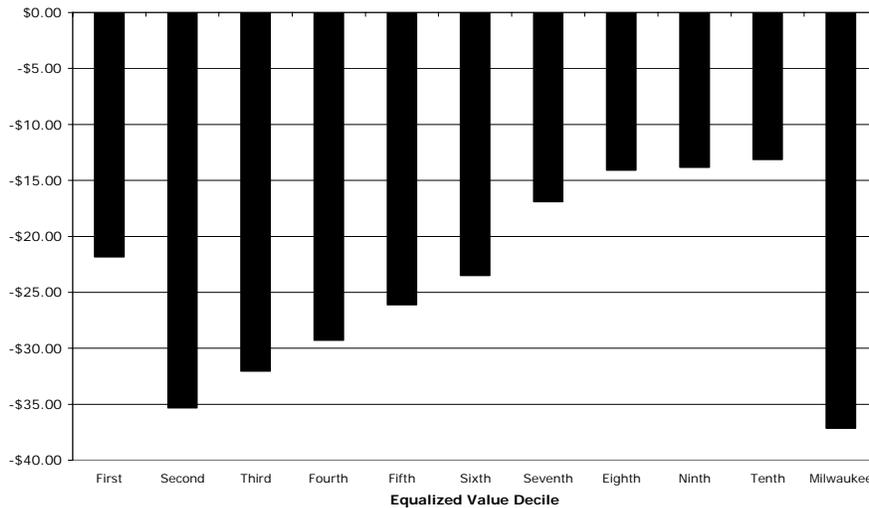
**Figure 5**  
**Mill Rate Per \$1,000 Expenditures**  
**in 2004 by Equalized Value Decile**



Note: The first decile comprises the municipalities with the lowest equalized property values.  
Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

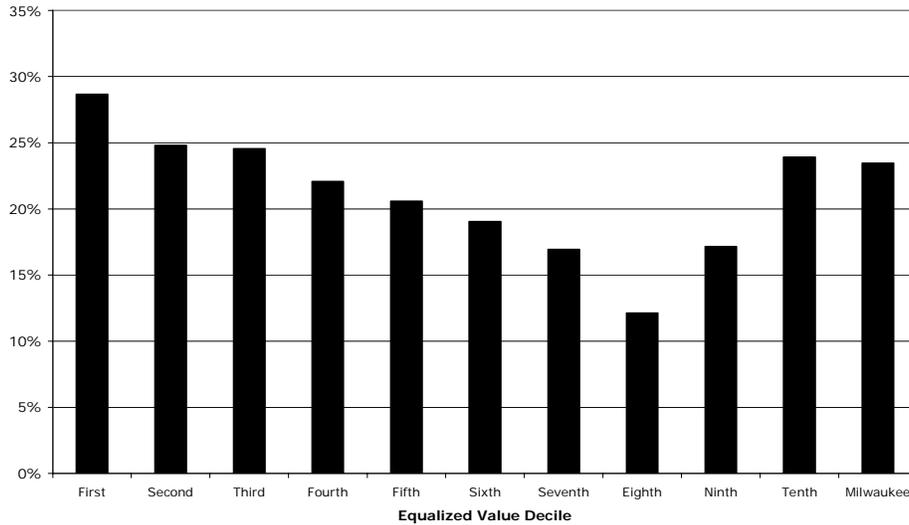
Municipalities in the wealthiest decile made large gains relative to the rest of the state. The coefficient of variation in 2004 is 51.4 percent, a slight increase from 2000 and indicates that fiscal disparities have increased slightly in recent years. At the same time, a higher percentage of the State’s residents now live in municipalities with a tax price within 1 mill of the state mean (46.8 percent in 2004 versus 45.6 percent in 2000). As Figure 6 and Figure 7 illustrate, while property wealth grew at a faster rate for municipalities in low equalized value deciles than for those in high equalized value deciles, the cuts to Shared Revenue, in dollar terms, were larger for municipalities in low equalized value deciles than those in high equalized value deciles.

**Figure 6: Changes in Per Capita Shared Revenue from 2000-2004, by Equalized Value Decile**



Note: The first decile comprises the municipalities with the lowest equalized property values.  
 Source: Authors’ calculation using data from Wisconsin Department of Revenue, 2006

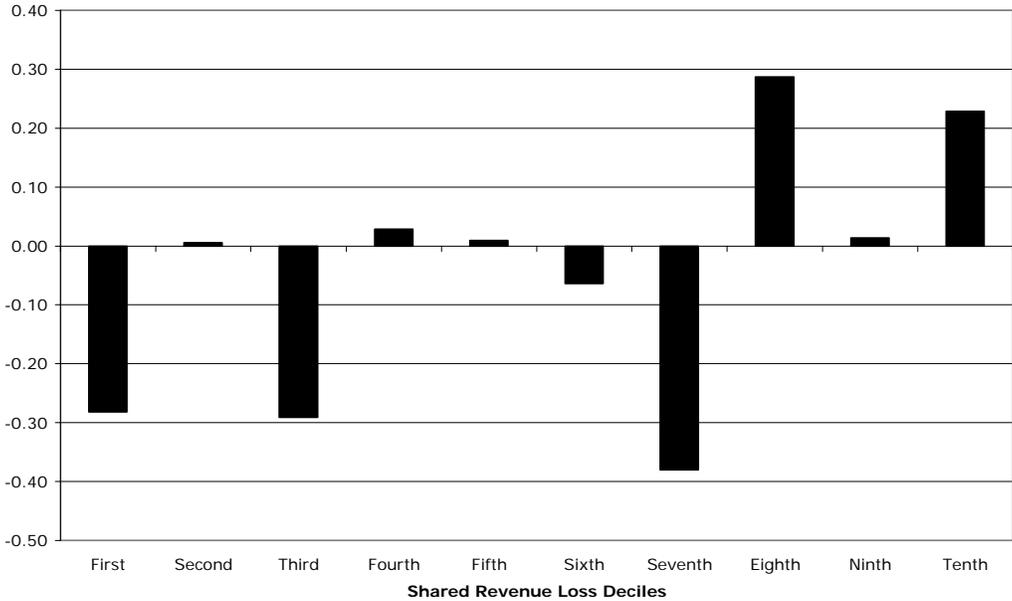
**Figure 7**  
**Equalized Value Growth from 2000 to 2004,**  
**by Equalized Value Decile**



Note: The first decile comprises the municipalities with the lowest equalized property values.  
 Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

Our next step in the analysis is to sort the municipalities into deciles based on the size of the reduction in per-capita Shared Revenue payments as a percentage of expenditures in the past period. We do not separate out Milwaukee. We want to see how municipalities that had the highest per-capita reductions in Shared Revenue compared to the rest of the state in terms of changes to the tax price (t/E ratio). As shown in Figure 8 below, we find that the municipalities that had the largest reductions in Shared Revenue have largest increases in tax price.

