

# **2003 Minnesota Tax Incidence Study**

(Updated April 7, 2003 using February 2003 Forecast)

An analysis of Minnesota's household and business taxes.  
March 2003



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and business taxes.**

**Minnesota Department of Revenue  
Tax Research Division**

**March 1, 2003**

**The *Tax Incidence Study* is available on the  
Department of Revenue's Internet web site at  
<http://www.taxes.state.mn.us/reports/reports.html>**



# MINNESOTA · REVENUE

March 1, 2003

## **To the Members of the Legislature of the State of Minnesota:**

I am pleased to transmit to you the seventh Minnesota Tax Incidence Study undertaken by the Department of Revenue in response to Minnesota Statutes, Section 270.0682 (Laws of 1990, Chapter 604, Article 10, Section 9).

This version of the incidence study report builds on past studies and provides new information regarding tax incidence. Previous studies have estimated how the burden of state and local taxes was distributed across income groups from a historic perspective. This study does that by displaying the burden of state and local taxes across income groups in 2000. It includes over 99 percent of Minnesota taxes paid, those paid by business as well as those paid by individuals. The study addresses the important question: "Who pays Minnesota's taxes?" It reports detailed information on characteristics and tax burdens of Minnesota taxpayers, both at the business and household level.

The report also estimates tax incidence across income groups for state and local taxes for 2005. By forecasting incidence into the future, it is possible to give policy makers a view of the state and local tax system that reflects tax law changes enacted into law to date. Studies that concentrate only on history would not reflect the most recent changes to Minnesota's tax system. In order to provide this information, a forecast of future economic conditions was required. This version of the report contains a forecast that is consistent with the November, 2002 economic outlook from the Department of Finance. As such, we plan on updating this study to reflect changes contained in the most current economic outlook.

The study also includes estimates of effective tax rates for business sectors in Minnesota's economy. This allows the tax system to be compared across industries by the major state and local taxes. The calculations are provided for both 2000 and 2005. Updates for 2005 will follow the same update schedule.

The information presented here can be used to evaluate Minnesota's tax system. It should also be valuable in considering any future changes in Minnesota's tax structure.

Minnesota Statutes, Section 3.197, specifies that a report to the Legislature must include the cost of its preparation. The approximate cost of preparing this report was \$80,000.

Sincerely,

Daniel A. Salomone  
Commissioner



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## Executive Summary

This report shows the distribution of calendar year 2000 Minnesota state and local taxes in relation to taxpayer income, along with projections for calendar year 2005. It answers the question, “Who pays Minnesota’s taxes?” The major objective is to provide taxpayers and policymakers with important information on the equity or fairness of the overall distribution of Minnesota taxes. Knowing the distribution of taxes allows conclusions to be drawn about the relative burden of the tax system, or about specific taxes, that are borne in Minnesota and ultimately by Minnesotans. This is the seventh biennial tax incidence study prepared in response to the statutory requirement enacted in 1990.

Included in this report are taxes with an initial impact on businesses, such as the corporate franchise tax and the sales tax on business purchases, as well as taxes imposed directly on households. The taxes imposed on businesses are further analyzed by industry sector. The report first discusses the initial burdens of taxes on Minnesota households and businesses. The analysis then proceeds to the estimation of the final incidence of taxes on Minnesota households.

### Minnesota State and Local Tax Collections

Minnesota collected \$17.6 billion in state and local taxes in 2000 and by 2005 collections are expected to rise to \$20.5 billion. Over 70% is collected at the state level; local governments collected the remainder, largely from property taxes. The primary purpose of the report is to illustrate Minnesota’s tax system in total by examining the individual elements and tracing their impact through to Minnesota’s households. By so doing, the total tax system and each separate tax can be estimated as to who pays the tax in relation to their income.

The coverage of this study is summarized in *Table 1-1*. The study includes taxes on households and businesses accounting for over 99 percent of total state tax collections and over 99 percent of local tax collections. The report examines 31 separate tax system components.

**Table 1-1**  
**Minnesota State and Local Tax Collections in 2000**  
**(\$ Millions)**

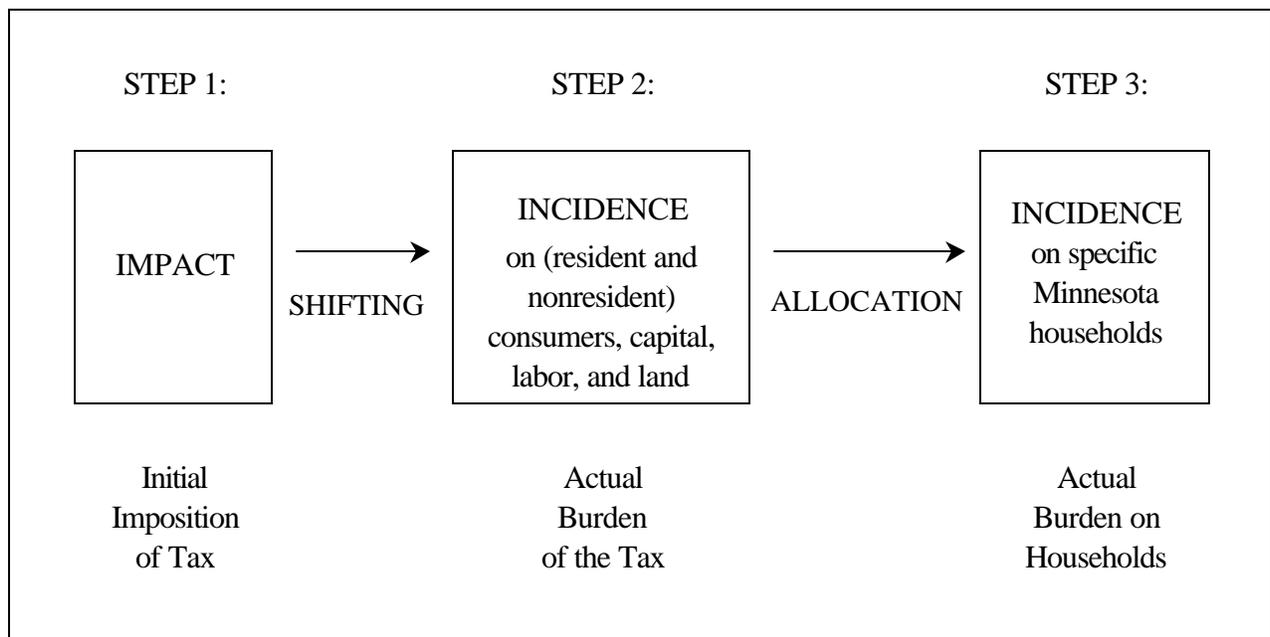
<b>State</b>	<b>Local</b>		<b>Total State and Local</b>
<b>Included</b>	<b>Included</b>	<b>Included</b>	
Individual income tax	\$5,736	Gross property taxes (after credits)	
Corporate franchise tax	766	Homestead property taxes	\$2,005
Estate tax	68	Property taxes on second home	101
General sales and use tax	3,751	Rental property taxes (residential)	422
Sales tax on motor vehicles	543	Other business property taxes	
Motor fuels excise taxes	608	(including farming and taconite)	<u>2,246</u>
Alcoholic beverage excise taxes	62		
Cigarette & tobacco excise taxes	188	Subtotal	\$4,774
Insurance premiums tax	180		
Gambling taxes	61	Sales taxes	112
MinnesotaCare taxes	159	Gross earnings taxes	43
Motor vehicle registration tax	537		
Mortgage and deed taxes	150		
Waste Taxes	55		
Property tax refunds	<u>-194</u>		
Total	\$12,670	Total	\$4,929
			\$17,599
<b>Omitted</b>	<b>Omitted</b>	<b>Omitted</b>	
Controlled substances tax		Tree growth tax	
Airflight property tax		Auxiliary forest tax	
Aircraft registration tax		Contamination tax	
Rural Electric Cooperatives tax		Severed mineral interests tax	
Metropolitan solid waste landfill fee		Unmined taconite tax	
		Local gambling tax	
Total	\$21	Total	\$7
			\$28
<b>Total Tax Collections</b>	<b>\$12,691</b>	<b>Total Tax Collections</b>	<b>\$4,936</b>
		<b>Total Tax Collections</b>	<b>\$17,627</b>

## The Concept of Tax Incidence

Economists commonly distinguish between the initial impact of a tax and its incidence. The initial impact of a tax is on the taxpayer legally liable to pay the tax, while the incidence of a tax is the final resting place of the tax after any tax shifting has occurred.

*Figure 1-1* illustrates the steps involved in moving from impact to tax incidence on Minnesota households.

**Figure 1-1**  
**Estimating Tax Incidence**

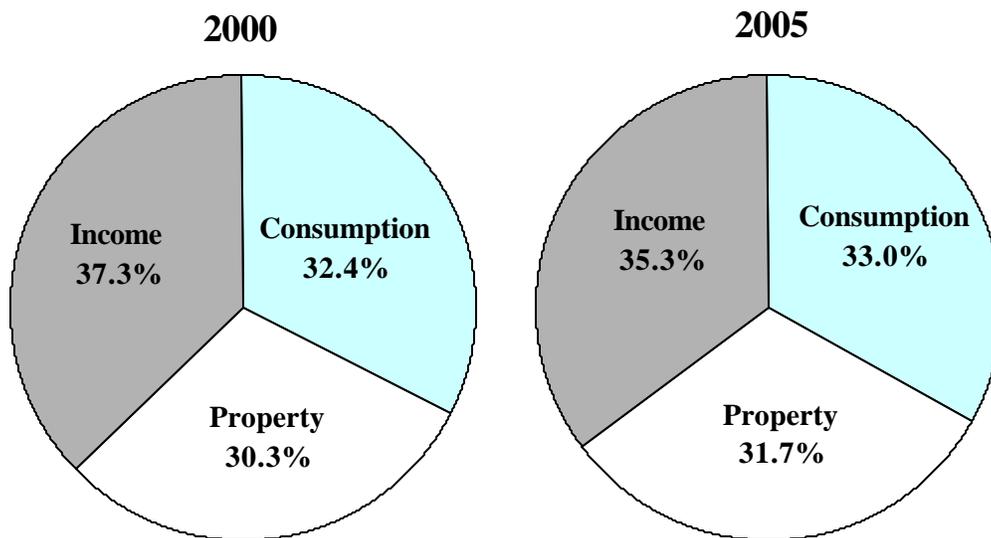


Following are the major findings of this study laid out according to each step in *Figure 1-1*.

## Step 1 – Impact

Figure 1-2 illustrates the distribution of the revenues actually collected in 2000 and expected to be collected in 2005 by three general categories: Income, Consumption, and Property.

**Figure 1-2**  
**Minnesota Tax System Impacts by Tax Area**



The change between 2000-2005 are largely attributable to two factors. Weakness in income taxes, particularly corporate, coupled with property tax reform combined to lower the share attributed to income and increase both consumption and property. See *Tables 1-2 and 1-3* for details.

Another way to look at the distribution of Minnesota's tax system is by state taxes versus local taxes. Between 2000 and 2005 the split between state and local tax is expected to move approximately one percentage point towards state collections with the state share totaling 73 percent by 2005. The gain in state share is due to tax law changes which reduced local property taxes and established a state property tax levy.

**Table 1-2**  
**2000 State and Local Tax Collections**  
**By Type of Tax and Taxpayer Category**  
(\$ Millions)

Tax Category	Collections		Percentage by Taxpayer Category			
	Total	Percentage Distribution	Households		Businesses	Total
			Resident	Nonresident		
<b>State Taxes</b>						
<b>Taxes on Income</b>						
Individual income tax	\$5,736	32.6%	96.2%	3.8%		100.0%
Corporate franchise tax <sup>1</sup>	766	4.4			100.0%	100.0
Estate tax	68	0.4	100.0			100.0
<b>Total Income and Estate Taxes</b>	<b>\$6,570</b>	<b>37.3%</b>	<b>85.0%</b>	<b>3.3%</b>	<b>11.7%</b>	<b>100.0%</b>
<b>Taxes on Consumption</b>						
Total sales tax	\$4,294	24.4%	52.9%	3.3%	43.7%	100.0%
General sales/use tax	3,751	21.3	51.0	3.8	45.2	100.0
Sales tax on motor vehicles	543	3.1	66.3		33.7	100.0
Motor fuels excise taxes	608	3.5			100.0	100.0
Alcoholic beverage excise taxes	62	0.3			100.0	100.0
Cigarette and tobacco excise taxes	188	1.1			100.0	100.0
Insurance premiums taxes	180	1.0			100.0	100.0
Gambling taxes	61	0.3			100.0	100.0
MinnesotaCare taxes	159	0.9			100.0	100.0
<b>Total Consumption Taxes</b>	<b>\$5,551</b>	<b>31.5%</b>	<b>40.9%</b>	<b>2.6%</b>	<b>56.5%</b>	<b>100.0%</b>
<b>Taxes on Property</b>						
Total property tax refunds	\$(194)	(1.1)%	100.0%			100.0%
Homeowners	(75)	(0.4)	100.0			100.0
Renters	(119)	(0.7)	100.0			100.0
Residential recreational						100.0
Commercial						
Industrial						
Utility						
<b>Total Property Taxes</b>	<b>\$(194)</b>	<b>(1.1)%</b>	<b>100.0%</b>			<b>100.0%</b>
<b>Other Taxes</b>						
Motor vehicle registration tax	\$537	3.1%	81.0%		19.0%	100.0%
Mortgage and deed taxes	150	0.9	67.7		32.3	100.0
Solid waste management taxes	55	0.3	39.8		60.2	100.0
<b>Total Other Taxes</b>	<b>742</b>	<b>4.2</b>	<b>75.3</b>		<b>24.7</b>	<b>100.0</b>
<b>Total State Taxes</b>	<b>\$12,669</b>	<b>72.0%</b>	<b>64.9%</b>	<b>2.8%</b>	<b>32.2%</b>	<b>100.0%</b>
<b>Local Taxes</b>						
Property taxes (Pay 2000)	\$4,773	27.1%	43.7%	0.4%	55.9%	100.0%
General property tax (gross-credits)	4,679	26.6	44.6	0.4	55.0	100.0
Homeowners (gross)	2,005	11.4	100.0			100.0
Residential recreational	101	0.6	80.2	19.8		100.0
Commercial <sup>2</sup>	1,193	6.8			100.0	100.0
Industrial	417	2.4			100.0	100.0
Farm (other than residence) <sup>3</sup>	240	1.4			100.0	100.0
Rental housing	422	2.4			100.0	100.0
Utility	303	1.7			100.0	100.0
Minerals <sup>4</sup>	0	0.0			100.0	100.0
Mining production taxes (taconite)	93	0.5			100.0	100.0
Local sales taxes <sup>5</sup>	112	0.6	51.0	3.8	45.2	100.0
Local gross earnings taxes <sup>6</sup>	43	0.2			100.0	100.0
<b>Total Local Taxes</b>	<b>\$4,928</b>	<b>28.0%</b>	<b>43.5%</b>	<b>0.5%</b>	<b>56.0%</b>	<b>100.0%</b>
<b>Total State and Local Taxes</b>	<b>\$17,597</b>	<b>100.0%</b>	<b>58.9%</b>	<b>2.2%</b>	<b>38.9%</b>	<b>100.0%</b>

<sup>1</sup>Includes taconite/iron ore occupation tax.

<sup>2</sup>Commercial includes resorts and railroads.

<sup>3</sup>Farm includes timber.

<sup>4</sup>Minerals amount less than \$500,000.

<sup>5</sup>Allocated to business/consumer in the same proportions as general sales tax.

<sup>6</sup>For cities with annual receipts greater than \$500,000.

**Table 1-3**  
**2005 State and Local Tax Collections**  
**By Type of Tax and Taxpayer Category**  
**(\$ Millions)**

Tax Category	Collections		Percentage by Taxpayer Category			
	Total	Percentage Distribution	Individuals		Business	Total
			Resident	Nonresident		
<b>State Taxes</b>						
<b>Taxes on Income and Estates</b>						
Individual income tax	\$6,470	31.6%	96.2%	3.8%		100.0%
Corporation franchise tax <sup>1</sup>	677	3.3%			100.0%	100.0%
Estate tax	72	0.3%	100.0%			100.0%
<b>Total Income and Estate Taxes</b>	<b>\$7,218</b>	<b>35.3%</b>	<b>87.2%</b>	<b>3.4%</b>	<b>9.4%</b>	<b>100.0%</b>
<b>Taxes on Consumption</b>						
Total sales tax	\$5,025	24.6%	52.9%	3.3%	43.8%	100.0%
General sales/use tax	4,415	21.6%	51.0%	3.8%	45.2%	100.0%
Sales tax on motor vehicles	610	3.0%	66.3%		33.7%	100.0%
Motor fuels excise taxes	672	3.3%			100.0%	100.0%
Alcoholic beverage excise taxes	65	0.3%			100.0%	100.0%
Cigarette and tobacco excise taxes	185	0.9%			100.0%	100.0%
Insurance premiums taxes	281	1.4%			100.0%	100.0%
Gambling taxes	59	0.3%			100.0%	100.0%
MinnesotaCare taxes	345	1.7%			100.0%	100.0%
<b>Total Consumption Taxes</b>	<b>\$6,633</b>	<b>32.4%</b>	<b>40.0%</b>	<b>2.5%</b>	<b>57.4%</b>	<b>100.0%</b>
<b>Taxes on Property</b>						
Residential recreational	\$36	0.2%	80.2%	19.8%		100.0%
Commercial	393	1.9%			100.0%	100.0%
Industrial	131	0.6%			100.0%	100.0%
Utility	62	0.3%			100.0%	100.0%
<b>Total Property Taxes</b>	<b>\$622</b>	<b>3.0%</b>	<b>4.6%</b>	<b>1.1%</b>	<b>94.2%</b>	<b>100.0%</b>
<b>Other Taxes</b>						
Motor vehicle registration tax	\$529	2.6%	81.0%		19.0%	100.0%
Mortgage and deed taxes	185	0.9%	67.7%		32.3%	100.0%
Solid waste management taxes	62	0.3%	39.8%		60.2%	100.0%
<b>Total Other Taxes</b>	<b>\$776</b>	<b>3.8%</b>	<b>74.5%</b>	<b>0.0%</b>	<b>25.5%</b>	<b>100.0%</b>
<b>Property Tax Refunds</b>						
Homeowners	(\$154)	-0.8%	100.0%			100.0%
Renters	(139)	-0.7%	100.0%			100.0%
<b>Total Property Tax Refunds</b>	<b>(\$292)</b>	<b>-1.4%</b>	<b>100.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>100.0%</b>
<b>Total State Taxes</b>	<b>\$14,957</b>	<b>73.1%</b>	<b>62.0%</b>	<b>2.8%</b>	<b>35.2%</b>	<b>100.0%</b>
<b>Local Taxes</b>						
Property taxes (Pay 2000)	\$5,333	26.1%	55.1%	0.5%	44.4%	100.0%
General property tax (gross - credits)	5,260	25.7%	55.9%	0.5%	43.7%	100.0%
Homeowners (gross)	2,840	13.9%	100.0%			100.0%
Residential recreational	124	0.6%	80.2%	19.8%		100.0%
Commercial <sup>2</sup>	1,040	5.1%			100.0%	100.0%
Industrial	342	1.7%			100.0%	100.0%
Farm (other than residence) <sup>3</sup>	238	1.2%			100.0%	100.0%
Rental housing	475	2.3%			100.0%	100.0%
Utility	201	1.0%			100.0%	100.0%
Minerals <sup>4</sup>	0	0.0%			100.0%	100.0%
Mining production taxes (taconite)	73	0.4%			100.0%	100.0%
Local sales taxes <sup>5</sup>	126	0.6%	51.0%	3.8%	45.2%	100.0%
Local gross earnings taxes <sup>6</sup>	51	0.2%			100.0%	100.0%
<b>Total Local Taxes</b>	<b>\$5,509</b>	<b>26.9%</b>	<b>54.5%</b>	<b>0.5%</b>	<b>45.0%</b>	<b>100.0%</b>
<b>Total State and Local Taxes</b>	<b>\$20,466</b>	<b>100.0%</b>	<b>60.0%</b>	<b>2.2%</b>	<b>37.8%</b>	<b>100.0%</b>

<sup>1</sup> Includes taconite/iron ore occupation tax.

<sup>2</sup> Commercial includes resorts and railroads.

<sup>3</sup> Farm includes timber.

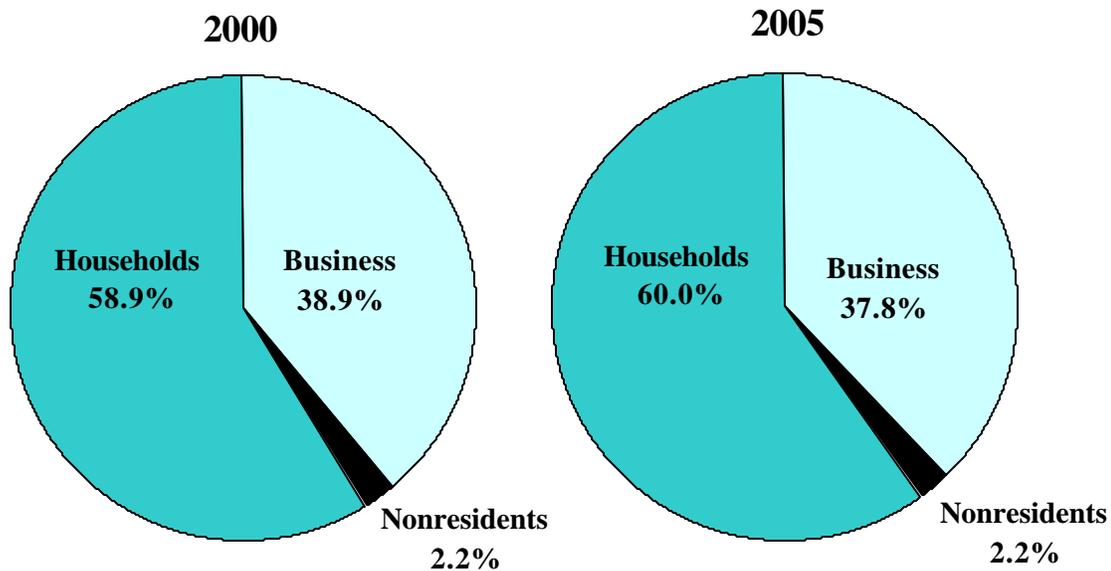
<sup>4</sup> Minerals does not include the aggregate material production tax.

<sup>5</sup> Allocated to business/consumer in the same proportions as general sales tax.

<sup>6</sup> For cities with annual receipts > \$500,000.

In addition, it is also possible to examine the impact of the tax system on households and businesses. *Figure 1-3* depicts the proportions of the tax system that impact the two categories with a small amount in both years expected to be paid by nonresidents of Minnesota.

**Figure 1-3**  
**Minnesota Tax System Impacts: Business vs. Households**



Three factors combine over the five-year period to shift taxes away from business and toward households. First, corporate income tax receipts are expected to decline. Second, the new statewide property tax, while largely a business tax, is restricted in growth to the rate of inflation. The third reason is the phasing out of limited market value for homesteads allowing additional market value to become part of the tax base by 2005.

To further explore the impact of Minnesota’s tax system on businesses, taxes have been allocated by industrial sector.

### **Effective Tax Rates by Industrial Sector**

#### *Background*

The burden a tax system places on business is of interest to policymakers. While the old saying that “businesses don’t pay taxes, people do” is essentially true, the issue of tax burden on business is important in a competitive marketplace which is increasingly global in scope. In order to examine the issue in Minnesota, the following analysis has been included in the tax incidence report.

Taking the private business sector amounts and allocating each of the separate taxes analyzed in this study, it is possible to calculate and compare the total tax burden by the major industrial sectors in Minnesota's economy.

The next step in calculating the effective tax rates is to select a common measure for a tax base across industry sectors so that a meaningful comparison can be made. This is necessary because of the diverse number of bases that are involved in Minnesota's tax system. For example, property tax is computed on a value concept while sales tax is tied to a selling price and corporate income tax is computed on a measure of profit. The common base used in this analysis is gross state product (GSP) associated with each sector of the state's economy. The source of the output figures are estimates produced by the U.S. Department of Commerce for 2000 and a forecast for 2005.

### Summary of Effective Tax Rates by Industry

As shown in *Table 1-4*, the overall effective tax rate on Minnesota's businesses was 4.04% in 2000 and is estimated to fall to 3.66% by 2005, a decline of over 9%. The decline is due to reductions associated with property tax reform and slow economic growth in general holding down most business taxes. Approximately 40% of all business tax burden comes from property taxes. Sales and use is second followed by corporate income tax which is a distant third.

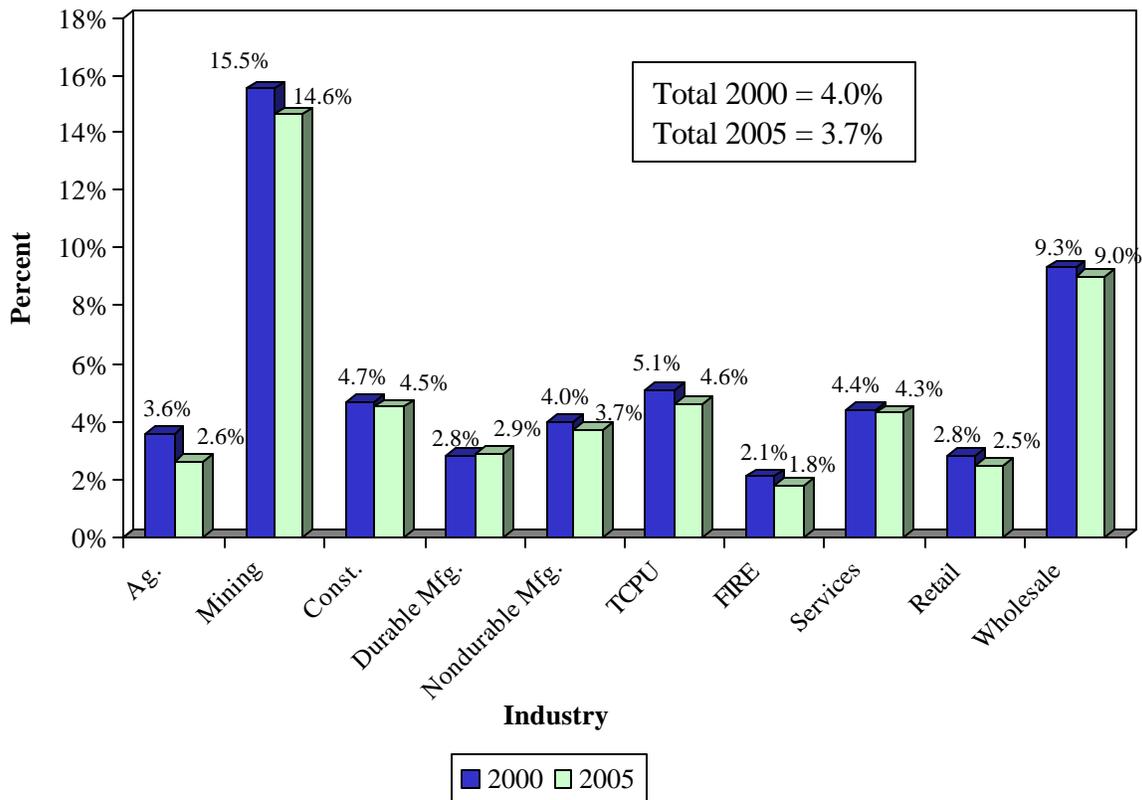
**Table 1-4**  
**Effective Rates by Tax**

Tax	Effective Rate	
	2000	2005
Corporate Franchise	0.46%	0.33%
General Sales	0.98	0.93
Motor Vehicle Sales	0.11	0.10
Motor Fuels	0.37	0.33
Insurance Premiums	0.11	0.14
Mortgage/Deed	0.03	0.03
MinnesotaCare	0.09	0.17
Other	0.23	0.19
Property Tax	1.66	1.48
Commercial	0.72	0.70
Industrial	0.25	0.23
Farm	0.14	0.12
Utility	0.18	0.13
Rental	0.25	0.23
Minerals/Taconite	0.06	0.04
Motor Vehicle Reg.	0.06	0.05
<b>Total Private</b>	<b>4.04%</b>	<b>3.69%</b>

On a sector basis in 2000 the highest effective tax rate of 15.5% belongs to mining. While much of the mining tax burden is destined for outside Minnesota, the taconite tax, tied directly to production, is the reason for the high rate. At the opposite end of the spectrum is the Finance, Insurance and Real Estate (FIRE) sector which has an effective tax rate of 2.1%.

Figure 1-4 contains the ten industrial sectors with their effective tax rates for 2000 and 2005.

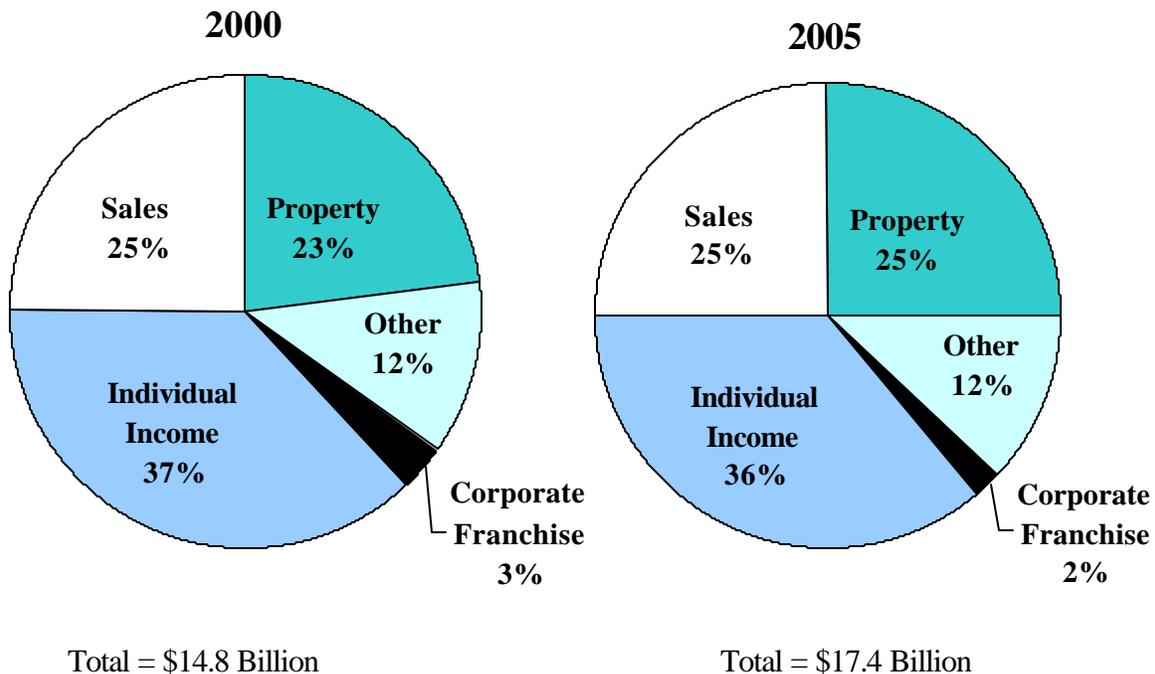
**Figure 1-4**  
**Effective Tax Rates for 2000 and 2005**



## Step 2 – Shifting

Step 2 relies on economic theory to estimate how much of the burden of each tax is “shifted” from the initial business taxpayer to households. Such shifting depends on Minnesota tax rates compared to those in other states, the nature of the market for the goods or services produced by the business being taxed and other factors. Step 2 estimates how much of the business tax burden is shifted onto consumers (in higher prices), labor (in lower wages), and capital (in lower rates of return). *Figure 1-5* indicates that Minnesota households will pay either directly or indirectly through shifted business tax slightly more in property taxes in 2005 than in 2000 due to property tax reform and relative growth rates. Corporate franchise’s share declines because of economic conditions.

**Figure 1-5**  
**Household Incidence After Shifting**



### **Step 3 – Distributional Analysis**

Step 3 combines the incidence assumptions from Step 2 with information on the income and characteristics of individuals to estimate the tax burden falling on each of Minnesota's two million households. Each dollar of tax is allocated either to specific Minnesota households or exported out of state. The result is a tax burden, or tax incidence, of each separate tax. These separate taxes can be aggregated to estimate the total incidence by household. Using the estimated burden by household, effective tax rates can be computed. Effective tax rates provide insight into how the incidence of Minnesota's tax system changes as household income changes.

### **Tax Progressivity and the Suits Index**

Taxes are often described as progressive, proportional, or regressive. The effective tax rate -- that is, the ratio of taxes paid to income -- can be used to compare tax burdens across income categories. A progressive tax is one in which the effective tax rate rises as income rises. A regressive tax is one in which the effective tax rate falls as income rises. However, it is difficult to summarize the overall distribution of a tax (progressive, proportional, or regressive) from the individual effective tax rates. The Suits Index is a summary measure of the overall distribution for a specific tax or group of taxes.

The Suits Index has numerical properties that make it easy to understand the degree of progressivity or regressivity of a tax. A proportional tax has a Suits Index equal to zero; a progressive tax has a positive index number in the range between 0 and +1. In the extreme case, when the total tax burden is paid by those in the highest income bracket, the index has a value of +1. For a regressive tax, the Suits Index has a negative value between 0 and -1, with -1 being the most regressive value.

*Table 1-5* presents Suits indexes for selected Minnesota state and local tax groups in 2000 and 2005. The only major progressive tax is the personal income tax with a positive Suits index of +0.184. Consumption taxes were the most regressive category. Taken as a whole, the system of Minnesota taxes was marginally regressive (a Suits index of -0.030). State taxes were very slightly progressive (0.006), and local taxes were regressive (-0.138). Between 2000 and 2005, Minnesota's tax system, as measured by the Suits index, shows very little change overall.

**Table 1-5**  
**Suits Indexes for Selected**  
**Minnesota State and Local Taxes**

Tax Category	2000 Suits Index	2005 Suits Index
Personal Income Tax	+0.184	+0.181
Sales Taxes (State & Local)	-0.179	-0.169
State Business Taxes	-0.210	-0.195
State Individual Taxes	0.081	0.088
All State Taxes	0.006	0.008
Local Taxes	-0.138	-0.139
Total Taxes	-0.030	-0.030

### Effective Tax Rates

The major findings in this study are summarized in *Tables 1-4, 1-6, and 1-7* and highlighted in *Figures 1-4, 1-6, and 1-7*.

For analytical purposes, Minnesota's households are divided into 10 equal parts, or deciles. Each decile has an associated income value for calculating effective tax rates. The results show that the state and local tax system had some progressivity in the lower to middle deciles and some regressivity in the middle to upper deciles. For 2000, effective tax rates rose from 9.8 percent in the second decile to 12.3 percent in the sixth decile, declined to 11.9 percent in the ninth decile, and then fell to 10.3 percent in the tenth decile. This pattern was similar for the projections to 2005; however, the overall rates for 2005 were slightly lower because of lower overall rates for state taxes.

Overall, Minnesota residents paid an estimated 11.2 percent of their 2000 total income in state and local taxes; this declined to 11.0 percent for the 2005 projections. For 2000, the effective tax rate was 8.4 percent for state taxes and 2.8 percent for local taxes. Taxpayers in the second through tenth deciles pay over 98 percent of the taxes included in the study. Because the information for the first decile includes data anomalies and measurement limitations discussed in the study, effective tax rates for the first decile are not reliable.

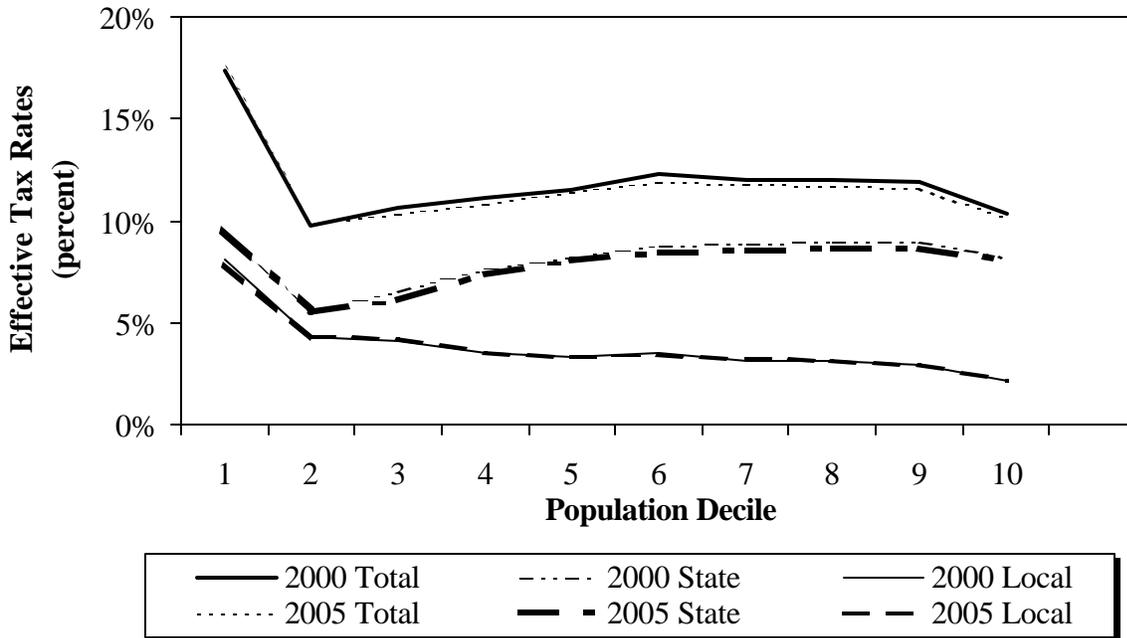
As shown in *Figure 1-6*, state tax burdens and local tax burdens were distributed quite differently. Total state taxes for 2000 (individual and business combined) were slightly progressive overall, with effective tax rates generally rising from 5.5 percent in the second decile to 9.0 percent in the eighth decile before falling to 8.2 percent in the tenth decile. Local tax effective rates, essentially property tax, declined consistently over all deciles except the sixth and were regressive overall. By 2005, effective rates fall across most deciles at the state level. Local taxes, conversely, hold steady because of expected increases in property values and property tax reform.