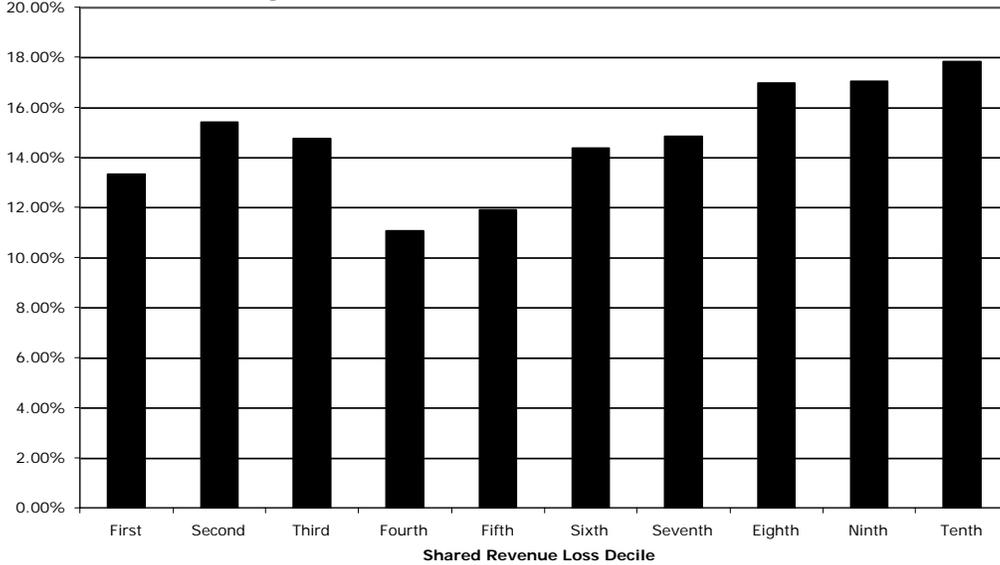
**Figure 8**  
**Change in Mills-per-\$1,000 of Expenditures from 2000-2004**  
**by Shared Revenue Loss Decile**



Note: The first decile comprises the municipalities with the lowest equalized property values.  
 Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

It is difficult to determine precisely how much of the change in tax prices is a result of Shared Revenue cuts and how much is due to the fact that, on average, the municipalities with the highest Shared Revenue cuts have lowest property wealth. This challenge is further complicated by the fact that, on average, municipalities with the largest reductions in Shared Revenue have the highest percentage increases in property wealth from 2000 to 2004.

**Figure 9: Change in Equalized Value from 2000-2004, by Loss in Shared Revenue Decile**



Note: The first decile comprises the municipalities with the lowest equalized property values.  
 Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

## Impact on Property Taxes

We have been asked to consider the impacts of the changes to Shared Revenue and increased state aid for public education on property taxes. We examine changes in municipal property tax rates and levies, school district property tax rates and levies, combined municipal and school district property tax rates and levies, as well as the total property tax rates and levies (including municipal, school district, technical college, county, state, and special district) faced by State residents. As in our analysis of fiscal disparity, we sort municipalities into equalized value deciles separating Milwaukee out as the eleventh comparison group. We have adjusted all dollar amounts into 2004 dollars with the Consumer Price Index so that we may make meaningful comparisons over time. For long-range trend information on property tax as a percentage of personal income, please see Appendix D.

## Municipal and School District Property Taxes

As shown in Table 5, there was very little change in municipal mill rates between 1995 and 2000 for municipalities in the eight lowest equalized value deciles. None of the deciles had average percent increases higher than 2 percent or decreases more than 4 percent. However, in the two wealthiest equalized value deciles, municipal mill rates decreased by 10 and 14 percent respectively. There is a large increase in the difference between the average mill rate in municipalities in the poorest and wealthiest municipalities. The municipal mill rate in municipalities in the lowest equalized value deciles are now 114 percent higher than the municipal mill rate in municipalities in the wealthiest equalized value deciles. However, the coefficient of

variation in 2000 is 69.82 percent compared to 69.81 in 1995, implying that municipal tax rate disparities are unchanged since 1995. The average municipal levy increases by 20 to 29 percent across the equalized value deciles such that municipal levies in municipalities in the wealthiest equalized value deciles are now more than three times as large as municipal levies in municipalities in the poorest equalized value deciles. As in the previous period, the municipal levy and mill rate decreased in Milwaukee between 1995 and 2000.

**Table 5: Municipal and School District Property Tax Rates in 2000 by Deciles**

Decile	Municipal Rate	School Rate	Combined Rate
First	4.78 mills	8.94 mills	13.72 mills
Second	4.82 mills	8.66 mills	13.48 mills
Third	4.00 mills	8.76 mills	12.76 mills
Fourth	4.37 mills	8.73 mills	13.10 mills
Fifth	3.64 mills	8.87 mills	12.51 mills
Sixth	3.44 mills	8.63 mills	12.07 mills
Seventh	2.98 mills	8.95 mills	11.93 mills
Eighth	2.93 mills	9.01 mills	11.94 mills
Ninth	2.63 mills	8.73 mills	11.36 mills
Tenth	2.47 mills	7.96 mills	10.43 mills
Milwaukee	8.47 mills	8.27 mills	16.74 mills
Average	3.61 mills	8.72 mills	12.33 mills
Coefficient of Variation	69.82 percent	17.82 percent	23.96 percent

Note: The first decile comprises the municipalities with the lowest equalized property values.  
 Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

What we see in 2000 is that, on average, school district mill rates and levies decreased sharply across all equalized value deciles. The school district mill rates in municipalities in the poorest equalized value decile are now 12 percent higher than the school district mill rates in municipalities in the wealthiest equalized value deciles. The coefficient of variation, 17.82 percent, is slightly higher than in 1995, which indicates that, while a relatively high level of equity is achieved in the school tax rate, school tax rate disparities have increased slightly.

In 2000, municipal tax rate disparities remained fairly constant, while school district tax rate disparity increased slightly. We now look at the combined school district and municipal tax rate disparities.

**Table 6: Municipal and School District  
Property Tax Levies in 2000**

<b>Decile</b>	<b>Municipal Levy</b>	<b>School Levy</b>	<b>Combined Levy</b>
First	\$120.74	\$215.53	\$336.27
Second	\$163.59	\$290.39	\$453.98
Third	\$158.49	\$343.13	\$501.62
Fourth	\$191.92	\$379.88	\$571.80
Fifth	\$175.66	\$422.29	\$597.95
Sixth	\$186.27	\$462.02	\$648.29
Seventh	\$179.72	\$537.97	\$717.69
Eighth	\$202.62	\$621.86	\$824.48
Ninth	\$221.09	\$726.78	\$947.87
Tenth	\$453.63	\$1,290.28	\$1,743.91
Milwaukee	\$255.07	\$249.04	\$504.11
Average	\$205.56	\$529.48	\$735.04

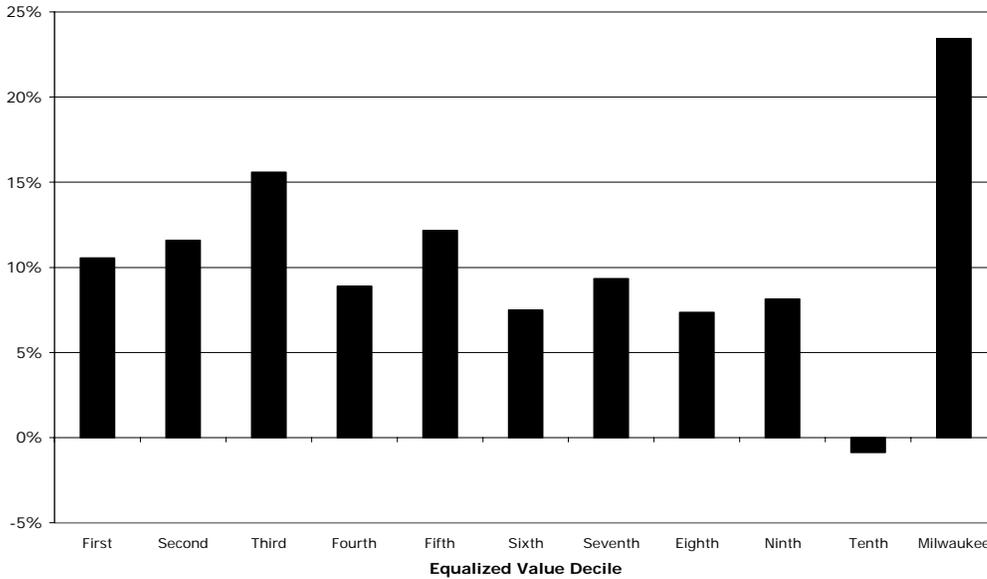
Note: The first decile comprises the municipalities with the lowest equalized property values.  
Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