As shown in *Figure 1-7*, the patterns of effective rates for taxes paid by individuals versus businesses were also distributed quite differently. For 2000, effective rates for taxes paid by individuals increased from 3.2 percent in the second decile to 8.7 percent in the ninth decile, and then declined to 8.1 percent in the tenth decile. *Figure 1-7* indicates that Minnesota state and local taxes on businesses after shifting to Minnesota citizens are regressive, with effective tax rates for 2000 falling from 6.6 to 2.2 percent between the second and tenth deciles. The overall effective rate for taxes on businesses after shifting was 3.4 percent in 2000. For the projections to 2005, the overall effective tax rate declined to 3.2% on businesses and to 7.8% on individuals.

**Table 1-6**  
**Minnesota Effective Tax Rates for 2000 and 2005**  
**State and Local Taxes by**  
**Population Decile**

Decile	2000			2005		
	State	Local	Total	State	Local	Total
First	9.3%	8.1%	17.4%	9.6%	7.9%	17.5%
Second	5.5	4.3	9.8	5.6	4.3	9.9
Third	6.5	4.1	10.6	6.1	4.2	10.3
Fourth	7.6	3.5	11.1	7.4	3.5	10.8
Fifth	8.2	3.3	11.5	8.1	3.3	11.4
Sixth	8.8	3.5	12.3	8.5	3.4	11.9
Seventh	8.9	3.1	12.0	8.6	3.2	11.8
Eighth	9.0	3.1	12.0	8.7	3.1	11.7
Ninth	9.0	2.9	11.9	8.7	2.9	11.6
Tenth	8.2	2.1	10.3	8.1	2.1	10.1
Total	8.4%	2.8%	11.2%	8.2%	2.8%	11.0%

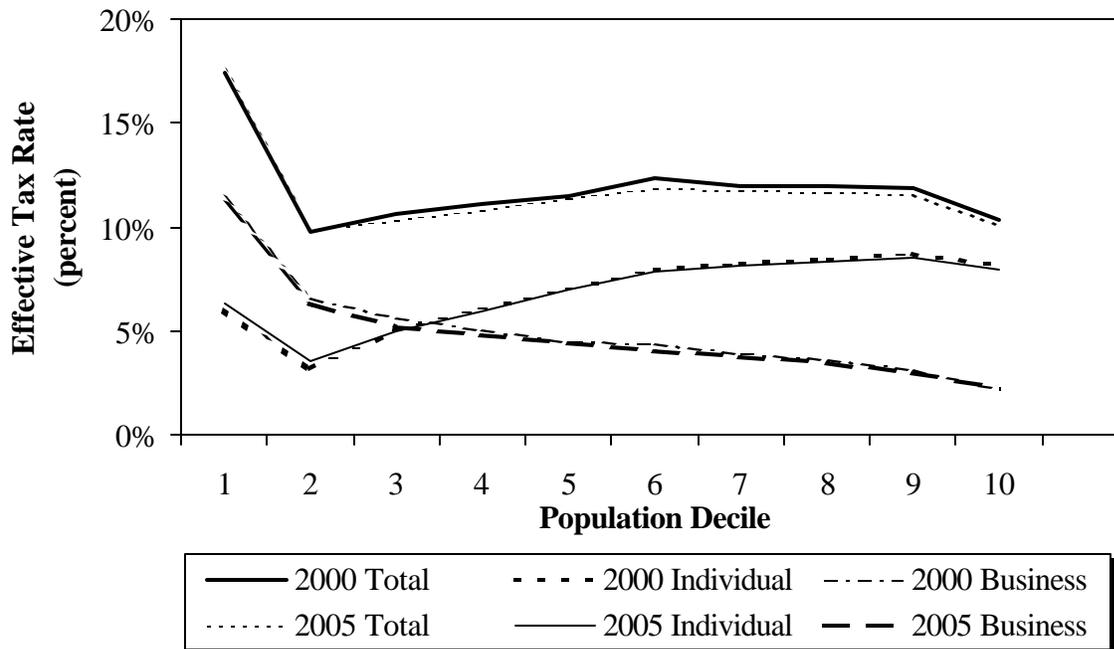
**Figure 1-6**  
**Effective Tax Rates for 2000 and 2005**  
**State and Local Taxes by Population Decile**



**Table 1-7**  
**Minnesota Effective Tax Rates for 2000 and 2005**  
**Individual and Business Taxes by Population Decile**

Decile	2000			2005		
	Individual	Business	Total	Individual	Business	Total
First	6.0%	11.4%	17.4%	6.3%	11.0%	17.5%
Second	3.2	6.6	9.8	3.5	6.3	9.9
Third	5.0	5.6	10.6	5.0	5.2	10.3
Fourth	6.0	5.1	11.1	5.9	4.8	10.8
Fifth	7.0	4.5	11.5	7.0	4.4	11.4
Sixth	7.9	4.4	12.3	7.8	4.0	11.9
Seventh	8.2	3.9	12.0	8.1	3.7	11.8
Eighth	8.4	3.6	12.0	8.3	3.4	11.7
Ninth	8.7	3.2	11.9	8.5	3.0	11.6
Tenth	8.1	2.2	10.3	7.9	2.2	10.1
Total	7.9%	3.4%	11.2%	7.7%	3.2%	11.0%

**Figure 1-7**  
**Effective Tax Rates for 2000 and 2005**  
**Individual and Business Taxes by Population Decile**





## Principal Results, 2000

This section examines the state and local tax burdens imposed on Minnesota taxpayers in 2000. Taxes paid by businesses as well as those paid directly by households are included. The taxes included account for over 99 percent of Minnesota state and local tax revenue in 2000.

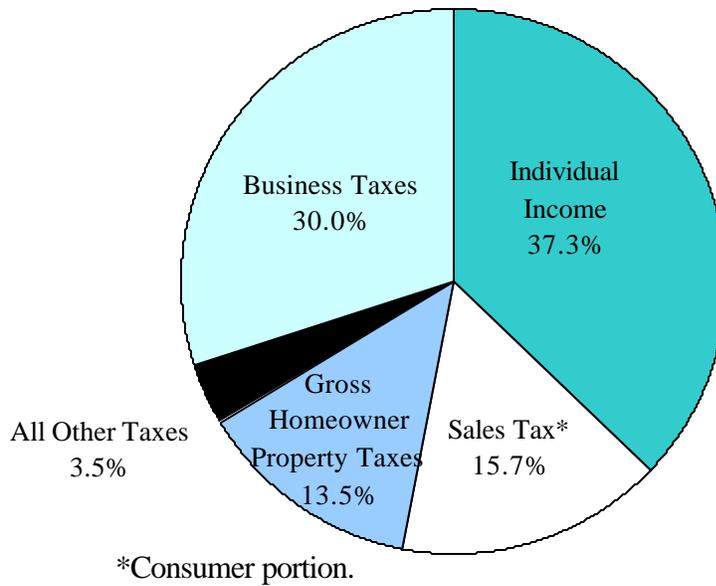
Only Minnesota taxes paid by residents are included in the analysis below; Minnesota taxes paid by nonresidents and taxes paid by Minnesota residents to other states are excluded. For business taxes, the study estimates the extent to which they are shifted forward to Minnesota consumers in higher prices or backward to Minnesota workers in lower wages or to owners of capital in lower returns. The incidence results for the entire system of state and local taxes in Minnesota are reported both in terms of the overall distribution of tax burdens and by tax type.

### The Total Tax Burden

For 2000, Minnesota residents paid a total of \$14.8 billion in taxes while earning \$132.1 billion in total money income. Minnesota residents thus paid 11.2 percent of their total income in state and local taxes.

As shown in *Figure 2-1*, the individual income tax accounted for 37.3% of the total tax burden on Minnesota residents. Homeowner property taxes and the consumer state and local sales tax (including sales tax on motor vehicles) were 13.5 percent and 15.7 percent of the total, respectively. Taxes imposed on business accounted for 30.0 percent. All other taxes comprised the remaining 3.5 percent of total state and local taxes paid by Minnesota residents.

**Figure 2-1**  
**2000 Distribution of Minnesota**  
**State and Local Tax Burdens by Tax**



Details of Minnesota tax collections before and after tax shifting are shown in *Table 2-1*. Of the \$17.6 billion in total tax collections in 2000, \$14.8 billion or over 84% is paid by Minnesotans, directly or indirectly. The rest is exported to taxpayers out of state.

It is apparent from the table that some taxes are borne by Minnesotans in much greater proportions than are others. Of the large state taxes, the income tax is borne almost entirely by Minnesota residents, who pay over 96% of total collections, but residents of Minnesota pay a lesser share, 83.4%, of the general sales tax. At the other end of the scale, Minnesotans pay only 11.7% of the property taxes on industrial property.

**Table 2-1**  
**2000 Tax Collection Amounts (\$ Millions)**

Tax Type	Total	As Imposed			After shifting		Pop'n. Decile Suits Index
		MN HH's	NR	Business	Minnesota	Exported	
<b>State Taxes</b>							
<b>Taxes on Income and Estates</b>							
Individual income tax	\$5,736	\$5,518	\$218		\$5,518	\$218	0.184
Corporation franchise tax <sup>1</sup>	766			\$766	406	360	-0.149
Estate tax	68	68			68		0.249
<b>Total Income and Estate Taxes</b>	<b>\$6,570</b>	<b>\$5,586</b>	<b>\$218</b>	<b>\$766</b>	<b>\$5,992</b>	<b>\$578</b>	<b>0.162</b>
<b>Taxes on Consumption</b>							
Total sales tax	\$4,294	\$2,273	\$143	\$1,879	\$3,586	\$708	-0.180
General sales/use tax	3,751	1,913	143	1,696	3,129	622	-0.176
Sales tax on motor vehicles	543	360		183	457	86	-0.207
Motor fuels excise taxes	608			608	495	113	-0.278
Alcoholic beverage excise taxes	62			62	55	6	-0.183
Cigarette and tobacco excise taxes	188			188	182	6	-0.553
Insurance premiums taxes	180			180	132	47	-0.148
Gambling taxes	61			61	59	2	-0.372
MinnesotaCare taxes	159			159	138	21	-0.296
<b>Total Consumption Taxes</b>	<b>\$5,551</b>	<b>\$2,273</b>	<b>\$143</b>	<b>\$3,135</b>	<b>\$4,648</b>	<b>\$903</b>	<b>-0.210</b>
<b>Taxes on Property</b>							
Residential recreational property tax							
Commercial property tax							
Industrial property tax							
Utility property tax							
<b>Total Property Taxes</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	
<b>Other Taxes</b>							
Motor vehicle registration tax	\$537	\$435		\$102	\$489	\$48	-0.153
Mortgage and deed taxes	150	102		49	129	21	-0.107
Solid waste management taxes	55	22		33	44	11	-0.200
<b>Total Other Taxes</b>	<b>\$742</b>	<b>\$559</b>	<b>\$0</b>	<b>\$184</b>	<b>\$662</b>	<b>\$80</b>	<b>-0.147</b>
<b>Property Tax Refunds</b>							
Homeowners	-\$75	-\$75			-\$75		0.756
Renters	-119	-119			-119		0.897
<b>Total Property Tax Refunds</b>	<b>-\$194</b>	<b>-\$194</b>	<b>\$0</b>	<b>\$0</b>	<b>-\$194</b>	<b>\$0</b>	<b>0.842</b>
<b>Total State Taxes</b>	<b>\$12,669</b>	<b>\$8,224</b>	<b>\$361</b>	<b>\$4,085</b>	<b>\$11,109</b>	<b>\$1,561</b>	<b>0.006</b>
<b>Local Taxes</b>							
Property taxes (Pay 2000)	\$4,773	\$2,086	\$20	\$2,667	\$3,580	\$1,192	-0.137
General property tax (gross - credits)	4,679	2,086	20	2,573	3,580	1,100	-0.137
Homeowners (gross)	2,005	2,005			2,005	0	-0.102
Residential recreational property	101	81	20		81	20	-0.201
Commercial <sup>2</sup>	1,193			1,193	653	540	-0.135
Industrial	417			417	49	368	0.127
Farm (other than residence) <sup>3</sup>	240			240	235	5	-0.278
Rental housing	422			422	366	55	-0.246
Utility	303			303	190	112	-0.168
Minerals <sup>4</sup>	0			0	0	0	0.094
Mining production taxes (taconite)	93			93	1	92	0.229
Local sales taxes	112	57	4	51	94	19	-0.176
Local gross earnings taxes	43			43	27	16	-0.168
<b>Total Local Taxes</b>	<b>\$4,928</b>	<b>\$2,143</b>	<b>\$24</b>	<b>\$2,760</b>	<b>\$3,701</b>	<b>\$1,227</b>	<b>-0.138</b>
<b>Total State and Local Taxes</b>	<b>\$17,597</b>	<b>\$10,367</b>	<b>\$385</b>	<b>\$6,845</b>	<b>\$14,810</b>	<b>\$2,788</b>	<b>-0.030</b>

<sup>1</sup> Includes taconite/iron ore occupation tax.

<sup>3</sup> Includes timber.

<sup>2</sup> Includes resorts and railroads.

<sup>4</sup> Amount less than \$500,000.

Of the total, \$6.8 billion or 38.9% of Minnesota taxes are imposed on businesses. Of that amount \$2.4 billion or over 35% is exported.

The Suits index numbers show that most taxes levied in Minnesota are regressive to some degree. Only a few taxes, and only one large tax, the personal income tax, are progressive (Suits index greater than zero). The consumption taxes as a group are the most regressive, with a Suits index of  $-0.21$ . Nevertheless the progressive income tax and the few other progressive taxes are nearly sufficient to offset the many regressive taxes, so that the Suits index of the tax system as a whole is only slightly regressive at  $-0.03$ .

## **Taxes by Sector**

*Table 2-2* shows the distribution of taxes imposed on business by industrial sector, as well as those taxes imposed solely on households.

There is considerable variation in the tax amounts attributed to each sector, with services and wholesale trade accounting for large amounts and agriculture, mining, and nondurable manufacturing having much smaller amounts. In order to judge the relative magnitudes of these by sector, we can present them as effective tax rates, as is done in *Table 2-3*.

**Table 2-2  
Minnesota Taxes Imposed by Sector - CY 2000 Taxes - (\$ Thousands)**

Tax Type	Agriculture	Mining	Const.	Durable Mfg.	Nondurable Mfg.	TCPU	FIRE	Services	Retail Trade	Wholesale Trade	Government		Total Business	Households	Non-Residents	Total
											State	Local				
<b>State Taxes</b>																
<b>Taxes on Income</b>																
Individual income tax														\$5,517,918	\$217,963	\$5,735,881
Corporate franchise tax	\$6,503	\$3,614	\$28,618	\$112,306	\$100,306	\$73,723	\$209,998	\$69,121	\$85,983	\$76,149			\$766,322			766,322
Estate tax														67,936		67,936
<b>Total Income and Estate Taxes</b>	<b>\$6,503</b>	<b>\$3,614</b>	<b>\$28,618</b>	<b>\$112,306</b>	<b>\$100,306</b>	<b>\$73,723</b>	<b>\$209,998</b>	<b>\$69,121</b>	<b>\$85,983</b>	<b>\$76,149</b>			<b>\$766,322</b>	<b>\$5,585,854</b>	<b>\$217,963</b>	<b>\$6,570,139</b>
<b>Taxes on Consumption</b>																
Total general sales tax	\$47,792	\$8,074	\$330,185	\$98,516	\$75,376	\$148,247	\$140,676	\$548,762	\$167,979	\$192,262	\$18,505	\$102,160	\$1,878,535	\$2,273,068	\$142,547	\$4,294,150
General sales/use tax	45,597	6,409	315,549	85,732	59,517	135,440	131,153	497,739	140,303	161,530	16,850	99,763	1,695,583	1,913,134	142,547	3,751,264
Sales tax on motor vehicles	2,195	1,665	14,636	12,784	15,859	12,807	9,523	51,023	27,676	30,732	1,655	2,397	182,952	359,933		542,886
Motor fuels excise taxes										607,765			607,765			607,765
Alcoholic beverage excise taxes					11,079					50,471			61,550			61,550
Cigarette and tobacco excise taxes										187,979			187,979			187,979
Insurance premiums taxes							179,724						179,724			179,724
Gambling taxes								33,131		27,404			60,534			60,534
MinnesotaCare taxes					838	306		119,094	9,940	27,497		1,489	159,164			159,164
<b>Total Consumption Taxes</b>	<b>\$47,792</b>	<b>\$8,074</b>	<b>\$330,185</b>	<b>\$98,516</b>	<b>\$87,294</b>	<b>\$148,553</b>	<b>\$320,400</b>	<b>\$700,987</b>	<b>\$177,919</b>	<b>\$1,093,378</b>	<b>\$18,505</b>	<b>\$103,649</b>	<b>\$3,135,251</b>	<b>\$2,273,068</b>	<b>\$142,547</b>	<b>\$5,550,866</b>
<b>Taxes on Property</b>																
Total property tax refunds																
Homeowners																
Renters																
Residential recreational																0
Commercial																0
Industrial																0
Utility																0
<b>Total Property Taxes</b>																
<b>Other Taxes</b>																
Motor vehicle registration tax	\$343	\$583	\$5,957	\$19,881	\$7,102	\$6,833	\$10,656	\$30,539	\$10,440	\$9,638	\$10	\$40	\$102,021	\$434,931		\$536,953
Mortgage and deed taxes	82	109	392	4,153	2,466	1,385	34,418	3,635	963	964			48,567	101,795		150,362
Solid waste management taxes	494	329	1,284	4,376	3,032	1,152	1,811	4,939	10,536	658	593	3,722	32,925	21,785		54,710
<b>Total Other Taxes</b>	<b>\$919</b>	<b>\$1,021</b>	<b>\$7,633</b>	<b>\$28,409</b>	<b>\$12,600</b>	<b>\$9,370</b>	<b>\$46,885</b>	<b>\$39,112</b>	<b>\$21,938</b>	<b>\$11,261</b>	<b>\$603</b>	<b>\$3,762</b>	<b>\$183,513</b>	<b>\$558,511</b>	<b>\$0</b>	<b>\$742,025</b>
<b>Total State Taxes</b>	<b>\$55,213</b>	<b>\$12,709</b>	<b>\$366,435</b>	<b>\$239,231</b>	<b>\$200,200</b>	<b>\$231,646</b>	<b>\$577,283</b>	<b>\$809,220</b>	<b>\$285,841</b>	<b>\$1,180,788</b>	<b>\$19,108</b>	<b>\$107,412</b>	<b>\$4,085,086</b>	<b>\$8,223,619</b>	<b>\$360,511</b>	<b>\$12,669,216</b>
<b>Local Property Taxes</b>																
Homeowners (gross)																
Residential recreational																
Commercial			\$77,973			\$117,960	\$164,944	\$483,835	\$180,938	\$166,943			\$1,192,593	\$1,192,593	\$20,005	1,192,593
Industrial				\$306,740	\$109,907								416,647			416,647
Farm prop. tax (other than residence)	\$239,693												239,693			239,693
Utility property tax						302,554							302,554			302,554
Residential rental prop. tax (gross)								421,771					421,771			421,771
Minerals		\$195											195			195
<b>Total Property Taxes</b>	<b>\$239,693</b>	<b>\$195</b>	<b>\$77,973</b>	<b>\$306,740</b>	<b>\$109,907</b>	<b>\$420,514</b>	<b>\$164,944</b>	<b>\$905,606</b>	<b>\$180,938</b>	<b>\$166,943</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,573,453</b>	<b>\$2,086,020</b>	<b>\$20,005</b>	<b>\$4,679,479</b>
<b>Other Local Taxes</b>																
Mining production taxes (taconite)		\$93,064											\$93,064			\$93,064
Local sales taxes	\$1,366	192	\$9,451	\$2,568	\$1,783	\$4,056	\$3,928	\$14,907	\$4,202	\$4,838	\$505	\$2,988	50,783	\$57,299	\$4,269	112,351
Local gross earnings taxes						43,015							43,015			43,015
<b>Total Other Taxes</b>	<b>\$1,366</b>	<b>\$93,256</b>	<b>\$9,451</b>	<b>\$2,568</b>	<b>\$1,783</b>	<b>\$47,071</b>	<b>\$3,928</b>	<b>\$14,907</b>	<b>\$4,202</b>	<b>\$4,838</b>	<b>\$505</b>	<b>\$2,988</b>	<b>\$186,862</b>	<b>\$57,299</b>	<b>\$4,269</b>	<b>\$248,430</b>
<b>Total Local Taxes</b>	<b>\$241,059</b>	<b>\$93,451</b>	<b>\$87,424</b>	<b>\$309,308</b>	<b>\$111,689</b>	<b>\$467,585</b>	<b>\$168,872</b>	<b>\$920,513</b>	<b>\$185,140</b>	<b>\$171,781</b>	<b>\$505</b>	<b>\$2,988</b>	<b>\$2,760,315</b>	<b>\$2,143,319</b>	<b>\$24,274</b>	<b>\$4,927,909</b>
<b>Total State and Local Taxes</b>	<b>\$296,272</b>	<b>\$106,160</b>	<b>\$453,859</b>	<b>\$548,539</b>	<b>\$311,889</b>	<b>\$699,231</b>	<b>\$746,155</b>	<b>\$1,729,733</b>	<b>\$470,982</b>	<b>\$1,352,569</b>	<b>\$19,613</b>	<b>\$110,400</b>	<b>\$6,845,402</b>	<b>\$10,366,938</b>	<b>\$384,785</b>	<b>\$17,597,125</b>

**Table 2-3**  
**Taxes Imposed by Sector**  
**CY 2000 Taxes**  
**Effective Tax Rates**

Tax Type	Effective Tax Rates
Agriculture	3.56%
Mining	15.52
Construction	4.74
Durable Manufacturing	2.81
Nondurable Manufacturing	3.95
TCPU	5.05
FIRE	2.11
Services	4.37
Retail Trade	2.76
Wholesale Trade	9.29
Overall Average	4.04%

### **Taxes by Decile**

To summarize the distribution of tax burdens by income level, the population of Minnesota households was divided into ten equal-sized groups or *deciles* of households ranked by household income levels. By definition, the first decile includes the 10 percent of households with the lowest income levels and the tenth decile includes the highest-income 10 percent of households. There were approximately 232,000 taxpaying households in each population decile. The total burden by tax type for each decile is summarized in *Table 2-4*.

Taxpayers in the top decile (incomes of \$102,412 and over) bore 38.7 percent of the total tax burden while having 41.9 percent of total income. By tax type, taxpayers in the top decile paid 54.9 percent of the individual income tax, 26.3 percent of the consumer sales tax, 31.6 percent of the gross residential property tax, and 27.6 percent of business taxes.

Table 2-4

2000 Population Deciles - Amounts (\$ 000's)

Population Decile	Income Range	Number of Households	Household Income	State Income Taxes		State Sales Tax			Property Tax Refund	State Property Tax	State Excise Taxes	Other State Taxes	
				Individual Income Tax	Corporate Franchise Tax	Purchases by Individuals	Purchases by Businesses	Sales Tax Total				Taxes on Individuals	Taxes on Businesses
First	\$8,945 & under	232,238	\$1,358,107	-\$12,404	\$10,693	\$66,362	\$38,056	\$104,418	-\$33,840	\$0	\$32,604	\$12,463	\$12,176
Second	\$8,946 - \$14,734	232,238	2,758,204	-15,070	13,244	79,650	44,472	124,122	-42,557	0	43,618	12,721	16,422
Third	\$14,735 - \$20,731	232,238	4,114,388	25,263	17,825	106,702	59,503	166,204	-38,149	0	53,584	20,171	21,837
Fourth	\$20,732 - \$27,424	232,238	5,587,609	99,574	23,600	141,111	76,087	217,198	-33,174	0	57,843	30,885	28,559
Fifth	\$27,425 - \$35,029	232,238	7,226,838	201,984	27,456	162,050	89,862	251,911	-21,791	0	63,554	35,852	35,015
Sixth	\$35,030 - \$44,822	232,238	9,225,084	303,002	34,319	207,686	112,917	320,602	-12,278	0	74,036	53,994	40,615
Seventh	\$44,823 - \$56,869	232,238	11,758,094	419,579	42,180	254,863	134,190	389,053	-6,520	0	82,606	72,773	49,061
Eighth	\$56,870 - \$72,622	232,238	14,919,883	598,926	50,450	294,929	161,370	456,300	-3,296	0	94,381	84,785	55,768
Ninth	\$72,623 - \$102,411	232,238	19,741,256	869,543	64,142	361,312	204,552	565,865	-1,206	0	102,076	106,092	67,451
Tenth	\$102,412 & over	232,238	55,405,511	3,027,520	122,145	598,402	392,403	990,805	-1,002	0	128,276	196,713	105,998
TOTALS		2,322,380	\$132,094,974	\$5,517,918	\$406,053	\$2,273,068	\$1,313,411	\$3,586,479	-\$193,814	\$0	\$732,578	\$626,448	\$432,901
Top 5%	Over \$144,714	116,187	\$41,503,536	\$2,364,414	\$82,169	\$389,014	\$264,980	\$653,993	-\$359	\$0	\$75,756	\$127,118	\$66,111
Top 1%	Over \$364,343	23,233	\$22,193,935	\$1,355,602	\$25,965	\$91,980	\$82,132	\$174,111	-\$53	\$0	\$17,281	\$29,734	\$19,008

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Population Decile	Residential Local Property Taxes					Nonresidential Local Property Taxes	Other Local Taxes
	Homeowners gross	Renters gross	Owners of Rental Prop.	Total on Rental Prop.	Residential Total *		
First	\$42,912	\$9,167	\$7,057	\$16,223	\$62,121	\$44,173	\$3,583
Second	48,837	10,973	8,447	19,420	70,947	42,672	4,319
Third	84,621	13,703	10,549	24,252	113,872	50,116	5,679
Fourth	84,114	16,235	12,498	28,733	118,567	68,570	7,346
Fifth	116,084	18,823	14,490	33,313	155,488	74,294	8,462
Sixth	163,838	20,304	15,630	35,935	206,480	102,784	10,537
Seventh	204,028	18,665	14,368	33,034	244,390	108,855	12,780
Eighth	263,460	19,459	14,980	34,438	306,638	133,371	15,118
Ninth	355,785	21,168	16,295	37,463	407,587	146,333	18,993
Tenth	641,321	58,516	45,046	103,562	766,305	355,945	34,701
TOTALS	\$2,005,000	\$207,014	\$159,360	\$366,373	\$2,452,394	\$1,127,113	\$121,520
Top 5%	\$394,625	\$43,389	\$33,401	\$76,790	\$483,971	\$242,248	\$23,085
Top 1%	\$119,571	\$19,681	\$15,150	\$34,831	\$157,760	\$86,778	\$6,343

Local Taxes Total	Total State Taxes			Total State and Local Taxes
	Total on Individuals	Total on Businesses	State Taxes Total	
\$109,877	\$33,345	\$92,764	\$126,110	\$235,987
117,938	35,844	116,657	152,500	270,439
169,667	115,220	151,515	266,735	436,402
194,483	239,416	185,068	424,484	618,967
238,244	379,015	214,967	593,982	832,226
319,801	553,197	261,093	814,290	1,134,091
366,025	741,267	307,466	1,048,733	1,414,758
455,127	975,647	361,666	1,337,313	1,792,440
572,912	1,335,853	438,109	1,773,962	2,346,874
1,156,951	3,821,725	748,729	4,570,454	5,727,405
\$3,701,027	\$8,230,528	\$2,878,035	\$11,108,563	\$14,809,590
\$749,304	\$2,880,219	\$488,982	\$3,369,201	\$4,118,505
\$250,881	\$1,477,268	\$144,380	\$1,621,648	\$1,872,529

\* Includes seasonal recreational residential (cabins)

Based on Feb. 03 Forecast

In contrast, taxpayers in the bottom decile (incomes of \$8,945 and below) bore 1.6 percent of the total tax burden and received only 1.0 percent of total income. The bottom decile taxpayers had a negative net individual income tax burden due to refundable tax credits. The same households paid 2.9 percent of the consumer sales tax, 2.4 percent of gross residential property tax, and 3.4 percent of business taxes.

## **Overall Effective Tax Rates**

To evaluate the fairness or equity in the distribution of tax burdens by income level, tax burdens must be compared to the underlying distribution of income. This section examines this relationship in more detail.

A key measure used to analyze tax equity is the effective tax rate, which is defined as the ratio of taxes to income. Effective tax rates measure the percentage of income paid in taxes and can be compared for different levels of income. The distribution of tax burdens is characterized as progressive if the effective tax rate rises with income, proportional if it is constant for all income levels, or regressive if it falls as income rises.

Effective tax rates by tax type are reported in *Table 2-5*. Effective tax rates by population deciles for the four major tax types included in this study are presented in *Table 2-6* and are illustrated in *Figure 2-2*. As shown in *Figure 2-2*, the effective tax rate is shown on the vertical axis of the figure; population deciles are shown on the horizontal axis (each decile containing 10 percent of total households).

The results show that the individual income tax was very progressive, while the three remaining taxes were generally regressive. Because the progressive individual income tax accounted for over one-third of the total tax burden, it offsets most of the regressivity of the other state and local taxes. Hence, as a whole, the state and local system of taxation in Minnesota was only slightly regressive overall.

Table 2-5

2000 Population Deciles - Effective Tax Rates

Population Decile	Income Range	Number of Households	Household Income	State Income Taxes		State Sales Tax			Property Tax Refund	State Property Tax	State Excise Taxes	Other State Taxes	
				Individual Income Tax	Corporate Franchise Tax	Purchases by Individuals	Purchases by Businesses	Sales Tax Total				Taxes on Individuals	Taxes on Businesses
First	\$8,945 & under	232,238	\$1,358,107	-0.9%	0.8%	4.9%	2.8%	7.7%	-2.5%	0.0%	2.4%	0.9%	0.9%
Second	\$8,946 - \$14,734	232,238	2,758,204	-0.5%	0.5%	2.9%	1.6%	4.5%	-1.5%	0.0%	1.6%	0.5%	0.6%
Third	\$14,735 - \$20,731	232,238	4,114,388	0.6%	0.4%	2.6%	1.4%	4.0%	-0.9%	0.0%	1.3%	0.5%	0.5%
Fourth	\$20,732 - \$27,424	232,238	5,587,609	1.8%	0.4%	2.5%	1.4%	3.9%	-0.6%	0.0%	1.0%	0.6%	0.5%
Fifth	\$27,425 - \$35,029	232,238	7,226,838	2.8%	0.4%	2.2%	1.2%	3.5%	-0.3%	0.0%	0.9%	0.5%	0.5%
Sixth	\$35,030 - \$44,822	232,238	9,225,084	3.3%	0.4%	2.3%	1.2%	3.5%	-0.1%	0.0%	0.8%	0.6%	0.4%
Seventh	\$44,823 - \$56,869	232,238	11,758,094	3.6%	0.4%	2.2%	1.1%	3.3%	-0.1%	0.0%	0.7%	0.6%	0.4%
Eighth	\$56,870 - \$72,622	232,238	14,919,883	4.0%	0.3%	2.0%	1.1%	3.1%	0.0%	0.0%	0.6%	0.6%	0.4%
Ninth	\$72,623 - \$102,411	232,238	19,741,256	4.4%	0.3%	1.8%	1.0%	2.9%	0.0%	0.0%	0.5%	0.5%	0.3%
Tenth	\$102,412 & over	232,238	55,405,511	5.5%	0.2%	1.1%	0.7%	1.8%	0.0%	0.0%	0.2%	0.4%	0.2%
TOTALS		2,322,380	\$132,094,974	4.2%	0.3%	1.7%	1.0%	2.7%	-0.1%	0.0%	0.6%	0.5%	0.3%
Top 5%	Over \$144,714	116,187	\$41,503,536	5.7%	0.2%	0.9%	0.6%	1.6%	0.0%	0.0%	0.2%	0.3%	0.2%
Top 1%	Over \$364,343	23,233	\$22,193,935	6.1%	0.1%	0.4%	0.4%	0.8%	0.0%	0.0%	0.1%	0.1%	0.1%

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Population Decile	Residential Local Property Taxes					Nonresidential Local Property Taxes	Other Local Taxes
	Homeowners gross	Renters gross	Owners of Rental Prop.	Total on Rental Prop.	Residential Total *		
First	3.2%	0.7%	0.5%	1.2%	4.6%	3.3%	0.3%
Second	1.8%	0.4%	0.3%	0.7%	2.6%	1.5%	0.2%
Third	2.1%	0.3%	0.3%	0.6%	2.8%	1.2%	0.1%
Fourth	1.5%	0.3%	0.2%	0.5%	2.1%	1.2%	0.1%
Fifth	1.6%	0.3%	0.2%	0.5%	2.2%	1.0%	0.1%
Sixth	1.8%	0.2%	0.2%	0.4%	2.2%	1.1%	0.1%
Seventh	1.7%	0.2%	0.1%	0.3%	2.1%	0.9%	0.1%
Eighth	1.8%	0.1%	0.1%	0.2%	2.1%	0.9%	0.1%
Ninth	1.8%	0.1%	0.1%	0.2%	2.1%	0.7%	0.1%
Tenth	1.2%	0.1%	0.1%	0.2%	1.4%	0.6%	0.1%
TOTALS	1.5%	0.2%	0.1%	0.3%	1.9%	0.9%	0.1%
Top 5%	1.0%	0.1%	0.1%	0.2%	1.2%	0.6%	0.1%
Top 1%	0.5%	0.1%	0.1%	0.2%	0.7%	0.4%	0.0%

Local Taxes Total	Total State Taxes			Total State and Local Taxes
	Total on Individuals	Total on Businesses	State Taxes Total	
8.1%	2.5%	6.8%	9.3%	17.4%
4.3%	1.3%	4.2%	5.5%	9.8%
4.1%	2.8%	3.7%	6.5%	10.6%
3.5%	4.3%	3.3%	7.6%	11.1%
3.3%	5.2%	3.0%	8.2%	11.5%
3.5%	6.0%	2.8%	8.8%	12.3%
3.1%	6.3%	2.6%	8.9%	12.0%
3.1%	6.5%	2.4%	9.0%	12.0%
2.9%	6.8%	2.2%	9.0%	11.9%
2.1%	6.9%	1.4%	8.2%	10.3%
2.8%	6.2%	2.2%	8.4%	11.2%
1.8%	6.9%	1.2%	8.1%	9.9%
1.1%	6.7%	0.7%	7.3%	8.4%

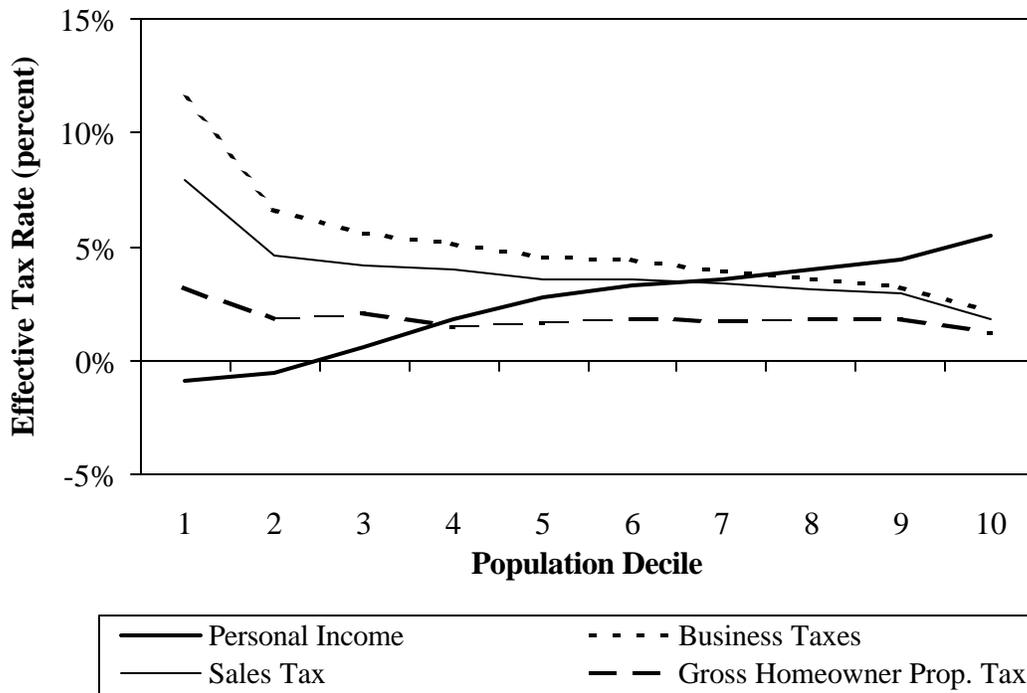
\* Includes seasonal recreational residential (cabins)

**Table 2-6**  
**Effective Tax Rates**

<b>2000 Decile</b>	<b>Personal Income</b>	<b>Business Taxes</b>	<b>Sales Tax*</b>	<b>Gross Homeowner Property Tax</b>
1	-0.9%	11.4%	7.9%	3.2%
2	-0.5%	6.6%	4.6%	1.8%
3	0.6%	5.6%	4.1%	2.1%
4	1.8%	5.1%	4.0%	1.5%
5	2.8%	4.5%	3.6%	1.6%
6	3.3%	4.4%	3.6%	1.8%
7	3.6%	3.9%	3.4%	1.7%
8	4.0%	3.6%	3.1%	1.8%
9	4.4%	3.2%	2.9%	1.8%
10	5.5%	2.2%	1.8%	1.2%
<b>Total</b>	<b>4.2%</b>	<b>3.4%</b>	<b>2.8%</b>	<b>1.5%</b>

\*Includes local sales taxes.