In 1995, municipalities in the lowest equalized value decile had combined school district and municipal mill rates 23 percent higher than municipalities in the wealthiest equalized value deciles. Because the school district property tax rate was the large majority of the combined tax rate, the more equitable school district tax rate was able to offset the less equitable municipal tax rate. As shown in Table 6, in 2000, municipalities in the lowest equalized value decile have combined school district and municipal tax rates 32 percent higher than municipalities in the wealthiest equalized value decile. The slight increase in disparity in the school district property tax results in a small increase in the level of combined tax rate disparity.

We are most interested in the period from 2000 to 2004 because this period is when the major changes to Shared Revenue occurred. Our question is whether the municipalities most negatively affected by cuts in Shared Revenue relative to the rest of the state have their combined municipal and school district property tax rates and levies reduced in a way that offsets the decrease in Shared Revenue payments. In other words, although fiscal disparities increased slightly during this period, did combined municipal and school district tax rate equity increase? During this period, as illustrated by Figure 10, municipal mill rates decreased for each equalized value decile. However, municipal mill rates increased during the same period for Milwaukee. On average, the largest decreases were in municipalities in the wealthiest equalized value decile. Municipalities in the poorest equalized value deciles still have municipal mill rates 114 percent larger

than the municipal mill rates of municipalities in the wealthiest equalized value deciles. The coefficient of variation, 69.39 percent, remained approximately the same as in both 1995 and 2000, indicating that the level of municipal tax rate disparity has been surprisingly stable.

**Figure 10**  
**Change in Municipal Property Tax Levy**  
**from 2000-2004, by Equalized Value Decile**



Note: The first decile comprises the municipalities with the lowest equalized property values.  
 Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

Table 7 shows that although municipal mill rates on average decreased across the state, municipal levies actually increased in Milwaukee and in the nine poorest equalized value deciles. The only group in this analysis that has lower municipal property tax levies in 2004 than in 2000 is the wealthiest equalized value decile. As we saw previously, this group also had the largest decreases in t/E ratio over this same period. The average levy increased dramatically in Milwaukee. The levy increase in Milwaukee is roughly equal to the decrease in intergovernmental aid over this period.

**Table 7**  
**Municipal and School District Property Tax Rates in 2004**

<b>Decile</b>	<b>Municipal Rate</b>	<b>School Rate</b>	<b>Combined Rate</b>
First	4.38 mills	8.23 mills	12.61 mills
Second	4.59 mills	8.07 mills	12.66 mills
Third	3.92 mills	8.02 mills	11.94 mills
Fourth	4.09 mills	8.18 mills	12.27 mills
Fifth	3.58 mills	8.20 mills	11.78 mills
Sixth	3.27 mills	8.01 mills	11.28 mills
Seventh	2.90 mills	8.29 mills	11.19 mills
Eighth	2.90 mills	8.34 mills	11.24 mills
Ninth	2.48 mills	8.04 mills	10.52 mills
Tenth	2.05 mills	7.13 mills	9.18 mills
Milwaukee	8.62 mills	7.67 mills	16.29 mills
Average	3.42 mills	8.05 mills	11.47 mills
Coefficient of Variation	69.39 percent	17.55 percent	24.67 percent

Note: The first decile comprises the municipalities with the lowest equalized property values.  
Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

We see a similar trend in the school district property tax rate over the same period. On average, municipalities in each equalized value decile and Milwaukee have decreased school district mill rates. The largest decreases are in the wealthiest equalized value decile. The school district rate decreases range from 6.3 to 10.5 percent respectively across the equalized value deciles. In 2000, municipalities in the poorest equalized value decile have school district mill rates 16 percent higher than the school district mill rates in the wealthiest equalized value decile. The coefficient of variation, 24.67 percent, is slightly higher in 2004 than in 2000, indicating that that the level of school district tax rate disparity has increased a little in recent years.

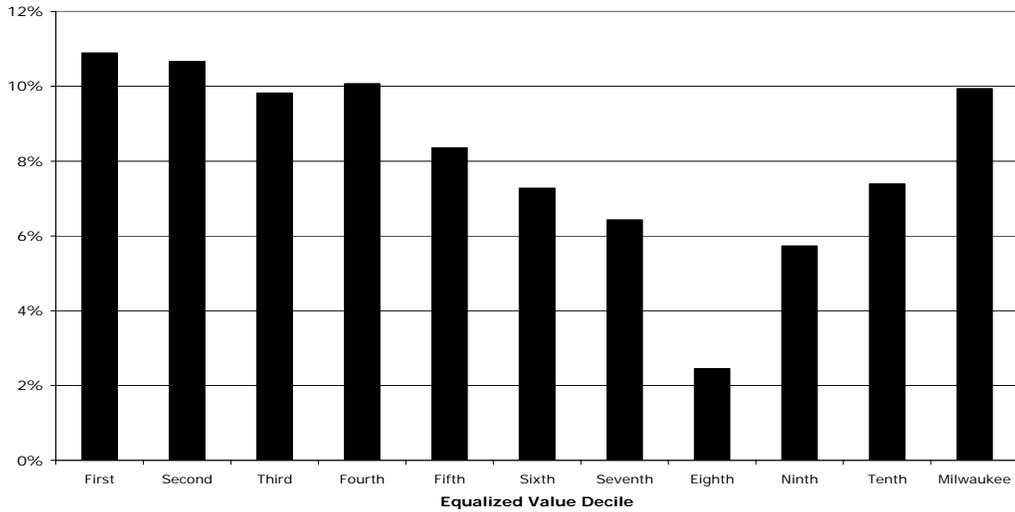
**Table 8**  
**Municipal and School District Property Tax Levies in 2004**

<b>Decile</b>	<b>Municipal Levy</b>	<b>School Levy</b>	<b>Combined Rate</b>
First	\$133.47	\$245.53	\$379.00
Second	\$182.56	\$329.74	\$512.30
Third	\$183.17	\$385.06	\$568.23
Fourth	\$208.97	\$427.77	\$636.74
Fifth	\$197.16	\$464.65	\$661.81
Sixth	\$200.20	\$501.34	\$701.54
Seventh	\$196.48	\$577.64	\$774.12
Eighth	\$217.54	\$637.89	\$855.43
Ninth	\$234.53	\$773.85	\$1,008.38
Tenth	\$449.64	\$1,402.14	\$1,851.78
Milwaukee	\$314.81	\$279.92	\$594.73
Average	\$220.57	\$575.04	\$795.61

Note: The first decile comprises the municipalities with the lowest equalized property values.  
Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

As shown in Table 8 and Figure 11, the school district levy follows roughly the same pattern as the municipal levy. On average, municipalities across all equalized value deciles and Milwaukee have increasing school district levies. Among the equalized value deciles, the largest increase in school levies happened in municipalities in the lowest equalized value decile while the smallest increase in school levies happened in municipalities in the wealthiest equalized value decile. As with the municipal levy, Milwaukee has a fairly large increase in the school district levy.

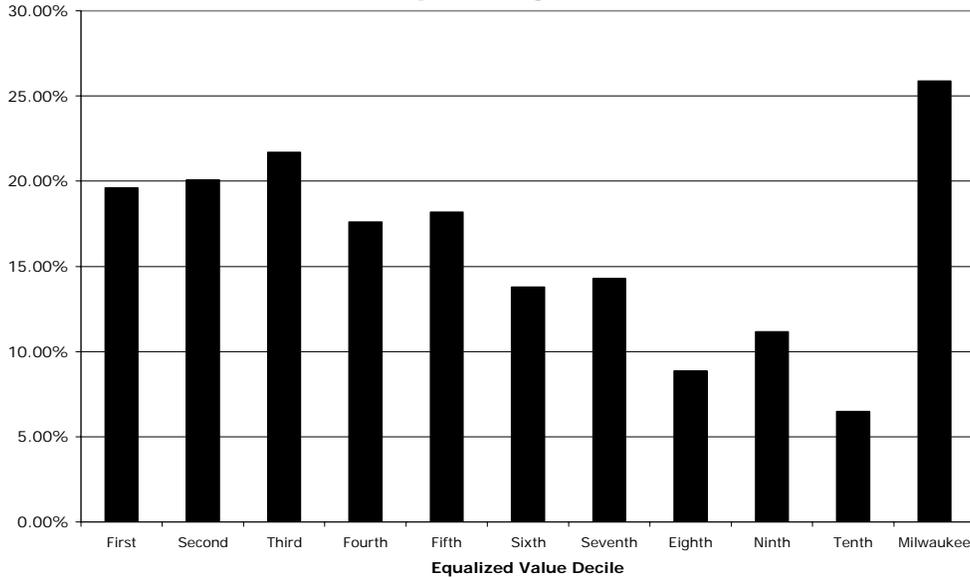
**Figure 11**  
**Change in School District Levy**  
**from 2000-2004, by Equalized Value Decile**



Note: The first decile comprises the municipalities with the lowest equalized property values.  
 Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

We again look at the combined school district and municipal property tax mill rates and levies to determine the net effect on the tax rate and levy. Municipalities across all equalized value deciles and Milwaukee decreased combined municipal and school district property tax rates in 2004. The largest percentage decreases are in the poorest and wealthiest equalized value deciles. However, municipalities in the poorest equalized value decile have combined school district and municipal property tax rates 37 percent higher than municipalities in the wealthiest equalized value decile, an increase from 2000. The coefficient of variation for the combined municipal and school district tax rate has increased by less than one percentage point from 2000 to 2004, indicating a very small increase in level of combined municipal and school district tax rate disparity.

**Figure 12  
Change in Combined School District  
and Municipal Levy 2000-2004**



Note: The first decile comprises the municipalities with the lowest equalized property values.  
Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

## Impact on Total Property Tax Bill

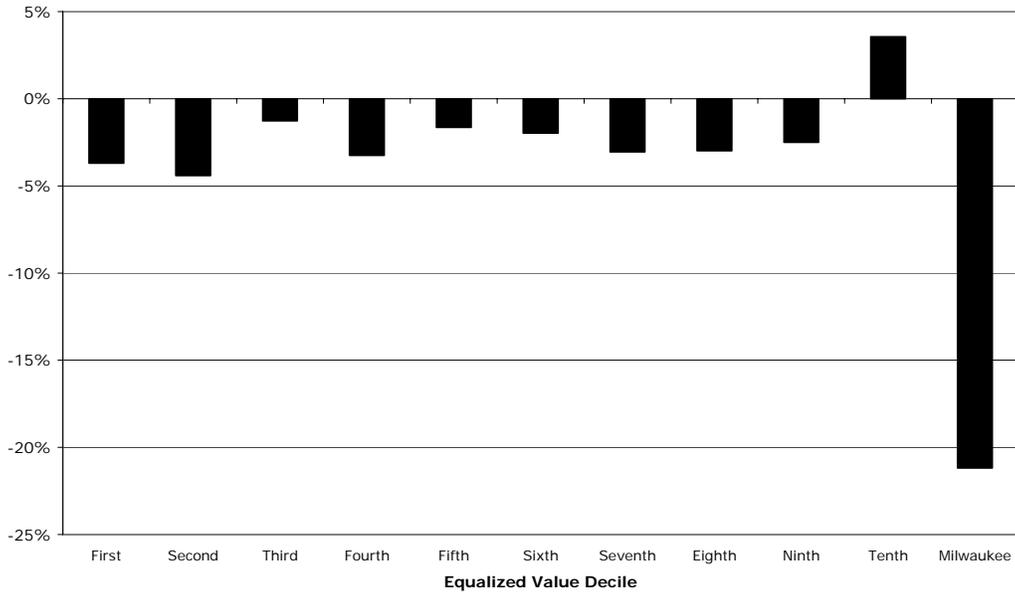
We use the same deciles plus the comparison groups described above to examine changes in the combined school district, municipal, county, technical college, special district, and state mill rates. We are interested in the effect of the changes in Shared Revenue and school funding on total property tax levies.

The total property tax levy, which includes school district, municipal, county, technical college, state, and special district property tax levies follows essentially the same pattern as the school district plus municipal property tax levies. In 2004, in the average municipality, the school district property tax makes up 40 percent of the total property tax. If we attribute the entire general tax credit to the school tax, before the credit it is 46 percent of the total property tax, the municipal property tax is 25 percent of the total property tax and the county property tax is 21 percent of the total property tax. The remaining taxes make up the other 14 percent of the total property tax.

From 1995 to 2000, the total tax rate dropped across all deciles and in Milwaukee. The largest decrease was in the wealthiest decile (30 percent). As shown in Figure 13, all other deciles and Milwaukee had decreased total property tax rates of 25.7 to 27.8 percent. Again we find the spread between the municipalities in the poorest and wealthiest equalized value deciles increasing. Municipalities in the lowest equalized value decile have total property tax rates 28 percent higher than

municipalities in the wealthiest equalized value decile. The coefficient of variation increase indicates that not only has the level of fiscal disparity increased, but the level of tax rate disparity has increased as well. Total property tax levies decrease slightly in all but the wealthiest equalized value deciles. In the wealthiest decile, there is a small percent increase in the total levy. In Milwaukee there is a large 21 percent reduction in the total property tax levy.