**Figure 2-2**  
**Effective Tax Rates for 2000**  
**by Population Decile**



## ***The Individual Income Tax***

Because of its graduated tax rate structure and allowance of personal exemptions and deductions, the individual income tax is, by design, progressive. As seen in *Table 2-5* for 2000, effective tax rates rose significantly with increases in household income. At the low end, the effective tax rate for the income tax was 0.9 percent for the first decile. It rose steadily to 5.5 percent for the tenth decile. First decile households can receive refundable tax credits, which more than offset any income tax liabilities.

## ***Sales Tax on Consumer Purchases***

In agreement with most incidence studies, this analysis finds the consumer portion of the sales tax to be regressive, especially at low-income levels. (The sales tax on business purchases is included with the business tax category.) This is because the share of income represented by taxable consumption tends to be smaller for high-income households than for low-income ones. Hence, tax burdens as a proportion of income tend to decline as one moves up the income scale.

For 2000, the effective consumer sales tax rate for the bottom decile was 4.9 percent, compared to the rate for the top decile of 1.1 percent (see *Table 2-5*). Effective tax rates for the second through ninth deciles, representing 80 percent of all taxpayers, ranged from 2.9 to 1.8 percent.

## ***Residential Property Taxes***

*Homeowner Property Taxes.* The gross property tax on owner-occupied homes showed some variation. For 2000, the effective property tax rate for homeowners tax was 1.8 percent for the second decile, 1.5 percent for the fourth decile, rose unevenly to 1.8% in the eighth decile and declined to 1.2 percent in the tenth decile.

*Rental Property Taxes.* This study's estimates of the property tax burden on renters are consistent with the approach used for business taxes more generally. Taxes on rental property, like taxes on other business property, are partly shifted to renters in higher rents and partly paid by property owners in lower returns. Using the methodology applied to business taxes more generally, this study estimates that a sizable portion of the 2000 gross rental property tax (43 percent) was borne by the investors who own rental housing; the remaining share (57 percent) was assumed to be shifted to renters in higher rents. The effective tax rate on renters was, therefore, lower than it would have been if all of the tax were passed along in higher rents.

### ***Other Individual Taxes***

The "other state taxes" category in *Table 3-5* includes the motor vehicle registration tax, estate taxes, solid waste management taxes, mortgage and deed taxes, insurance premiums taxes, gambling taxes, and MinnesotaCare Taxes.

### ***Business Taxes***

As shown in *Figure 2-1* above, business taxes were 30.0 percent of the total tax burden on Minnesota residents. Business taxes include the following:

- Business property taxes
- Corporate franchise tax
- Sales tax paid on purchases of capital equipment and other intermediate inputs
- Motor vehicle registration tax paid by business
- Insurance premiums tax
- Mortgage and deed taxes on business property
- Solid waste management taxes paid by business
- Excise taxes on motor fuels, tobacco, and alcohol
- Gambling taxes
- MinnesotaCare taxes
- Local gross earnings taxes

Although the legal impact of each of these taxes falls on the business entity, each is partially shifted to consumers (in higher prices) and to labor (in lower wages). Only a portion of business taxes are borne by capital owners as a lower rate of return on their investment. Part of the burden of each of these taxes is also shifted to nonresidents. This study estimates the degree to which such shifting occurs and then allocates the estimated burden to Minnesota households based on each household's sources of income and patterns of spending. (An explanation of tax shifting and the method of estimating the incidence of business taxes is included in the Appendix.)

To determine the incidence of each business tax, the study first estimated tax payments made by the different business sectors (manufacturing, mining, retail trade, etc.). Market characteristics of each business sector were used to estimate the degree to which taxes were shifted to consumers, labor, and nonresidents. Finally, taxes paid by each of these taxpayer categories (factors) were distributed to individual households in the sample.

Overall, the burden of Minnesota business taxes on Minnesota households was regressive. The effective tax rate generally fell as income increased. The effective tax rate was 6.6 percent in the second decile; it fell steadily as income rose, reaching 2.2 percent in the tenth decile.

### **Effective Tax Rates in the First Decile**

As shown in *Table 2-5*, low-income taxpayers in the first decile had significantly higher sales, excise, property, and business tax burdens than taxpayers with higher incomes. The total effective tax rate of 17.4 percent for taxpayers in the first decile was much higher than the rates in other deciles. This 17.4 percent effective tax rate includes an adjustment to exclude negative incomes.

The effective tax rate for the first decile is overstated for several reasons. First, the lowest decile includes households who have temporarily low incomes or have better overall economic well-being than was indicated by their money income in 2000. A portion of retirees, for example, may be living primarily on savings or other assets but report small amounts of annual money income received. Due to unemployment or business fluctuations, some households who normally have higher incomes are also included in the first decile. A small portion of all first-decile households were in this decile only because they reported business losses or large capital losses for income tax purposes in 2000.

Second, effective tax rates for the first decile are overstated because income is understated. The incidence sample was unable to identify all sources of income. Many first-decile households filed neither an income tax nor a property tax refund return. The incidence study identified some other sources of income for these households, but many had additional sources of income that were not identified. An underestimate of household income generally causes effective tax rates to be overestimated.

Household income is also underestimated in the *Consumer Expenditure Survey* used to estimate sales and excise tax burdens. To the extent that income was subject to relatively greater underreporting than consumption, particularly for low-income households, the taxable consumption expenditures calculated from CES will be overstated.

While this study does adjust for negative incomes for a small number of households, no attempt has been made to adjust for possible underreported or unidentified sources of income or for other differences between transitory and long run measures of income. By including only money income, the substantial amounts of food stamps and housing subsidies received by the poor are ignored in this study. Consequently, money income at the low end of the income distribution does not provide an accurate measure of overall economic well-being. For all of these reasons, effective tax rates in the first decile are overstated by an unknown but significant amount.

## Projected Results, 2005

This section examines the state and local tax burdens imposed on Minnesota taxpayers in 2005. The taxes included are the same as those analyzed for 2000.

### **Tax Incidence Projections to 2005**

To analyze tax incidence for years beyond 2000 various methods were used to project 2000 data into the future. These projections were accomplished in several ways.

***Income*** – The HITS income tax model contains assumptions, derived from the state economic forecast, about expected growth in each of the various categories of income: wages, interest, pensions etc. These expected growth rates were applied to the amount of each type of income that each household received in 2000. Adding up these components provides an estimate of total income in 2005 for the household. Because the various types of income are assumed to grow at different rates, some households in the model will experience faster income growth than will others. As such, the assignment of a given household to a decile ranking may change.

***Population*** – Estimates are that the number of Minnesota households will grow by nearly 5.65% between 2000 and 2005. Therefore, we increase the number of households assumed to be represented by each household in the incidence sample by that percentage.

***Taxes*** – All taxes were adjusted for tax law change that had either gone into effect or, under current law, are scheduled to go into effect. Income tax projections were from the HITS income tax model projections. For the remaining taxes in the study, estimates were produced of total collections based on the most current Department of Finance forecast, and also divided into tax liabilities imposed directly on Minnesota households, amounts imposed on nonresident households and amounts imposed on business. The business estimates were further disaggregated by economic sector. The business taxes were assumed to be shifted in the same manner as were the corresponding 2000 business taxes. Those taxes imposed directly on households were assumed to be allocated to the various households in the sample in the same way as were the 2000 taxes.

***Tax Law Changes Beyond 2000*** – Major changes include the following property tax law revisions:

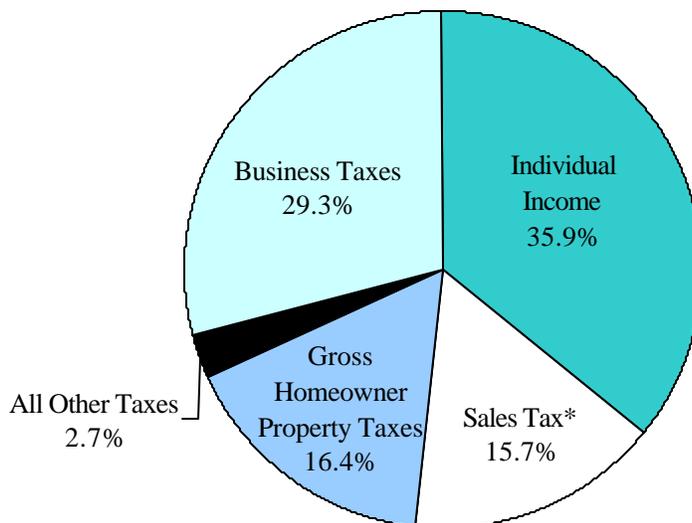
- Class rates reduced for most property tax types
- Brackets changed for homesteads and cabins
- State education levy eliminated and a new state property tax levied on commercial, industrial and cabin property
- Market value credits established for residential and agricultural property
- Limited market value phased out over six years
- Property tax refund changes

### **The Total Tax Burden**

For 2005, Minnesota residents are expected to pay a total of \$17.3 billion in taxes while earning \$157.5 billion in total money income. Minnesota residents thus will pay 11.0 percent of their total income in state and local taxes.

As shown in *Figure 3-1*, the individual income tax accounts for 36.0 % of the total tax burden on Minnesota residents. Homeowner property taxes and the consumer sales tax (including sales tax on motor vehicles) were 16.3 percent and 15.6 percent of the total, respectively. Taxes on business accounted for 29.2 percent. All other taxes make up the remaining 2.9 percent of total state and local taxes paid by Minnesota residents.

**Figure 3-1**  
**2005 Distribution of Minnesota**  
**State and Local Tax Burdens by Tax**



\*Consumer portion.

Details of Minnesota tax collections before and after tax shifting are shown in *Table 3-1*. Of the \$20.5 billion in total tax collections in 2005, \$17.3 billion or over 84% is paid by Minnesotans, directly or indirectly. The rest is exported to taxpayers out of state.

As was the case in 2000, the income tax is borne almost entirely by Minnesota residents, who pay over 96% of total collections. Residents of Minnesota pay 83.5% of the general sales tax. At the other end of the scale Minnesotans pay only 11.7% of the property taxes on industrial property.

Of the total, \$7.7 billion or 37.8% of Minnesota taxes are imposed on businesses. Of that amount \$2.7 billion or nearly 35% is exported.

The Suits index numbers show that most taxes levied in Minnesota are regressive to some degree. Only a few taxes, and only one large tax, the personal income tax, are progressive (Suits index greater than zero). The consumption taxes as a group are the most regressive, with a Suits index of  $-0.198$ . Nevertheless the progressive income tax and the few other progressive taxes are nearly sufficient to offset the many regressive taxes, so that the Suits index of the tax system as a whole is only slightly regressive at  $-0.030$ .

## **Taxes by Sector**

*Table 3-2* shows the distribution of taxes imposed on business by industrial sector, as well as those taxes imposed solely on households.

There is considerable variation in the tax amounts attributed to each sector, with services and wholesale trade accounting for large amounts and agriculture, mining and nondurable manufacturing having much smaller amounts. In order to judge the relative magnitudes of these by sector, we can present them as effective tax rates, as is done in *Table 3-3*.

**Table 3-1**  
**2005 Tax Collection Amounts (\$ Millions)**

Tax Type	Total	As Imposed			After Shifting		Pop'n Decile Suits Inex
		MN HH's	NR	Business	Minnesota	Exported	
<b>State Taxes</b>							
<b>Taxes on Income and Estates</b>							
Individual income tax	\$6,470	\$6,224	\$246		\$6,224	\$246	0.181
Corporation franchise tax <sup>1</sup>	677			\$677	359	318	-0.139
Estate tax	72	72			72		0.266
<b>Total Income and Estate Taxes</b>	<b>\$7,218</b>	<b>\$6,295</b>	<b>\$246</b>	<b>\$677</b>	<b>\$6,654</b>	<b>\$564</b>	<b>0.165</b>
<b>Taxes on Consumption</b>							
Total sales tax	\$5,025	\$2,656	\$168	\$2,201	\$4,197	\$828	-0.169
General sales/use tax	4,415	2,252	168	1,996	3,683	732	-0.166
Sales tax on motor vehicles	610	404		205	514	96	-0.193
Motor fuels excise taxes	672			672	548	125	-0.265
Alcoholic beverage excise taxes	65			65	59	7	-0.177
Cigarette and tobacco excise taxes	185			185	179	6	-0.540
Insurance premiums taxes	281			281	207	74	-0.139
Gambling taxes	59			59	58	2	-0.359
MinnesotaCare taxes	345			345	299	46	-0.282
<b>Total Consumption Taxes</b>	<b>\$6,633</b>	<b>\$2,656</b>	<b>\$168</b>	<b>\$3,809</b>	<b>\$5,546</b>	<b>\$1,087</b>	<b>-0.198</b>
<b>Taxes on Property</b>							
Residential recreational	\$36	\$29	\$7		\$29	\$7	-0.187
Commercial	393	0	0	\$393	215	178	-0.122
Industrial	131	0	0	131	15	116	0.114
Utility	62	0	0	62	39	23	-0.158
<b>Total Property Taxes</b>	<b>\$622</b>	<b>\$29</b>	<b>\$7</b>	<b>\$586</b>	<b>\$298</b>	<b>\$324</b>	<b>-0.121</b>
<b>Other Taxes</b>							
Motor vehicle registration tax	\$529	\$429		\$101	\$482	\$47	-0.140
Mortgage and deed taxes	185	125		60	159	26	-0.098
Solid waste management taxes	62	25		37	50	12	-0.190
<b>Total Other Taxes</b>	<b>\$776</b>	<b>\$579</b>		<b>\$198</b>	<b>\$691</b>	<b>\$85</b>	<b>-0.134</b>
<b>Property Tax Refunds <sup>4</sup></b>							
Homeowners	(\$154)	(\$154)			(\$154)		0.697
Renters	(139)	(139)			(139)		0.894
<b>Total Property Tax Refunds</b>	<b>(\$292)</b>	<b>(\$292)</b>			<b>(\$292)</b>		<b>0.790</b>
<b>Total State Taxes</b>	<b>\$14,957</b>	<b>\$9,267</b>	<b>\$421</b>	<b>\$5,270</b>	<b>\$12,897</b>	<b>\$2,060</b>	<b>0.008</b>
<b>Local Taxes</b>							
Property taxes (Pay 2000)	\$5,333	\$2,939	\$25	\$2,369	\$4,310	\$1,023	-0.138
General property tax (gross - credits)	5,260	2,939	25	2,296	4,309	951	-0.138
Homeowners (gross)	2,840	2,840			2,840	0	-0.118
Residential recreational	124	99	25		99	25	-0.187
Commercial <sup>2</sup>	1,040			1,040	569	471	-0.122
Industrial	342			342	40	302	0.114
Farm (other than residence) <sup>3</sup>	238			238	233	5	-0.272
Rental housing	475			475	400	75	-0.233
Utility	201			201	126	75	-0.158
Minerals	0.2			0.2	0.0	0.2	0.083
Mining production taxes (taconite)	73			73	1	72	0.207
Local sales taxes	126	64	5	57	105	21	-0.166
Local gross earnings taxes	51			51	32	19	-0.158
<b>Total Local Taxes</b>	<b>\$5,509</b>	<b>\$3,003</b>	<b>\$29</b>	<b>\$2,476</b>	<b>\$4,446</b>	<b>\$1,063</b>	<b>-0.139</b>
<b>Total State and Local Taxes</b>	<b>\$20,466</b>	<b>\$12,270</b>	<b>\$450</b>	<b>\$7,746</b>	<b>\$17,343</b>	<b>\$3,123</b>	<b>-0.030</b>

<sup>1</sup> Includes taconite/iron ore occupation tax.

<sup>3</sup> Includes timber.

<sup>2</sup> Includes resorts and railroads.

<sup>4</sup> Values differ from DOF figures due to revised DOR estimates.