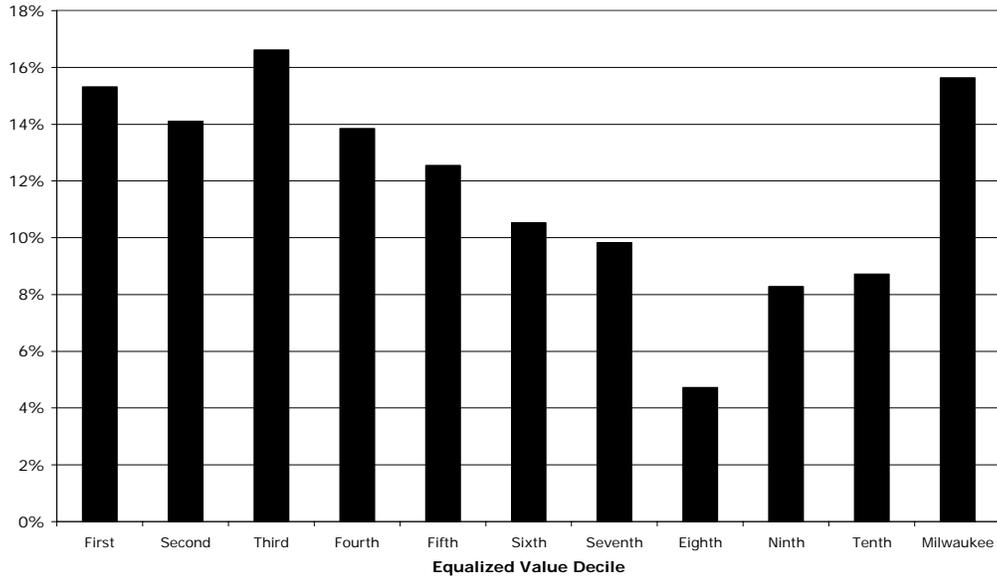
**Figure 13**  
**Change in Total Property Tax Levy**  
**from 1995-2000, by Equalized Value Decile**



Note: The first decile comprises the municipalities with the lowest equalized property values.  
 Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

From 2000 to 2004, following the changes to Shared Revenue, there were modest decreases in the total property tax rate across all deciles, as Figure 14 shows. However, the largest decreases are in the wealthiest municipalities (1.75 mills or 10 percent), while the poorest municipalities experienced much smaller decreases (0.88 mills or 4 percent). The result is that municipalities in the poorest equalized value deciles had total mill rates 37 percent higher than municipalities in the wealthiest equalized value decile. Across all equalized value deciles and Milwaukee, the total property tax levy increased. Generally, those increases are higher for the lower equalized value deciles than they are for the wealthier equalized value deciles.

**Figure 14: Change in Total Property Tax Levy from 2000 to 2004 by Equalized Value Decile**



Note: The first decile comprises the municipalities with the lowest equalized property values.  
Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

## Discussion

### *Fiscal Disparity*

From 1990 to 2000, the State was effective at reducing municipal fiscal disparities and moving toward taxpayer equity, as Table 9 shows. During this period, municipalities in all equalized value deciles saw reductions in their t/E ratios. The aidable revenue component of Shared Revenue produced very similar tax prices (t/E ratios) among the eight poorest equalized value deciles, despite large differences in per-capita equalized value. State policy resulted in small, but consistent decreases in the level of fiscal disparity from 1990 to 2000.

**Table 9: Total Property Tax Rate Over Time**

Decile	1990	1995	2000	2004
First	28.05	29.34	21.80	20.92
Second	27.89	29.23	21.67	20.75
Third	26.62	27.67	20.67	19.95
Fourth	27.04	28.12	20.91	20.04
Fifth	26.22	27.12	20.14	19.29
Sixth	25.80	26.83	26.16	19.24
Seventh	25.41	26.16	19.24	18.41
Eighth	25.25	26.02	19.12	18.19
Ninth	25.10	25.57	18.45	17.34
Tenth	23.31	24.13	16.98	15.23
Milwaukee	36.81	35.81	26.52	25.30
Average	26.07	27.01	19.94	18.91
Coefficient of Variation	15.33 percent	14.59 percent	17.19 percent	18.30 percent

Note: The first decile comprises the municipalities with the lowest equalized property values.

Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

The municipalities most adversely affected by policy changes between 2000 and 2004 are those with the slowest rate of per capita property wealth growth as well as those that had the largest per capita reductions in Shared Revenue. The cuts to Shared Revenue payments in the municipalities that received the largest per capita cuts in Shared Revenue represented an 8 percent decrease of their Fiscal Year 2000 revenue, on average. These municipalities also had among the largest percent increases in t/E ratios. In general, these municipalities have low per capita property wealth and high per capita expenditures.

Overall from 2000 to 2004, municipalities in the wealthiest decile made large gains relative to the rest of the state. In 2004, municipalities in the wealthiest equalized value decile have t/E ratios less than half those of municipalities in the eight poorest municipalities. The spread between the highest and lowest t/E ratios, by equalized value decile, is 4.13 mills-per-\$1,000 per capita expenditures. So while we see very little disparity between the eight poorest equalized value deciles, we see an increase in the gap between the wealthiest municipalities and the rest of the state.

## Impact of School Aid

The increase in school aid has a fairly large impact on the property tax rate Wisconsin taxpayers face. While the school district levy has decreased for Milwaukee and most equalized value deciles during the time periods included in this study, the municipal tax rate has remained fairly stable. The result is that the total average property tax levies in 2004 are slightly higher, on average, than property tax levies in 1990. However, the total property tax levies Wisconsin taxpayers faced in 2000 are somewhat lower than those in 2004. Between 2000 and 2004, municipalities in the three highest equalized value deciles saw the smallest percentage increases in total property tax levies. The wealthier municipalities start out with lower mill rates and get slightly larger mill rate reductions than do the poorer municipalities. Rather than the school property tax relief compensating the lowest property wealth municipalities for the increased fiscal disparity, these municipalities appear to be getting less tax relief than municipalities with the highest property wealth.

Milwaukee taxpayers gain some amount of tax relief. The total per-capita property tax levy dropped from \$1,100 in 1990 to \$920 in 2004. However, between 2000 and 2004, the per-capita total tax levy in Milwaukee increased by \$125. This increase is a larger percent reduction in total tax rate compared to all other groups aside from the wealthiest equalized value decile. However, Milwaukee gets roughly the same percent reduction in the school district tax levy as every other comparison group. The key difference is that from 1990 through 2000, Milwaukee received much more municipal property tax relief than all but the wealthiest municipalities. It appears that the large amount of municipal property tax relief drove the total tax rate relief in Milwaukee. Between 2000 and 2004, Milwaukee actually increased the per-capita municipal levy by \$60, while none of the equalized value deciles had average increases during that period of more than \$25.

Our analysis indicates that the changes in the Shared Revenue program have resulted in slowly rising disparity between Wisconsin municipalities. It is likely that, because state aid to municipalities no longer has annual calculations of a tax-base equalizing component, disparity will increase. The t/E ratio will become much more closely tied to property wealth and negatively impact low-property

wealth municipalities. We only find small increases in disparity at this point in time because the Shared Revenue changes happened relatively recently. We do find, clearly and consistently, that property tax levies for the wealthiest municipalities rise at a much smaller rate than do the property tax levies in low-property wealth municipalities since Fiscal Year 2000. If increased state aid for public education were to offset the increased levels of fiscal disparity that result from cuts to Shared Revenue, then we would see the level of school district property tax rate disparity decrease. That does not occur. We actually see an increase in school district tax rate disparity. The policy changes since 2000 have reduced low per capita property wealth municipalities relative to the rest of the state.

## **Recommended Policy Alternatives**

Our analysis shows there has been growing fiscal disparity between the lower eight equalized property wealth deciles and the highest wealth deciles. Our analysis also reveals an increase in municipal property tax levies everywhere except for the highest property wealth decile since 2000. We find that the abandonment of the aidable revenue formula is leading to greater fiscal disparities between low wealth and high wealth municipalities. As we have stated, Shared Revenue was still highly equalizing because until recently aid was allocated using a formula with an explicit tax base equalizing objective. Each year that the aidable revenues formula is not active, however, fiscal disparities are likely to increase. The shared revenue allocations can no longer reflect changes in per capita property wealth and spending needs.

We recommend that the Wisconsin Department of Revenue propose to the Administration and the Legislature that, in the future, Shared Revenue again be allocated on the basis of the aidable revenue formula. If the Legislature decides to reduce the total budget for Shared Revenue, allocating the smaller pot of money using the aidable revenue formula would allow the state to maximize the amount of fiscal equalization possible with any given size municipal and county aid budget.

Because we are aware that convincing the Legislature to reactivate the Shared Revenue formula may be difficult, an alternative policy in years in which the budget for Shared Revenue increases would be to increase Shared Revenue allocations on an equal percentage basis. In other words, each municipality's increase in Shared Revenue would be an equal percentage of its previous year's aid payment. In this way, the largest aid increases in dollars per capita would tend to go to municipalities that are the most reliant on Shared Revenue. In years in which the Shared Revenue budget is reduced, reductions in payments could be made on a per capita basis. Again, this would be most beneficial to municipalities with the largest per capita shared revenue allocations.

## Other Potential Policy Alternatives

### Revisiting Land-Use Assessment Policy

Areas in southern Wisconsin contain a substantial amount of agricultural land and have been particularly affected by the shift from market value to use value property tax assessments. As shown in Table 10, in fiscal year 2001, use-value taxation resulted in the largest reductions in total property value in the following five counties: Dane, Rock, Walworth, Dodge, and Grant.

**Table 10**  
**Use Value versus Market Value**  
**2000-2001 Top Five (\$ millions)**

County	Market Value	Use Value	Difference
Dane	\$1,107	\$231	\$876
Rock	\$664	\$183	\$481
Walworth	\$555	\$126	\$429
Dodge	\$602	\$205	\$397
Grant	\$591	\$202	\$390

Source: Wisconsin Department of Revenue, 2002

Although the use value system lowered property taxes for farmers, the new system significantly lowered the property tax revenue-generating abilities of communities in these counties. While the land-use assessment system benefits agricultural landowners, it has placed a much larger property tax burden on business and homeowners in areas with a large concentration of farmland.

Forty of the 75 municipalities that faced the greatest increase in mill rates in 2004 are in the southwest region of Wisconsin. Residents in these 40 municipalities faced an increase of 2.07 to 8.40 mills to their gross mill rate on their 2004 tax bills. The average increase was 3.66 mills in just one year. The DOR may wish to consider revisiting the land-use assessment policy in order to allocate property tax burdens more evenly between agricultural landowners and residents and business owners in areas with a high concentration of agricultural land.

### Reconfiguring the Current Expenditure Restraint Program

The State dedicates more than \$58 million annually to the expenditure restraint program. This program provides state aid to municipalities with a tax rate more than 5 mills that also increase their spending by less than the change in the consumer price index or a 60 percent change in the municipality's equalized value due to new construction (Witynski, 2006).

Property tax levies increased in all municipalities between 2000 and 2004. However, people in lower property wealth areas, including the City of Milwaukee, have seen higher percentage levy increases than people in wealthier municipalities. In the three lowest property wealth deciles and Milwaukee, the average increase in the property tax levy was more than 14 percent. The DOR should consider redesigning the current expenditure restraint program to target localities where total levy increases have been greater than 14 percent. The State could leave all other existing rules for the Expenditure restraint program as they currently are. Such a program would help the state target resources to areas in greatest need of state aid.

## Diversifying Municipal Revenue Sources

Municipalities in Wisconsin, on average, receive nearly 60 percent of their revenue from property taxes, Shared Revenue payments, and other sources of intergovernmental aid. On average, only 21 percent of municipal revenue comes from user fees. These include money obtained through fees collected for utility services, for the use of government space, including everything from parking ramps to community centers, for recreational facilities, and for individual and business permits (Wisconsin Legislative Audit Bureau, 2004). Wisconsin currently levies a state sales tax of 5 percent. Counties in Wisconsin have the option of levying up to an additional half- percent higher sales tax to use for county finance purposes. In a few exceptional cases in the Milwaukee region, counties have been allowed to levy an additional 0.1 percent onto the maximum sales tax levy for special purposes taxes. In the Milwaukee region example, these special purposes taxes cover the construction and maintenance of the Miller Park sports stadium. For municipalities to be less reliant on property taxes and intergovernmental aid, municipalities could increase user fees and make them a larger share of their total revenue. The DOR could also encourage the Legislature to help municipalities diversify their revenue base by changing State policy to allow municipalities to levy their own sales taxes.

## Conclusion

Residents across Wisconsin face lower total property tax rates than they did in 1990. The level-funding and subsequent reductions in Shared Revenue payments to municipalities have resulted in small increases in the level of fiscal disparity. While the increases have been small thus far, as time passes without an active equalizing formula, fiscal disparity is likely to continue increasing.

Our data show that the levels of fiscal disparity decreased during the period when the Shared Revenue equalizing formula was in effect and began to increase when the aidable revenues formula was turned off. Additionally, we found that municipalities with the largest reductions in Shared Revenue aid also faced the largest increase in the t/E ratios. Municipalities with the highest property wealth per-capita are able to tax at a much lower rate than municipalities with the lowest per-capita property wealth while maintaining a given level of expenditures. Without the Shared Revenue formula, the margin between t/E ratios in wealthy municipalities versus t/E ratios in poorer municipalities could continue to widen.

The State's commitment to funding two-thirds of the costs of K-12 public education has a significant impact on property tax rates. The school district property tax rates are significantly lower than in 1990. Property tax rates decreased slightly across all deciles from 2000 to 2004, with the wealthiest municipalities experiencing the largest decreases and the poorer municipalities experiencing the smallest decreases. The poorest municipalities face a tax rate that is 37 percent higher than the wealthiest municipalities. On average, the municipal tax levy increased from 2000 to 2004, except in the wealthiest municipalities. Only the wealthiest municipalities saw a reduction in municipal property tax levies during the most recent period. We also see that the level of school district mill rate disparity between the poorest and wealthiest municipalities is increasing. This increasing disparity suggests that the shift away from financing Shared Revenue and toward state aid to schools is actually increasing inequalities between the highest and lowest property wealth municipalities.

Reinstating the Shared Revenue aid formula would be the best way to address these disparities, but we recognize that such a change would require the support of the Legislature that voted to implement the changes to Shared Revenue.

It would be useful for the DOR to pursue a study of cost-adjusted taxpayer equity. We believe that such a study could be very important toward developing a full understanding of the fiscal well being of municipalities across the state.

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## Appendix A: Municipal and School District Property Taxes in 1990 and 1995

In 1990, municipal property tax levies increase as equalized value increases with the wealthiest municipalities having the largest municipal property tax levies and the poorest municipalities having the smallest municipal levies. Due to differences in property wealth, the low per-capita levies in the poorer municipalities required relatively high mill rates while the high per-capita levies in the wealthiest municipalities required relatively low mill rates. As shown in Table 11, Milwaukee has a higher municipal levy than any of the equalized value deciles, as well as has a much larger municipal mill rate than any of the equalized value deciles.