**Table 3-2  
Minnesota Taxes Imposed by Sector CY 2005 Taxes - \$ Thousands**

Tax Type	Ag.	Mining	Const.	Durable Mfg.	Nondurable Mfg.	TCPU	FIRE	Services	Retail Trade	Wholesale Trade	Government		Total Business	Households	Non-Residents	Total
											State	Local				
<b>State Taxes</b>																
<b>Taxes on Income and Estates</b>																
Individual income tax														\$6,223,659	\$245,841	\$6,469,500
Corporate franchise tax	\$6,106	\$1,780	\$26,871	\$105,449	\$94,182	\$69,221	\$156,589	\$64,901	\$80,734	\$71,454			\$677,285			677,285
Estate tax														71,500		71,500
<b>Total Income and Estate Taxes</b>	<b>\$6,106</b>	<b>\$1,780</b>	<b>\$26,871</b>	<b>\$105,449</b>	<b>\$94,182</b>	<b>\$69,221</b>	<b>\$156,589</b>	<b>\$64,901</b>	<b>\$80,734</b>	<b>\$71,454</b>			<b>\$677,285</b>	<b>\$6,295,159</b>	<b>\$245,841</b>	<b>\$7,218,285</b>
<b>Taxes on consumption</b>																
Total general sales tax	\$56,135	\$9,414	\$387,858	\$115,270	\$87,868	\$173,805	\$165,070	\$643,176	\$196,230	\$224,648	\$21,693	\$120,119	\$2,201,286	\$2,656,138	\$167,786	\$5,025,211
General sales/use tax	53,670	7,544	371,419	100,911	70,055	159,421	154,374	585,868	165,145	190,131	19,834	117,427	1,995,799	2,251,870	167,786	4,415,455
Sales tax on motor vehicles	2,465	1,870	16,439	14,359	17,812	14,385	10,696	57,308	31,085	34,517	1,859	2,692	205,487	404,269		609,756
Motor fuels excise taxes													672,233			672,233
Alcoholic beverage excise taxes													53,591			53,591
Cigarette and tobacco excise taxes													184,910			184,910
Insurance premiums taxes							280,970						280,970			280,970
Gambling taxes								32,492					59,368			59,368
MinnesotaCare taxes						1,816	662	257,939	21,529	59,554		3,225	344,725			344,725
<b>Total Consumption Taxes</b>	<b>\$56,135</b>	<b>\$9,414</b>	<b>\$387,858</b>	<b>\$115,270</b>	<b>\$101,447</b>	<b>\$174,468</b>	<b>\$446,040</b>	<b>\$933,607</b>	<b>\$217,759</b>	<b>\$1,221,812</b>	<b>\$21,693</b>	<b>\$123,344</b>	<b>\$3,808,846</b>	<b>\$2,656,138</b>	<b>\$167,786</b>	<b>\$6,632,771</b>
<b>Taxes on Property</b>																
Residential recreational property tax														\$28,871	\$7,129	\$36,000
Commercial property tax			\$26,000			\$38,000	\$55,000	\$159,000	\$60,000	\$55,000			\$393,000	0	0	393,000
Industrial property tax				\$97,000	\$34,000								131,000	0	0	131,000
Utility property tax						62,000							62,000	0	0	62,000
<b>Total Property Taxes</b>			<b>\$26,000</b>	<b>\$97,000</b>	<b>\$34,000</b>	<b>\$100,000</b>	<b>\$55,000</b>	<b>\$159,000</b>	<b>\$60,000</b>	<b>\$55,000</b>			<b>\$586,000</b>	<b>\$28,871</b>	<b>\$7,129</b>	<b>\$622,000</b>
<b>Other Taxes</b>																
Motor vehicle registration tax	\$338	\$575	\$5,874	\$19,602	\$7,002	\$6,737	\$10,507	\$30,111	\$10,293	\$9,503	\$10	\$40	\$100,591	\$428,834		\$529,425
Mortgage and deed taxes	101	134	482	5,110	3,034	1,704	42,348	4,472	1,185	1,187			59,756	125,248		185,005
Solid waste management taxes	559	373	1,454	4,954	3,433	1,305	2,050	5,592	11,929	746	671	4,214	37,279	24,666		61,945
<b>Total Other Taxes</b>	<b>\$998</b>	<b>\$1,081</b>	<b>\$7,809</b>	<b>\$29,666</b>	<b>\$13,469</b>	<b>\$9,746</b>	<b>\$54,905</b>	<b>\$40,174</b>	<b>\$23,407</b>	<b>\$11,435</b>	<b>\$681</b>	<b>\$4,254</b>	<b>\$197,627</b>	<b>\$578,747</b>		<b>\$776,374</b>
<b>Property Tax Refunds</b>																
Homeowners														-\$153,555		-\$153,555
Renters														-138,701		-138,701
<b>Total Property Tax Refunds</b>														<b>-\$292,256</b>		<b>-\$292,256</b>
<b>Total State Taxes</b>	<b>\$63,239</b>	<b>\$12,275</b>	<b>\$448,538</b>	<b>\$347,385</b>	<b>\$243,098</b>	<b>\$353,435</b>	<b>\$712,534</b>	<b>\$1,197,682</b>	<b>\$381,900</b>	<b>\$1,359,701</b>	<b>\$22,374</b>	<b>\$127,598</b>	<b>\$5,269,758</b>	<b>\$9,266,660</b>	<b>\$420,756</b>	<b>\$14,957,174</b>
<b>Local Property Taxes</b>																
Homeowners (gross)														\$2,840,000		\$2,840,000
Residential recreational property tax														99,446	\$24,554	124,000
Commercial property tax			\$68,000			\$101,000	\$144,000	\$424,000	\$158,000	\$145,000			\$1,040,000			1,040,000
Industrial property tax				\$252,000	\$90,000								342,000			342,000
Farm property tax (other than residence)	\$238,000												238,000			238,000
Utility property tax						201,000							201,000			201,000
Residential rental property tax (gross)								475,000					475,000			475,000
Minerals		\$195											195			195
<b>Total Property Taxes</b>	<b>\$238,000</b>	<b>\$195</b>	<b>\$68,000</b>	<b>\$252,000</b>	<b>\$90,000</b>	<b>\$302,000</b>	<b>\$144,000</b>	<b>\$899,000</b>	<b>\$158,000</b>	<b>\$145,000</b>			<b>\$2,296,195</b>	<b>\$2,939,446</b>	<b>\$24,554</b>	<b>\$5,260,195</b>
<b>Other Local Taxes</b>																
Mining production taxes (taconite)		\$72,936											\$72,936			\$72,936
Local sales taxes	\$1,526	214	\$10,559	\$2,869	\$1,992	\$4,532	\$4,389	\$16,655	\$4,695	\$5,405	\$564	\$3,338	56,737	\$64,017	\$4,770	125,525
Local gross earnings taxes						50,547							50,547			50,547
<b>Total Other Taxes</b>	<b>\$1,526</b>	<b>\$73,150</b>	<b>\$10,559</b>	<b>\$2,869</b>	<b>\$1,992</b>	<b>\$55,079</b>	<b>\$4,389</b>	<b>\$16,655</b>	<b>\$4,695</b>	<b>\$5,405</b>	<b>\$564</b>	<b>\$3,338</b>	<b>\$180,220</b>	<b>\$64,017</b>	<b>\$4,770</b>	<b>\$249,008</b>
<b>Total Local Taxes</b>	<b>\$239,526</b>	<b>\$73,345</b>	<b>\$78,559</b>	<b>\$254,869</b>	<b>\$91,992</b>	<b>\$357,079</b>	<b>\$148,389</b>	<b>\$915,655</b>	<b>\$162,695</b>	<b>\$150,405</b>	<b>\$564</b>	<b>\$3,338</b>	<b>\$2,476,415</b>	<b>\$3,003,463</b>	<b>\$29,324</b>	<b>\$5,509,202</b>
<b>Total State and Local Taxes</b>	<b>\$302,765</b>	<b>\$85,620</b>	<b>\$527,097</b>	<b>\$602,254</b>	<b>\$335,090</b>	<b>\$710,514</b>	<b>\$860,922</b>	<b>\$2,113,338</b>	<b>\$544,595</b>	<b>\$1,510,106</b>	<b>\$22,938</b>	<b>\$130,937</b>	<b>\$7,746,173</b>	<b>\$12,270,123</b>	<b>\$450,080</b>	<b>\$20,466,376</b>

**Table 3-3**  
**Taxes Imposed by Sector**  
**CY 2005 Taxes**  
**Effective Tax Rates**

Tax Type	Effective Tax Rates
Agriculture	2.58%
Mining	14.64
Construction	4.50
Durable Manufacturing	2.86
Nondurable Manufacturing	3.65
TCPU	4.64
FIRE	1.77
Services	4.29
Retail Trade	2.52
Wholesale Trade	9.00
Overall Average	3.69%

### **Taxes by Decile**

To summarize the distribution of tax burdens by income level, the population of Minnesota households was divided into ten equal-sized groups or *deciles* of households ranked by household income levels. By definition, the first decile includes the 10 percent of households with the lowest income levels and the tenth decile includes the highest-income 10 percent of households. There were approximately 245,000 taxpaying households in each population decile. The total burden by tax type for each decile is summarized in *Table 3-4*.

Taxpayers in the top decile (incomes of \$116,126 and over) bore 37.3 percent of the total tax burden while having 40.5 percent of total income. By tax type, taxpayers in the top decile paid 52.9 percent of the individual income tax, 26.1 percent of the consumer sales tax, 29.4 percent of the gross residential property tax, and 27.3 percent of business taxes.

**Table 3-4**

**2005 Population Deciles - Amounts (\$ 000's)**

Population Decile	Income Range	Number of Households	Household Income	State Income Taxes		State Sales Tax			Property Tax Refund	State Property Tax	State Excise Taxes	Other State Taxes	
				Individual Income Tax	Corporate Franchise Tax	Purchases by Individuals	Purchases by Businesses	Sales Tax Total				Taxes on Individuals	Taxes on Businesses
First	\$10,235 & under	245,349	\$1,619,319	-\$15,956	\$9,636	\$78,696	\$47,183	\$125,879	-\$40,904	\$9,615	\$34,392	\$13,086	\$19,748
Second	\$10,236 - \$17,109	245,349	3,361,006	-13,955	11,779	93,477	53,991	147,468	-53,050	10,185	45,606	13,143	26,746
Third	\$17,110 - \$24,132	245,349	5,047,911	23,703	15,896	125,878	70,114	195,991	-51,401	13,549	56,494	20,938	34,096
Fourth	\$24,133 - \$31,748	245,349	6,842,319	120,102	20,836	164,702	90,387	255,089	-47,416	17,219	61,477	31,522	44,494
Fifth	\$31,749 - \$40,755	245,349	8,881,295	249,114	24,568	192,239	107,602	299,841	-36,778	20,023	68,308	37,888	55,415
Sixth	\$40,756 - \$52,133	245,349	11,330,281	363,579	30,359	242,003	130,127	372,130	-28,424	23,987	79,372	55,805	63,505
Seventh	\$52,134 - \$66,028	245,349	14,449,517	498,349	37,579	298,437	158,550	456,987	-20,562	28,300	88,846	75,220	78,042
Eighth	\$66,029 - \$84,342	245,349	18,247,877	699,903	44,940	346,396	189,426	535,822	-9,533	34,163	101,554	87,727	89,683
Ninth	\$84,343 - \$116,125	245,349	24,015,604	1,004,554	56,692	421,761	237,115	658,875	-2,288	45,327	110,243	110,502	106,140
Tenth	\$116,126 & over	245,349	63,714,803	3,294,266	106,589	692,551	456,219	1,148,770	-1,900	96,017	139,235	204,417	157,820
<b>TOTALS</b>		<b>2,453,490</b>	<b>\$157,509,932</b>	<b>\$6,223,659</b>	<b>\$358,875</b>	<b>\$2,656,138</b>	<b>\$1,540,714</b>	<b>\$4,196,852</b>	<b>-\$292,256</b>	<b>\$298,386</b>	<b>\$785,527</b>	<b>\$650,247</b>	<b>\$675,690</b>
Top 5%	Over \$163,854	122,722	\$47,034,388	\$2,530,117	\$70,612	\$439,795	\$305,197	\$744,992	-\$738	\$66,549	\$80,542	\$129,194	\$95,443
Top 1%	Over \$402,294	24,624	\$24,116,548	\$1,387,247	\$22,357	\$104,050	\$92,961	\$197,010	-\$110	\$23,309	\$18,276	\$30,433	\$25,713

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Population Decile	Residential Local Property Taxes					Nonresidential Local Property Taxes	Other Local Taxes
	Homeowners Gross	Renters Gross	Owners of Rental Prop.	Total on Rental Prop.	Residential Total *		
First	\$64,334	\$10,213	\$7,862	\$18,075	\$86,074	\$37,567	\$4,153
Second	74,277	12,057	9,281	21,338	98,917	40,164	4,941
Third	128,822	14,573	11,218	25,791	160,748	42,812	6,467
Fourth	131,793	18,339	14,118	32,457	171,272	58,345	8,316
Fifth	168,466	20,714	15,946	36,660	212,603	72,709	9,706
Sixth	243,421	21,321	16,413	37,734	289,388	81,860	11,844
Seventh	308,370	20,430	15,727	36,157	353,523	97,296	14,521
Eighth	381,428	20,936	16,117	37,053	429,207	112,878	17,183
Ninth	503,231	23,602	18,169	41,772	562,602	122,938	21,363
Tenth	835,856	64,094	49,340	113,434	975,581	302,715	38,590
<b>TOTALS</b>	<b>\$2,840,000</b>	<b>\$226,279</b>	<b>\$174,190</b>	<b>\$400,469</b>	<b>\$3,339,915</b>	<b>\$969,284</b>	<b>\$137,082</b>
Top 5%	\$501,885	\$48,548	\$37,372	\$85,920	\$603,216	\$201,949	\$25,216
Top 1%	\$147,988	\$20,028	\$15,418	\$35,446	\$187,556	\$71,810	\$6,850

Local Taxes Total	Total State Taxes			Total State and Local Taxes
	Total on Individuals	Total on Businesses	State Taxes Total	
\$127,794	\$35,986	\$119,511	\$155,497	\$283,291
144,022	40,574	147,349	187,922	331,944
210,027	120,900	188,368	309,268	519,295
237,934	270,949	232,375	503,324	741,257
295,018	444,634	273,745	718,379	1,013,397
383,092	635,353	324,960	960,313	1,343,405
465,340	854,054	388,706	1,242,760	1,708,100
559,267	1,127,607	456,653	1,584,260	2,143,527
706,902	1,539,637	550,407	2,090,044	2,796,947
1,316,887	4,196,966	948,247	5,145,213	6,462,100
<b>\$4,446,281</b>	<b>\$9,266,660</b>	<b>\$3,630,320</b>	<b>\$12,896,980</b>	<b>\$17,343,261</b>
\$830,382	\$3,102,842	\$613,869	\$3,716,711	\$4,547,093
\$266,217	\$1,522,817	\$181,419	\$1,704,236	\$1,970,452

\* Includes seasonal recreational residential (cabins).

Based on Feb. 03 Forecast

In contrast, taxpayers in the bottom decile (incomes of \$10,235 and below) bore 1.6 percent of the total tax burden and received only 1.0 percent of total income. The bottom decile taxpayers had a negative net individual income tax burden due to the refundable tax credits. The same households paid 3.0 percent of the consumer sales tax, 2.4 percent of gross residential property tax, and 3.5 percent of business taxes.

### **Overall Effective Tax Rates**

In a similar fashion as was done for taxes paid in 2000, effective tax rates by tax type for 2005 are reported in *Table 3-5*. Effective tax rates by population deciles for the four major tax types included in this study are presented in *Table 3-6* and are illustrated in *Figure 3-2*. As shown in *Figure 3-2*, the effective tax rate is shown on the vertical axis of the figure; population deciles are shown on the horizontal axis (each decile containing 10 percent of total taxpayers).

The results show that the individual income tax was very progressive, while the three remaining taxes were generally regressive. Because the progressive individual income tax accounted for over one-third of the total tax burden, it offsets most of the regressivity of the other state and local taxes. Hence, as a whole, the state and local system of taxation in Minnesota was only slightly regressive overall.

### ***The Individual Income Tax***

Because of its graduated tax rate structure and allowance of personal exemptions and deductions, the individual income tax is, by design, progressive. As seen in *Table 3-5* for 2005, effective tax rates rise significantly with increases in household income. At the low end, the effective tax rate for the income tax is –1.0 percent for the first decile. It rises steadily to 5.2 percent for the tenth decile. First decile households can receive refundable tax credits, which more than offset any income tax liabilities.

**Table 3-5**

**2005 Population Deciles Effective Tax Rates**

Population Decile	Income Range	Number of Households	Household Income	State Income Taxes		State Sales Tax			Property Tax Refund	State Property Tax	State Excise Taxes	Other State Taxes	
				Individual Income Tax	Corporate Franchise Tax	Purchases by Individuals	Purchases by Businesses	Sales Tax Total				Taxes on Individuals	Taxes on Businesses
First	\$10,235 & under	245,349	\$1,619,319	- 1.0%	0.6%	4.9%	2.9%	7.8%	- 2.5%	0.6%	2.1%	0.8%	1.2%
Second	\$10,236 - \$17,109	245,349	3,361,006	- 0.4%	0.4%	2.8%	1.6%	4.4%	- 1.6%	0.3%	1.4%	0.4%	0.8%
Third	\$17,110 - \$24,132	245,349	5,047,911	0.5%	0.3%	2.5%	1.4%	3.9%	- 1.0%	0.3%	1.1%	0.4%	0.7%
Fourth	\$24,133 - \$31,748	245,349	6,842,319	1.8%	0.3%	2.4%	1.3%	3.7%	- 0.7%	0.3%	0.9%	0.5%	0.7%
Fifth	\$31,749 - \$40,755	245,349	8,881,295	2.8%	0.3%	2.2%	1.2%	3.4%	- 0.4%	0.2%	0.8%	0.4%	0.6%
Sixth	\$40,756 - \$52,133	245,349	11,330,281	3.2%	0.3%	2.1%	1.1%	3.3%	- 0.3%	0.2%	0.7%	0.5%	0.6%
Seventh	\$52,134 - \$66,028	245,349	14,449,517	3.4%	0.3%	2.1%	1.1%	3.2%	- 0.1%	0.2%	0.6%	0.5%	0.5%
Eighth	\$66,029 - \$84,342	245,349	18,247,877	3.8%	0.2%	1.9%	1.0%	2.9%	- 0.1%	0.2%	0.6%	0.5%	0.5%
Ninth	\$84,343 - \$116,125	245,349	24,015,604	4.2%	0.2%	1.8%	1.0%	2.7%	0.0%	0.2%	0.5%	0.5%	0.4%
Tenth	\$116,126 & over	245,349	63,714,803	5.2%	0.2%	1.1%	0.7%	1.8%	0.0%	0.2%	0.2%	0.3%	0.2%
TOTALS		2,453,490	\$157,509,932	4.0%	0.2%	1.7%	1.0%	2.7%	- 0.2%	0.2%	0.5%	0.4%	0.4%
Top 5%	Over \$163,854	122,722	\$47,034,388	5.4%	0.2%	0.9%	0.6%	1.6%	0.0%	0.1%	0.2%	0.3%	0.2%
Top 1%	Over \$402,294	24,624	\$24,116,548	5.8%	0.1%	0.4%	0.4%	0.8%	0.0%	0.1%	0.1%	0.1%	0.1%

Population Decile	Residential Local Property Taxes					Nonresidential Local Property Taxes	Other Local Taxes
	Homeowners Gross	Renters Gross	Owners of Rental Prop.	Total on Rental Prop.	Residential Total *		
First	4.0%	0.6%	0.5%	1.1%	5.3%	2.3%	0.3%
Second	2.2%	0.4%	0.3%	0.6%	2.9%	1.2%	0.1%
Third	2.6%	0.3%	0.2%	0.5%	3.2%	0.8%	0.1%
Fourth	1.9%	0.3%	0.2%	0.5%	2.5%	0.9%	0.1%
Fifth	1.9%	0.2%	0.2%	0.4%	2.4%	0.8%	0.1%
Sixth	2.1%	0.2%	0.1%	0.3%	2.6%	0.7%	0.1%
Seventh	2.1%	0.1%	0.1%	0.3%	2.4%	0.7%	0.1%
Eighth	2.1%	0.1%	0.1%	0.2%	2.4%	0.6%	0.1%
Ninth	2.1%	0.1%	0.1%	0.2%	2.3%	0.5%	0.1%
Tenth	1.3%	0.1%	0.1%	0.2%	1.5%	0.5%	0.1%
TOTALS	1.8%	0.1%	0.1%	0.3%	2.1%	0.6%	0.1%
Top 5%	1.1%	0.1%	0.1%	0.2%	1.3%	0.4%	0.1%
Top 1%	0.6%	0.1%	0.1%	0.1%	0.8%	0.3%	0.0%