**Table 11**  
**Municipal and School District Property Taxes in 1990 by Deciles**

Decile	Municipal Rate	Municipal Levy	School Rate	School Levy
First	4.71 mills	\$90.30	15.24 mills	\$280.61
Second	4.77 mills	\$119.76	14.78 mills	\$369.33
Third	3.95 mills	\$115.14	14.86 mills	\$421.50
Fourth	4.40 mills	\$145.57	14.68 mills	\$472.13
Fifth	3.82 mills	\$128.99	14.58 mills	\$489.77
Sixth	3.56 mills	\$132.32	14.46 mills	\$526.79
Seventh	2.96 mills	\$124.57	14.80 mills	\$606.59
Eighth	2.86 mills	\$138.47	14.81 mills	\$677.45
Ninth	2.93 mills	\$158.47	14.59 mills	\$772.00
Tenth	2.95 mills	\$301.28	13.32 mills	\$1,193.72
Milwaukee	11.48 mills	\$349.60	13.27 mills	404.13

Note: The first decile comprises the municipalities with the lowest equalized property values.

Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

The differences in school district mill rates between equalized value deciles are relatively smaller than the differences in municipal mill rates. On average, municipalities in the poorest equalized value decile have municipal mill rates 60 percent higher than municipalities in the wealthiest equalized value deciles. The school district mill rate for municipalities in the lowest equalized value decile are 14 percent higher than those of municipalities in the wealthiest equalized value

deciles. The result of the relatively similar school district mill rates between deciles is that the school district levies in municipalities in the wealthiest equalized value deciles are approximately four times the size of the levies in municipalities in the poorest equalized value deciles.

As shown in Table 12, in 1995, low property wealth municipalities have mill rates that are consistently higher than those in the wealthiest municipalities. These differences are due to differences in property wealth. The average municipal mill rate in the poorest equalized value decile was 64 percent larger than the average municipal mill rate in the wealthiest equalized value decile. This is very similar to the pattern that we find in 1990. The wealthiest municipalities continue to have the highest municipal levies. The municipal levy in Milwaukee is much smaller in 1995 than it was in 1990.

**Table 12**  
**Municipal and School District**  
**Property Taxes in 1995 by Deciles**

<b>Decile</b>	<b>Municipal Rate</b>	<b>Municipal Levy</b>	<b>School Rate</b>	<b>School Levy</b>
First	4.72 mills	\$93.54	15.63 mills	\$298.83
Second	4.99 mills	\$133.06	15.17 mills	\$398.70
Third	4.08 mills	\$125.25	15.00 mills	\$444.88
Fourth	4.40 mills	\$153.13	15.07 mills	\$504.54
Fifth	3.66 mills	\$135.01	15.09 mills	\$543.27
Sixth	3.57 mills	\$150.69	14.98 mills	\$605.01
Seventh	3.05 mills	\$142.62	15.05 mills	\$687.83
Eighth	2.96 mills	\$158.28	15.11 mills	\$787.40
Ninth	2.92 mills	\$184.86	14.79 mills	\$912.29
Tenth	2.87 mills	\$369.99	13.71 mills	\$1,512.07
Milwaukee	10.04 mills	\$284.13	14.72 mills	\$416.74

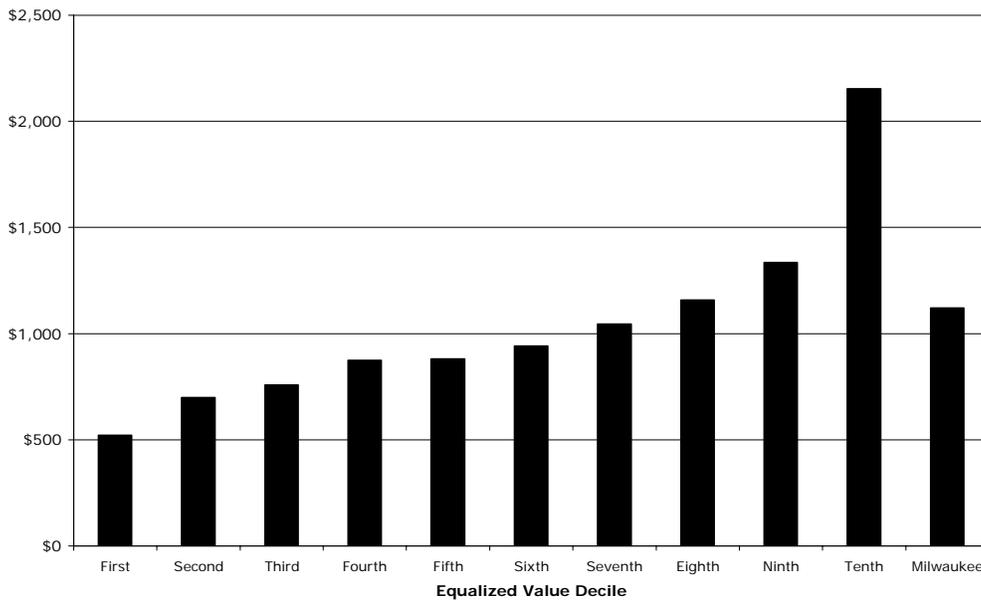
Note: The first decile comprises the municipalities with the lowest equalized property values.

Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

School district mill rates in 1995 are very similar across equalized value deciles. As in 1990, the school district mill rate in municipalities in the poorest equalized value decile was 14 percent higher than the mill rate in municipalities in the wealthiest equalized value decile. Municipalities in the eight poorest property wealth deciles have very similar school district mill rates. The wealthiest municipalities have the lowest school district mill rates; however, due to high property wealth, those same municipalities have the highest school district levies.

As shown in Figure 15, in 1990 on average, municipalities in the poorest equalized value decile had the highest total property tax rates, and municipalities in the wealthiest equalized value deciles had the lowest total property tax rates. Municipalities in the poorest equalized value deciles had total property tax mill rates that were 20 percent higher than were the total mill rates in municipalities in the wealthiest equalized value decile. Milwaukee had a total mill rate much higher than the rest of the state. The highest levies were found in the wealthiest municipalities and the lowest levies were found in the poorest municipalities.

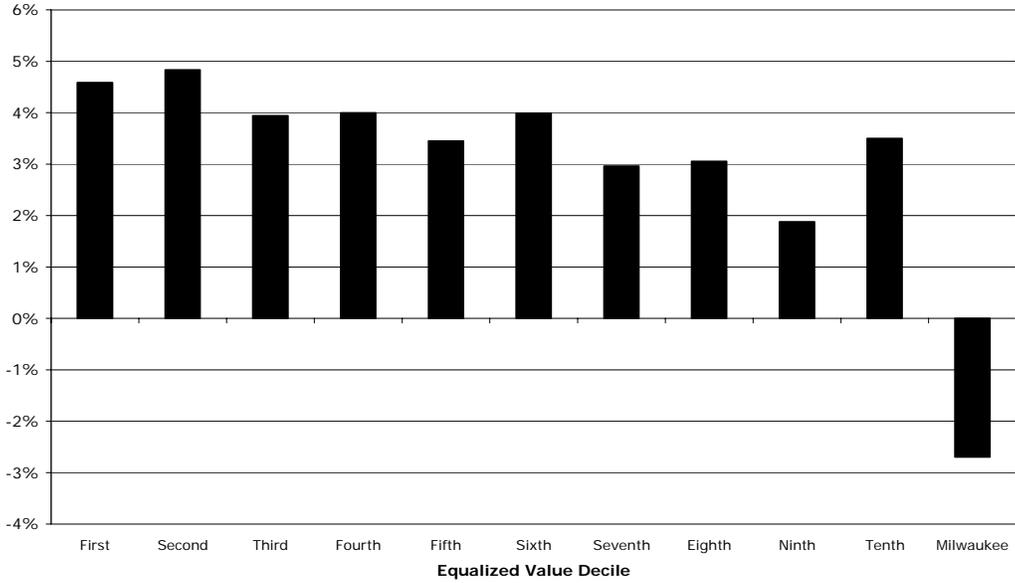
**Figure 15**  
**Total Property Tax Levy in 1990 by Equalized Value Decile**



Note: The first decile comprises the municipalities with the lowest equalized property values.  
 Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

In 1995, on average, municipalities in all deciles had very similar total property tax rates to the 1990 total tax rates. As illustrated in Figure 16, the total tax rate increased between 1.88 and 4.83 percent in all deciles, although the total property tax rate decreased by 2.7 percent in Milwaukee. On average, municipalities in the poorest equalized value decile have mill rates 22 percent higher than municipalities in the wealthiest equalized decile, a slightly larger spread than in 1990 and may be indicative of increasing tax rate disparity. The total property tax levy increases across all equalized value deciles with the smallest percent increases occurring in the poorest equalized value decile and the largest percent increases occurring in the wealthiest equalized value decile. Milwaukee has a nearly 10 percent decrease.