Local Taxes Total	Total State Taxes			Total State and Local Taxes
	Total on Individuals	Total on Businesses	State Taxes Total	
7.9%	2.2%	7.4%	9.6%	17.5%
4.3%	1.2%	4.4%	5.6%	9.9%
4.2%	2.4%	3.7%	6.1%	10.3%
3.5%	4.0%	3.4%	7.4%	10.8%
3.3%	5.0%	3.1%	8.1%	11.4%
3.4%	5.6%	2.9%	8.5%	11.9%
3.2%	5.9%	2.7%	8.6%	11.8%
3.1%	6.2%	2.5%	8.7%	11.7%
2.9%	6.4%	2.3%	8.7%	11.6%
2.1%	6.6%	1.5%	8.1%	10.1%
2.8%	5.9%	2.3%	8.2%	11.0%
1.8%	6.6%	1.3%	7.9%	9.7%
1.1%	6.3%	0.8%	7.1%	8.2%

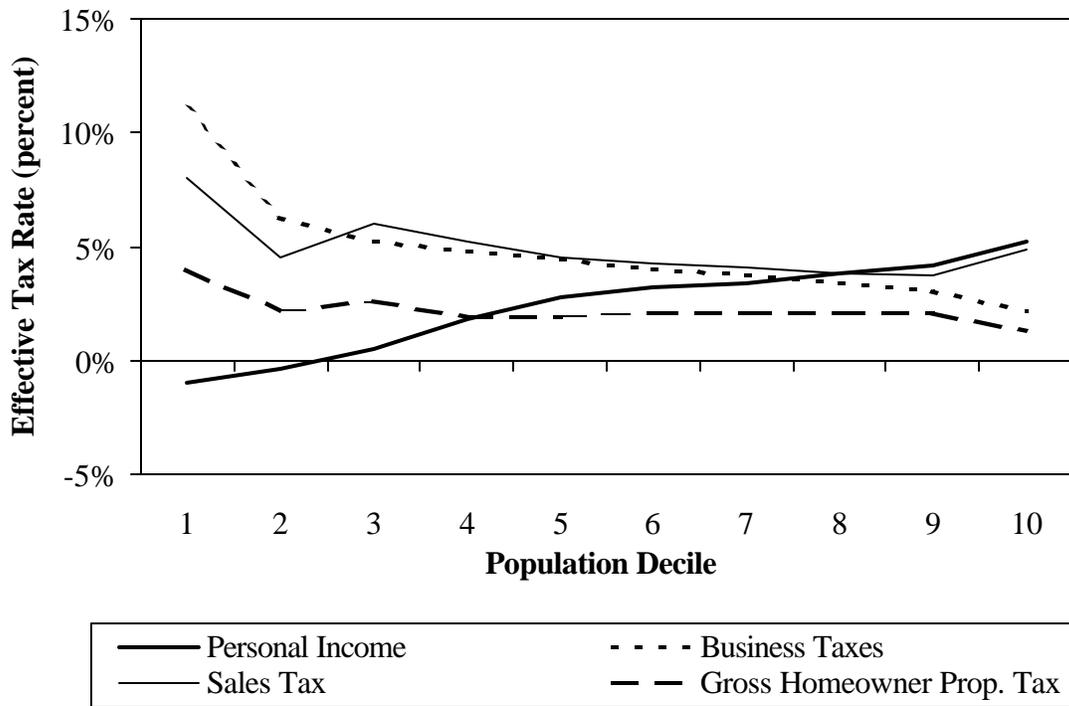
\* Includes seasonal recreational residential (cabins).

**Table 3-6**  
**Effective Tax Rates**

2005 Decile	Personal Income	Business Taxes	Sales Tax*	Gross Homeowner Property Tax
1	-1.0%	11.0%	8.0%	4.0%
2	-0.4%	6.3%	4.5%	2.2%
3	0.5%	5.2%	6.0%	2.6%
4	1.8%	4.8%	5.2%	1.9%
5	2.8%	4.4%	4.5%	1.9%
6	3.2%	4.0%	4.3%	2.1%
7	3.4%	3.7%	4.1%	2.1%
8	3.8%	3.4%	3.8%	2.1%
9	4.2%	3.0%	3.7%	2.1%
10	5.2%	2.2%	4.9%	1.3%
<b>Total</b>	<b>4.0%</b>	<b>3.2%</b>	<b>2.7%</b>	<b>1.8%</b>

\*Includes local sales taxes.

**Figure 3-2**  
**Effective Tax Rates for 2005**  
**by Population Decile**



## ***Sales Tax on Consumer Purchases***

The consumer portion of the sales tax is regressive, especially at low income levels. (The sales tax on business purchases is included with the business tax category.) This is because the share of income represented by taxable consumption tends to be smaller for high-income households than for low-income ones. Hence, tax burdens as a proportion of income tend to decline as one moves up the income scale.

For 2005, the effective consumer sales tax rate for the bottom decile is 4.9 percent, compared to the rate for the top decile of 1.1 percent (see *Table 3-5*). Effective tax rates for the second through ninth deciles, representing 80 percent of all taxpayers, ranged from 2.8 to 1.8 percent.

## ***Residential Property Taxes***

*Homeowner Property Taxes.* The gross property tax on owner-occupied homes, shows some variation. For 2005, the net effective property tax rate for homeowners tax is 2.2 percent for the second decile, 1.9 percent in the fourth decile, 2.1% in the ninth decile, and declines to 1.3 percent in the tenth decile.

*Rental Property Taxes.* This study's estimates of the property tax burden on renters are consistent with the approach used for business taxes more generally. Taxes on rental property, like taxes on other business property, are partly shifted to renters in higher rents and partly paid by property owners in lower returns. Using the methodology applied to business taxes more generally, this study estimates that a sizable portion of the 2005 rental property tax (43 percent) was borne by the investors who own rental housing; the remaining share (57 percent) was assumed to be shifted to renters in higher rents. The effective tax rate on renters was, therefore, lower than it would have been if all of the tax were passed along in higher rents.

## ***Other Individual Taxes***

The "other state taxes" category in *Table 3-5* includes the motor vehicle registration tax, estate taxes, solid waste management taxes, mortgage and deed taxes, insurance premiums taxes, gambling taxes, and MinnesotaCare Taxes.

## ***Business Taxes***

As shown in *Figure 2-1* above, business taxes were 29.3 percent of the total tax burden on Minnesota residents. Business taxes include the following:

- Business property taxes
- Corporate franchise tax
- Sales tax paid on purchases of capital equipment and other intermediate inputs
- Motor vehicle registration tax paid by business
- Insurance premiums tax
- Mortgage and deed taxes on business property
- Solid waste management taxes paid by business
- Excise taxes on motor fuels, tobacco, and alcohol
- Gambling taxes
- MinnesotaCare taxes
- Local gross earnings taxes

Although the legal impact of each of these taxes falls on the business entity, each is partially shifted to consumers (in higher prices) and to labor (in lower wages). Only a portion of business taxes are borne by capital owners as a lower rate of return on their investment. Part of the burden of each of these taxes is also shifted to nonresidents. This study estimates the degree to which such shifting occurs and then allocates the estimated burden to Minnesota households based on each household's sources of income and patterns of spending. (An explanation of tax shifting and the method of estimating the incidence of business taxes is included in the Appendix.)

To determine the incidence of each business tax, the study first estimated tax payments made by the different business sectors (manufacturing, mining, retail trade, etc.). Market characteristics of each business sector were used to estimate the degree to which taxes were shifted to consumers, labor, and nonresidents. Finally, taxes paid by each of these taxpayer categories (factors) were distributed to individual households in the sample.

Overall, the burden of Minnesota business taxes on Minnesota households was regressive. The effective tax rate generally fell as income increased. The effective tax rate was 6.3 percent in the second decile; it fell steadily as income rose, reaching 2.2 percent in the tenth decile.

## **Effective Tax Rates in the First Decile**

As shown in *Table 3-5*, low income taxpayers in the first decile had significantly higher sales, excise, net property, and business tax burdens than taxpayers with higher incomes. The total effective tax rate of 17.5 percent for taxpayers in the first decile was much higher than the rates in other deciles. This 17.5 percent effective tax rate includes an adjustment to exclude negative incomes.

The effective tax rate for the first decile is overstated for several reasons which have been discussed in the previous section.



## Additional Results

### **An Alternative Presentation: Income Deciles**

The results presented earlier in this study have been summarized for deciles of households. Each population decile represents ten percent of the population of households in the study. This section provides an alternative way to summarize the distribution of the 2000 and 2005 tax burdens. *Tables 4-1* through *4-4* are organized by income deciles rather than population deciles. To derive income deciles, households are ranked from lowest to highest income and divided into groups representing equal amounts of total income.

The distribution of tax by income deciles in these tables can be compared to the distribution by population deciles in *Tables 2-1, 2-2, 3-1, and 3-2*. In both distributions households are ranked by income level. Using the year 2000 for purposes of illustration, in the population decile distribution each decile of 232,000 households is 10 percent of all households; in the income decile distribution, each decile with \$13.2 billion of income constitutes 10 percent of total income. Because of their relatively low incomes, it takes 906,500 households in the first income decile to account for 10 percent of total income; in contrast, there are only 5,831 high-income households in the tenth decile, who also received 10 percent of total income.

Again using the year 2000 for illustration, the first decile includes 39 percent of all households. Their share of total taxes (10.1 percent) was almost equal to their share of household income (10 percent). First income decile households (with 10 percent of total income) paid only 1.5 percent of the individual income tax, but paid 16.7 percent of the consumer sales tax, 24.8 percent of excise taxes, and 18.3 percent of all business taxes borne by Minnesota residents.

The tenth income decile includes only 0.3 percent of all households. Their share of total taxes (6.8 percent) was lower than their share of household income (10 percent). They paid 15.2 percent of the individual income tax, 1.0 percent of the consumer sales tax, 0.6 percent of excise taxes, and 2.2 percent of business taxes borne by Minnesota residents.

*Tables 4-2 and 4-4* show effective tax rates by income decile. A comparison of the effective tax rate for all taxes reveals some differences. First, the effective tax rate for the first income decile (11.3 percent) was much lower than that for the first population decile (17.4 percent), again using 2000 data. The first income decile included almost four times as many households as the first population decile. As a result, the tax rate for the first income decile is an average for households in the first four population deciles.

The pattern of effective tax rates also differs for the top deciles. The tenth income decile (with 5,831 households) had an effective tax rate of 7.7 percent. In contrast, the tenth population decile (with about 232,000 households) had an effective tax rate of 10.3 percent.

Analyzing the tax burden by income deciles provides additional insights into the distribution of the burden. It provides more detailed information about the burden on higher income households, but less information about the 56 percent of households who are combined in the first two income deciles.

*Table 4-5* shows the Suits index values for each tax and for the various tax groupings. Suits values for population deciles are repeated for purposes of comparison.

**Table 4-1**

**2000 Income Deciles - Amounts (\$ 000's)**

Income Decile	Income Range	Number of Households	Household Income	State Income Taxes		State Sales Tax			Property Tax Refund	State Property Tax	State Excise Taxes	Other State Taxes	
				Individual Income Tax	Corporate Franchise Tax	Purchases by Individuals	Purchases by Businesses	Sales Tax Total				Taxes on Individuals	Taxes on Businesses
First	\$26,638 & under	906,500	\$13,211,940	\$84,019	\$63,011	\$379,977	\$210,557	\$590,535	-\$144,723	\$0	\$181,981	\$73,242	\$76,149
Second	\$26,639 - \$40,674	396,750	13,207,685	387,198	50,389	300,987	165,394	466,381	-32,780	0	113,832	71,080	62,325
Third	\$40,675 - \$54,414	279,399	13,212,963	461,668	47,858	289,575	153,815	443,390	-9,667	0	96,130	81,015	55,756
Fourth	\$54,415 - \$68,074	216,877	13,205,428	518,090	45,371	267,066	145,339	412,405	-3,821	0	85,925	76,132	50,870
Fifth	\$68,075 - \$83,826	175,181	13,216,129	560,452	44,850	256,985	141,908	398,893	-1,341	0	75,633	74,741	47,985
Sixth	\$83,827 - \$108,397	139,878	13,209,395	597,457	40,552	223,562	128,960	352,522	-700	0	61,772	65,903	41,753
Seventh	\$108,398 - \$154,003	104,189	13,203,816	643,962	39,088	206,097	125,693	331,789	-447	0	49,462	62,055	38,052
Eighth	\$154,004 - \$278,003	66,984	13,210,997	683,410	40,247	214,045	131,410	345,455	-280	0	42,138	72,260	33,962
Ninth	\$278,004 - \$845,275	30,794	13,223,692	742,053	24,999	111,689	81,209	192,898	-54	0	21,368	42,631	19,789
Tenth	\$845,276 & over	5,831	13,192,930	839,609	9,687	23,085	29,126	52,211	-2	0	4,337	7,388	6,261
<b>TOTALS</b>		<b>2,322,383</b>	<b>\$132,094,974</b>	<b>\$5,517,918</b>	<b>\$406,053</b>	<b>\$2,273,068</b>	<b>\$1,313,411</b>	<b>\$3,586,479</b>	<b>-\$193,814</b>	<b>\$0</b>	<b>\$732,578</b>	<b>\$626,448</b>	<b>\$432,901</b>
Top 5%	Over \$2,748,434	943	\$6,607,436	\$445,890	\$3,513	\$3,733	\$10,796	\$14,529	-\$1	\$0	\$701	\$1,921	\$2,178
Top 1%	Over \$23,685,085	31	\$1,325,991	\$90,159	\$560	\$123	\$1,525	\$1,648	\$0	\$0	\$23	\$43	\$283

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Income Decile	Residential Local Property Taxes					Nonresidential Local Property Taxes	Other Local Taxes
	Homeowners Gross	Renters Gross	Owners of Rental Prop.	Total on Rental Prop.	Residential Total*		
First	\$250,318	\$48,550	\$37,374	\$85,924	\$352,038	\$197,212	\$20,203
Second	217,928	33,209	25,565	58,774	287,383	147,678	15,534
Third	235,524	22,854	17,593	40,448	284,625	122,244	14,562
Fourth	231,590	18,380	14,149	32,528	271,871	129,331	13,646
Fifth	236,066	13,769	10,600	24,369	269,353	100,788	13,338
Sixth	239,873	14,385	11,074	25,459	274,787	91,732	11,905
Seventh	230,839	15,018	11,561	26,580	265,643	112,274	11,453
Eighth	194,072	17,123	13,181	30,304	230,842	116,727	12,049
Ninth	129,211	14,554	11,203	25,757	159,203	77,911	6,855
Tenth	39,579	9,171	7,060	16,230	56,648	31,215	1,974
<b>TOTALS</b>	<b>\$2,005,000</b>	<b>\$207,014</b>	<b>\$159,360</b>	<b>\$366,373</b>	<b>\$2,452,394</b>	<b>\$1,127,113</b>	<b>\$121,520</b>
Top 5%	\$11,119	\$3,995	\$3,076	\$7,071	\$18,327	\$13,586	\$580
Top 1%	\$626	\$339	\$261	\$600	\$1,231	\$1,880	\$72

Local Taxes Total	Total State Taxes			Total State and Local Taxes
	Total on Individuals	Total on Businesses	State Taxes Total	
\$569,453	\$396,526	\$527,687	\$924,213	\$1,493,666
450,596	727,984	390,441	1,118,426	1,569,021
421,431	823,378	352,772	1,176,149	1,597,581
414,847	857,817	327,154	1,184,972	1,599,819
383,480	890,962	310,252	1,201,214	1,584,693
378,424	886,288	272,973	1,159,260	1,537,685
389,370	911,707	252,254	1,163,961	1,553,331
359,618	969,461	247,731	1,217,192	1,576,810
243,969	896,324	147,361	1,043,685	1,287,655
89,837	870,080	49,411	919,491	1,009,328
<b>\$3,701,027</b>	<b>\$8,230,528</b>	<b>\$2,878,035</b>	<b>\$11,108,563</b>	<b>\$14,809,590</b>
\$32,493	\$451,543	\$17,188	\$468,731	\$501,224
\$3,184	\$90,325	\$2,392	\$92,717	\$95,901

\* Includes seasonal recreational residential (cabins).

Based on Feb. 03 Forecast

**Table 4-2**

**2000 Income Deciles - Effective Tax Rates**

Income Decile	Income Range	Number of Households	Household Income	State Income Taxes		State Sales Tax			Property Tax Refund	State Property Tax	State Excise Taxes	Other State Taxes	
				Individual Income Tax	Corporate Franchise Tax	Purchases by Individuals	Purchases by Businesses	Sales Tax Total				Taxes on Individuals	Taxes on Businesses
First	\$26,638 & under	906,500	\$13,211,940	0.6%	0.5%	2.9%	1.6%	4.5%	-1.1%	0.0%	1.4%	0.6%	0.6%
Second	\$26,639 - \$40,674	396,750	13,207,685	2.9%	0.4%	2.3%	1.3%	3.5%	-0.2%	0.0%	0.9%	0.5%	0.5%
Third	\$40,675 - \$54,414	279,399	13,212,963	3.5%	0.4%	2.2%	1.2%	3.4%	-0.1%	0.0%	0.7%	0.6%	0.4%
Fourth	\$54,415 - \$68,074	216,877	13,205,428	3.9%	0.3%	2.0%	1.1%	3.1%	0.0%	0.0%	0.7%	0.6%	0.4%
Fifth	\$68,075 - \$83,826	175,181	13,216,129	4.2%	0.3%	1.9%	1.1%	3.0%	0.0%	0.0%	0.6%	0.6%	0.4%
Sixth	\$83,827 - \$108,397	139,878	13,209,395	4.5%	0.3%	1.7%	1.0%	2.7%	0.0%	0.0%	0.5%	0.5%	0.3%
Seventh	\$108,398 - \$154,003	104,189	13,203,816	4.9%	0.3%	1.6%	1.0%	2.5%	0.0%	0.0%	0.4%	0.5%	0.3%
Eighth	\$154,004 - \$278,003	66,984	13,210,997	5.2%	0.3%	1.6%	1.0%	2.6%	0.0%	0.0%	0.3%	0.5%	0.3%
Ninth	\$278,004 - \$845,275	30,794	13,223,692	5.6%	0.2%	0.8%	0.6%	1.5%	0.0%	0.0%	0.2%	0.3%	0.1%
Tenth	\$845,276 & over	5,831	13,192,930	6.4%	0.1%	0.2%	0.2%	0.4%	0.0%	0.0%	0.0%	0.1%	0.0%
<b>TOTALS</b>		2,322,383	\$132,094,974	4.2%	0.3%	1.7%	1.0%	2.7%	-0.1%	0.0%	0.6%	0.5%	0.3%
Top 5%	Over \$2,748,434	943	\$6,607,436	6.7%	0.1%	0.1%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Top 1%	Over \$23,685,085	31	\$1,325,991	6.8%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%

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Income Decile	Residential Local Property Taxes					Nonresidential Local Property Taxes	Other Local Taxes
	Homeowners Gross	Renters Gross	Owners of Rental Prop.	Total on Rental Prop.	Residential Total *		
First	1.9%	0.4%	0.3%	0.7%	2.7%	1.5%	0.2%
Second	1.7%	0.3%	0.2%	0.4%	2.2%	1.1%	0.1%
Third	1.8%	0.2%	0.1%	0.3%	2.2%	0.9%	0.1%
Fourth	1.8%	0.1%	0.1%	0.2%	2.1%	1.0%	0.1%
Fifth	1.8%	0.1%	0.1%	0.2%	2.0%	0.8%	0.1%
Sixth	1.8%	0.1%	0.1%	0.2%	2.1%	0.7%	0.1%
Seventh	1.7%	0.1%	0.1%	0.2%	2.0%	0.9%	0.1%
Eighth	1.5%	0.1%	0.1%	0.2%	1.7%	0.9%	0.1%
Ninth	1.0%	0.1%	0.1%	0.2%	1.2%	0.6%	0.1%
Tenth	0.3%	0.1%	0.1%	0.1%	0.4%	0.2%	0.0%
<b>TOTALS</b>	1.5%	0.2%	0.1%	0.3%	1.9%	0.9%	0.1%
Top 5%	0.2%	0.1%	0.0%	0.1%	0.3%	0.2%	0.0%
Top 1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%

Local Taxes Total	Total State Taxes			Total State and Local Taxes	
	Total on Individuals	Total on Businesses	State Taxes Total		
4.3%	3.0%	4.0%	7.0%	11.3%	
3.4%	5.5%	3.0%	8.5%	11.9%	
3.2%	6.2%	2.7%	8.9%	12.1%	
3.1%	6.5%	2.5%	9.0%	12.1%	
2.9%	6.7%	2.3%	9.1%	12.0%	
2.9%	6.7%	2.1%	8.8%	11.6%	
2.9%	6.9%	1.9%	8.8%	11.8%	
2.7%	7.3%	1.9%	9.2%	11.9%	
1.8%	6.8%	1.1%	7.9%	9.7%	
0.7%	6.6%	0.4%	7.0%	7.7%	
<b>TOTALS</b>	2.8%	6.2%	2.2%	8.4%	11.2%
0.5%	6.8%	0.3%	7.1%	7.6%	
0.2%	6.8%	0.2%	7.0%	7.2%	

\* Includes seasonal recreational residential (cabins).