**Figure 16**  
**Change in Total Property Tax Levy**  
**from 1990-1995, by Equalized Value Decile**



Note: The first decile comprises the municipalities with the lowest equalized property values.  
Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

## Appendix B: Regional Differences in Tax

We test whether any systematic differences in tax price exist across the state. We are especially interested in examining how land-use assessment policy affects tax payer equity in portions of the state with a high concentration of agricultural land. In 1995, the state enacted Wisconsin Act 27, which changed the standard for assessing agricultural land in Wisconsin from market value to use value (Wisconsin Department of Revenue, 2006). The goal of this legislation was to slow urban sprawl and allow farmers to keep their land in agricultural production without burdensome taxation (Wisconsin Legislative Reference Bureau, 2003). This law significantly lowered the value of some property in Wisconsin. The declining use values resulted in a lower property tax base than under the market value system. The cumulative reduction in agricultural land property taxes over the 1996-2002 period was approximately \$767 million.

We use the Wisconsin Department of Health and Family Services regions displayed in the following map to categorize municipalities.

### Wisconsin Department of Health and Family Services Regions by County

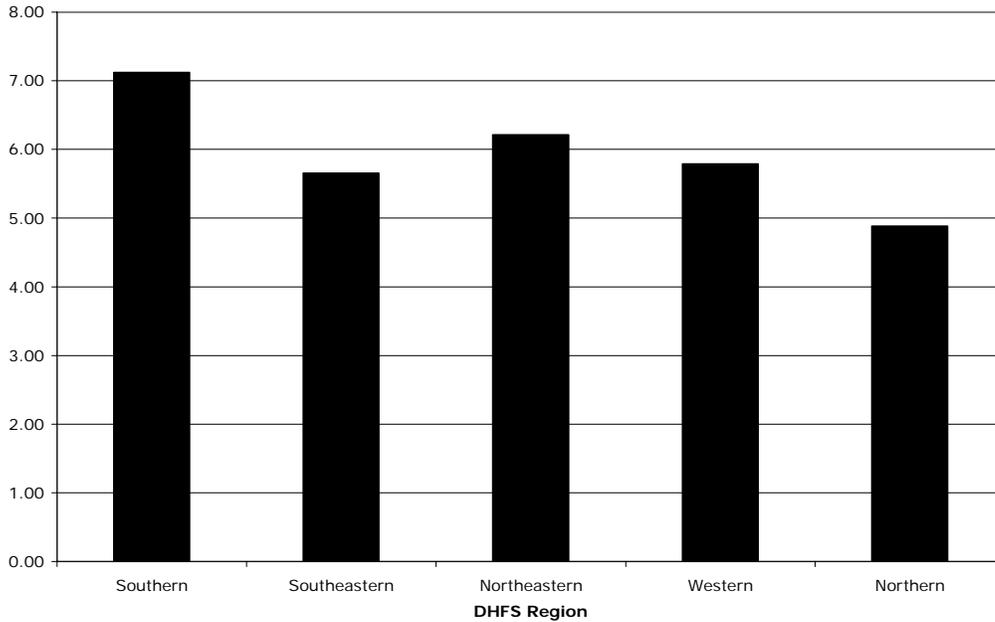


Source: Wisconsin Department of Health and Family Services, <http://dhfs.wisconsin.gov/aboutdhfs/regions.htm>

We calculate average school, municipal, and total mill rates by region. We perform a very similar analysis by DHFS region as we do with the equalized value deciles. In this section, we do not separate Milwaukee out as we did previously.

As shown in Figure 17, we find that in 2004, municipalities in the southern Wisconsin region had the lowest property value growth rate. These municipalities also had the lowest property wealth in the state. These municipalities have the highest school district property tax rates, the second highest municipal property tax rates, and the highest total tax rates in the state. Most striking is that these municipalities had by far the largest increase in t/E ratio, the municipal mill rate necessary to finance \$1,000 in per-capita expenditures (13.4 percent).

**Figure 17**  
**Mills per-\$1,000 Per Capita Expenditures**  
**in 2004, by Region**



Source: Authors' calculation using data from Wisconsin Department of Revenue, 2006

We have analyzed the municipalities with the highest municipal tax rates and found that approximately 180 municipalities with the highest municipal tax rates, roughly half are in southern Wisconsin. Seventeen of the remaining 90 municipalities are in Milwaukee County.

## **Appendix C: Compiling the Data**

We needed municipal level data on revenue and spending to complete our analysis of the effects of the level funding and subsequent per-capita cuts to Shared Revenue. The Wisconsin Department of Revenue did not have this information in one spreadsheet, so we combined spreadsheets to have the information for this analysis.

We utilize data from the Wisconsin Department of Revenue on expenditures, property tax levies, and other revenue sources for years 1989-1990, 1994-1995, 1999-2000, and 2003-2004. In each year we combined two excel files, one with aid and expenditure data and another with property tax information, including gross, levy, general credit, school levy, municipal levy, population, and equalized value. We matched the municipal data from the two datasets by municipal identification number. In some instances, municipalities would show up in the data on multiple occasions because they were located in multiple counties. Those municipalities were identified in the original data sets with notes indicating which other municipal codes went together. We added the data for these municipalities together, highlighted them and re-entered them into the combined data set. We repeated this process for each year. We then entered each of these new composite spreadsheets into a master spreadsheet. The spreadsheet for each year was placed into a unique worksheet. If we did not have data on a municipality in any given year, we excluded it from the study.

## **Appendix D: Wisconsin Property Tax as a Percentage of Personal Income**

Property taxes per \$1,000 in personal income have decreased in Wisconsin over the last 35 years. In 1970, Wisconsin ranked fourth highest in the nation for property taxation as a share of personal income at \$63.35 per \$1,000 in income. By 1980, property taxes a percentage of personal income had significantly decreased to \$35.43 per \$1,000 in personal income. As of 1980, Wisconsin was 19th highest in the nation for property taxation as a share of personal income.

However, by 1995, Wisconsin was again ranked in the top 10 in property taxation as a share of personal income. Ranked at seventh highest, Wisconsin residents paid \$48.04 per \$1,000 in personal income. This figure drops again by 2000, residents were only paying \$39.32 in property taxes for \$1,000 in personal income, and Wisconsin ranked 10th highest in the nation for property taxation as a share of personal income. By 2002, this share was again creeping upward. Wisconsin ranked eighth highest in the nation with \$40.76 in property taxes per \$1,000 in personal income (Wisconsin Legislative Fiscal Bureau, 2005).