Based on Feb. 03 Forecast

**Table 4-3**

**2005 Income Deciles - Amounts (\$ 000's)**

Income Decile	Income Range	Number of Households	Household Income	State Income Taxes		State Sales Tax			Property Tax Refund	State Property Tax	State Excise Taxes	Other State Taxes	
				Individual Income Tax	Corporate Franchise Tax	Purchases by Individuals	Purchases by Businesses	Sales Tax Total				Taxes on Individuals	Taxes on Businesses
First	\$30,513 & under	945,560	\$15,753,731	\$88,071	\$54,994	\$437,608	\$248,358	\$685,966	-\$188,893	\$48,224	\$188,786	\$73,989	\$119,920
Second	\$30,514 - \$46,555	413,275	15,756,652	455,909	43,565	343,897	188,780	532,677	-60,312	35,099	119,280	72,563	96,513
Third	\$46,556 - \$62,239	291,220	15,750,170	531,123	41,365	329,501	175,604	505,104	-30,086	31,841	101,190	81,513	87,263
Fourth	\$62,240 - \$76,809	227,810	15,746,262	586,011	39,609	307,802	167,422	475,224	-11,816	30,228	90,973	78,091	80,743
Fifth	\$76,810 - \$93,974	185,009	15,751,512	628,193	38,583	292,677	160,682	453,359	-971	29,669	80,744	76,423	75,480
Sixth	\$93,975 - \$117,453	150,618	15,751,231	671,322	35,698	263,039	149,782	412,821	-180	28,944	68,060	69,388	65,569
Seventh	\$117,454 - \$163,096	115,360	15,747,666	722,180	33,953	238,441	142,986	381,427	0	27,875	55,243	65,034	57,835
Eighth	\$163,097 - \$275,467	77,327	15,755,748	779,171	36,632	258,987	158,976	417,963	0	31,721	48,328	76,332	51,490
Ninth	\$275,468 - \$737,426	38,695	15,748,367	813,695	24,089	147,506	105,598	253,104	0	23,550	26,501	47,458	30,768
Tenth	\$737,427 & over	8,615	15,748,594	947,983	10,387	36,680	42,526	79,206	0	11,236	6,422	9,457	10,109
<b>TOTALS</b>		<b>2,453,489</b>	<b>\$157,509,932</b>	<b>\$6,223,659</b>	<b>\$358,875</b>	<b>\$2,656,138</b>	<b>\$1,540,714</b>	<b>\$4,196,852</b>	<b>-\$292,256</b>	<b>\$298,386</b>	<b>\$785,527</b>	<b>\$650,247</b>	<b>\$675,690</b>
Top 5%	Over \$2,073,057	1,541	\$7,876,541	\$507,024	\$3,871	\$6,540	\$15,721	\$22,260	\$0	\$4,820	\$1,145	\$2,425	\$3,349
Top 1%	Over \$17,358,635	42	\$1,591,763	\$103,282	\$551	\$178	\$2,318	\$2,496	\$0	\$728	\$31	\$52	\$426

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Income Decile	Residential Local Property Taxes					Nonresidential Local Property Taxes	Other Local Taxes
	Homeowners gross	Renters gross	Owners of Rental Prop.	Total on Rental Prop.	Residential Total *		
First	\$376,486	\$52,643	\$40,525	\$93,168	\$489,043	\$170,895	\$22,628
Second	312,375	34,879	26,850	61,729	387,215	124,545	17,150
Third	337,776	24,948	19,205	44,152	392,550	104,474	16,058
Fourth	331,920	19,698	15,164	34,862	376,298	102,134	15,192
Fifth	332,121	14,977	11,529	26,506	369,573	90,666	14,623
Sixth	330,036	15,482	11,918	27,400	369,041	76,717	13,399
Seventh	313,077	15,042	11,579	26,622	349,793	97,026	12,639
Eighth	263,085	19,476	14,992	34,468	305,490	97,327	14,011
Ninth	179,558	17,231	13,264	30,495	215,250	73,626	8,583
Tenth	63,566	11,904	9,163	21,067	85,662	31,875	2,800
<b>TOTALS</b>	<b>\$2,840,000</b>	<b>\$226,279</b>	<b>\$174,190</b>	<b>\$400,469</b>	<b>\$3,339,915</b>	<b>\$969,284</b>	<b>\$137,082</b>
Top 5%	\$18,411	\$5,135	\$3,953	\$9,087	\$27,666	\$13,819	\$821
Top 1%	\$941	\$595	\$458	\$1,052	\$1,999	\$1,864	\$94

Local Taxes Total	Total State Taxes			Total State and Local Taxes
	Total on Individuals	Total on Businesses	State Taxes Total	
\$682,565	\$416,405	\$654,653	\$1,071,058	\$1,753,623
528,909	815,864	479,430	1,295,295	1,824,204
513,081	915,134	434,179	1,349,313	1,862,395
493,625	962,852	406,212	1,369,063	1,862,688
474,862	999,500	381,979	1,381,480	1,856,341
459,157	1,006,938	344,683	1,351,621	1,810,778
459,458	1,028,585	314,962	1,343,547	1,803,004
416,828	1,116,794	324,843	1,441,637	1,858,465
297,460	1,010,169	208,997	1,219,166	1,516,626
120,336	994,418	80,382	1,074,801	1,195,137
<b>\$4,446,281</b>	<b>\$9,266,660</b>	<b>\$3,630,320</b>	<b>\$12,896,980</b>	<b>\$17,343,261</b>
\$42,306	\$516,038	\$28,856	\$544,894	\$587,200
\$3,957	\$103,514	\$4,053	\$107,567	\$111,524

\* Includes seasonal recreational residential (cabins)

Based on Feb. 03 Forecast

**Table 4-4**

**2005 Income Deciles Effective Tax Rates**

Income Decile	Income Range	Number of Households	Household Income	State Income Taxes		State Sales Tax			Property Tax Refund	State Property Tax	State Excise Taxes	Other State Taxes	
				Individual Income Tax	Corporate Franchise Tax	Purchases by Individuals	Purchases by Businesses	Sales Tax Total				Taxes on Individuals	Taxes on Businesses
First	\$30,513 & under	945,560	\$15,753,731	0.6%	0.3%	2.8%	1.6%	4.4%	-1.2%	0.3%	1.2%	0.5%	0.8%
Second	\$30,514 - \$46,555	413,275	15,756,652	2.9%	0.3%	2.2%	1.2%	3.4%	-0.4%	0.2%	0.8%	0.5%	0.6%
Third	\$46,556 - \$62,239	291,220	15,750,170	3.4%	0.3%	2.1%	1.1%	3.2%	-0.2%	0.2%	0.6%	0.5%	0.6%
Fourth	\$62,240 - \$76,809	227,810	15,746,262	3.7%	0.3%	2.0%	1.1%	3.0%	-0.1%	0.2%	0.6%	0.5%	0.5%
Fifth	\$76,810 - \$93,974	185,009	15,751,512	4.0%	0.2%	1.9%	1.0%	2.9%	0.0%	0.2%	0.5%	0.5%	0.5%
Sixth	\$93,975 - \$117,453	150,618	15,751,231	4.3%	0.2%	1.7%	1.0%	2.6%	0.0%	0.2%	0.4%	0.4%	0.4%
Seventh	\$117,454 - \$163,096	115,360	15,747,666	4.6%	0.2%	1.5%	0.9%	2.4%	0.0%	0.2%	0.4%	0.4%	0.4%
Eighth	\$163,097 - \$275,467	77,327	15,755,748	4.9%	0.2%	1.6%	1.0%	2.7%	0.0%	0.2%	0.3%	0.5%	0.3%
Ninth	\$275,468 - \$737,426	38,695	15,748,367	5.2%	0.2%	0.9%	0.7%	1.6%	0.0%	0.1%	0.2%	0.3%	0.2%
Tenth	\$737,427 & over	8,615	15,748,594	6.0%	0.1%	0.2%	0.3%	0.5%	0.0%	0.1%	0.0%	0.1%	0.1%
<b>TOTALS</b>		2,453,489	\$157,509,932	4.0%	0.2%	1.7%	1.0%	2.7%	-0.2%	0.2%	0.5%	0.4%	0.4%
Top 5%	Over \$2,073,057	1,541	\$7,876,541	6.4%	0.0%	0.1%	0.2%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%
Top 1%	Over \$17,358,635	42	\$1,591,763	6.5%	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%

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Income Decile	Residential Local Property Taxes					Nonresidential Local Property Taxes	Other Local Taxes
	Homeowners Gross	Renters Gross	Owners of Rental Prop.	Total on Rental Prop.	Residential Total *		
First	2.4%	0.3%	0.3%	0.6%	3.1%	1.1%	0.1%
Second	2.0%	0.2%	0.2%	0.4%	2.5%	0.8%	0.1%
Third	2.1%	0.2%	0.1%	0.3%	2.5%	0.7%	0.1%
Fourth	2.1%	0.1%	0.1%	0.2%	2.4%	0.6%	0.1%
Fifth	2.1%	0.1%	0.1%	0.2%	2.3%	0.6%	0.1%
Sixth	2.1%	0.1%	0.1%	0.2%	2.3%	0.5%	0.1%
Seventh	2.0%	0.1%	0.1%	0.2%	2.2%	0.6%	0.1%
Eighth	1.7%	0.1%	0.1%	0.2%	1.9%	0.6%	0.1%
Ninth	1.1%	0.1%	0.1%	0.2%	1.4%	0.5%	0.1%
Tenth	0.4%	0.1%	0.1%	0.1%	0.5%	0.2%	0.0%
<b>TOTALS</b>	1.8%	0.1%	0.1%	0.3%	2.1%	0.6%	0.1%
Top 5%	0.2%	0.1%	0.1%	0.1%	0.4%	0.2%	0.0%
Top 1%	0.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%

Local Taxes Total	Total State Taxes			Total State and Local Taxes
	Total on Individuals	Total on Businesses	State Taxes Total	
4.3%	2.6%	4.2%	6.8%	11.1%
3.4%	5.2%	3.0%	8.2%	11.6%
3.3%	5.8%	2.8%	8.6%	11.8%
3.1%	6.1%	2.6%	8.7%	11.8%
3.0%	6.3%	2.4%	8.8%	11.8%
2.9%	6.4%	2.2%	8.6%	11.5%
2.9%	6.5%	2.0%	8.5%	11.4%
2.6%	7.1%	2.1%	9.1%	11.8%
1.9%	6.4%	1.3%	7.7%	9.6%
0.8%	6.3%	0.5%	6.8%	7.6%
<b>TOTALS</b>	2.8%	5.9%	8.2%	11.0%
0.5%	6.6%	0.4%	6.9%	7.5%
0.2%	6.5%	0.3%	6.8%	7.0%

\* Includes seasonal recreational residential (cabins)

**Table 4-5  
Suite Indices by Income and Population Deciles, 2000-2005**

<b>Tax Types</b>	<b>2000 Income Decile Suits Index</b>	<b>2005 Income Decile Suits Index</b>	<b>2000 Pop'n. Decile Suits Index</b>	<b>2005 Pop'n. Decile Suits Index</b>
<b>State Taxes</b>				
<b>Taxes on Income and Estates</b>				
Individual income tax	0.196	0.192	0.184	0.181
Corporation franchise tax <sup>1</sup>	-0.177	-0.162	-0.149	-0.139
Estate tax	0.214	0.214	0.249	0.266
<b>Total Income and Estate Taxes</b>	<b>0.171</b>	<b>0.173</b>	<b>0.162</b>	<b>0.165</b>
<b>Taxes on Consumption</b>				
Total sales tax	-0.210	-0.195	-0.180	-0.169
General sales/use tax	-0.206	-0.192	-0.176	-0.166
Sales tax on motor vehicles	-0.235	-0.218	-0.207	-0.193
Motor fuels excise taxes	-0.306	-0.290	-0.278	-0.265
Alcoholic beverage excise taxes	-0.209	-0.197	-0.183	-0.177
Cigarette and tobacco excise taxes	-0.555	-0.542	-0.553	-0.540
Insurance premiums taxes	-0.180	-0.165	-0.148	-0.139
Gambling taxes	-0.396	-0.396	-0.372	-0.359
MinnesotaCare taxes	-0.325	-0.325	-0.296	-0.282
<b>Total Consumption Taxes</b>	<b>-0.239</b>	<b>-0.223</b>	<b>-0.210</b>	<b>-0.198</b>
<b>Taxes on Property</b>				
Residential recreational property tax		-0.233		-0.187
Commercial property tax		-0.141		-0.122
Industrial property tax		0.127		0.114
Utility property tax		-0.183		-0.158
<b>Total Property Taxes</b>		<b>-0.141</b>		<b>-0.121</b>
<b>Other Taxes</b>				
Motor vehicle registration tax	-0.186	-0.169	-0.153	-0.140
Mortgage and deed taxes	-0.140	-0.142	-0.107	-0.098
Solid waste management taxes	-0.231	-0.215	-0.200	-0.190
<b>Total Other Taxes</b>	<b>-0.180</b>	<b>-0.166</b>	<b>-0.147</b>	<b>-0.134</b>
<b>Property Tax Refunds</b>				
Homeowners	0.743	0.719	0.756	0.697
Renters	0.868	0.868	0.897	0.894
<b>Total Property Tax Refunds</b>	<b>0.820</b>	<b>0.790</b>	<b>0.842</b>	<b>0.790</b>
<b>Total State Taxes</b>	<b>-0.004</b>	<b>-0.001</b>	<b>0.006</b>	<b>0.008</b>
<b>Local Taxes</b>				
Property taxes (Pay 2000)	-0.165	-0.163	-0.137	-0.138
General property tax (gross - credits)	-0.165	-0.163	-0.137	-0.138
Homeowners (gross)	-0.136	-0.147	-0.102	-0.118
Residential recreational property	-0.233	-0.233	-0.201	-0.187
Commercial <sup>2</sup>	-0.159	-0.141	-0.135	-0.122
Industrial	0.134	0.127	0.127	0.114
Farm (other than residence) <sup>3</sup>	-0.307	-0.296	-0.278	-0.272
Rental housing	-0.253	-0.235	-0.246	-0.233
Utility	-0.199	-0.183	-0.168	-0.158
Minerals <sup>4</sup>	0.097	0.090	0.094	0.083
Mining production taxes (taconite)	0.248	0.231	0.229	0.207
Local sales taxes	-0.206	-0.192	-0.176	-0.166
Local gross earnings taxes	-0.199	-0.183	-0.168	-0.158
<b>Total Local Taxes</b>	<b>-0.166</b>	<b>-0.164</b>	<b>-0.138</b>	<b>-0.139</b>
<b>Total State and Local Taxes</b>	<b>-0.045</b>	<b>-0.043</b>	<b>-0.030</b>	<b>-0.030</b>

<sup>1</sup> Includes taconite/iron ore occupation tax.

<sup>3</sup> Includes timber.

<sup>2</sup> Includes resorts and railroads.

<sup>4</sup> Amount less than \$500,000.

## **An Alternative Methodology: Adjusting for the Federal Tax Offset**

In estimating the incidence of existing Minnesota taxes, this study has made no adjustment for the “federal tax offset” due to the deductibility of Minnesota taxes in calculating the federal income tax. Individuals can generally deduct what they pay in state income tax and homeowner property taxes (and a portion of their motor vehicle registration tax) as itemized deductions. Those who itemize deductions pay less federal income tax as a result. For a taxpayer in the 28 percent federal tax bracket, each additional dollar of itemized deductions lowers federal income tax by 28 cents. As a result, 28 percent of deductible state and local taxes would be borne by the federal government in lower tax revenue. If no adjustment is made for this federal tax offset, the Minnesota tax burden would be overstated. Because itemizing deductions is more common for higher income households (and because they face higher federal tax rates), the federal tax offset will reduce taxes by much more in the upper deciles. A tax system that looks proportional in the absence of such an adjustment might look quite regressive after such an adjustment is made.

This same reasoning applies to business taxes. If an additional dollar in business taxes lowers business income (rather than being passed forward to consumers in higher prices), this reduces the federal income tax paid by the corporation, partnership, or sole proprietor. A portion of the burden on Minnesota business owners would be borne by the federal government in lower tax revenue.

There is a strong argument, however, against making such an adjustment in this study. This study estimates the burden of Minnesota taxes in a multistate context. The incidence of Minnesota taxes depends on the level of taxes in other states. If all states levy deductible taxes, then the federal government presumably makes up for the lost revenue by raising the federal tax rate. It is unlikely that the deductibility of state and local taxes actually lowers the total federal tax burden on Minnesota residents. Minnesota’s share of itemized deductions is roughly equal to its share of federal income tax payments. Whether the combination of deductible taxes and higher tax rates reduces a particular decile’s tax burden is unknown; it depends on how the federal tax structure has been adjusted to make up for the lost tax revenue.

The results presented in this study include no adjustment for the federal tax offset. The impact of such an adjustment is shown only in this section.

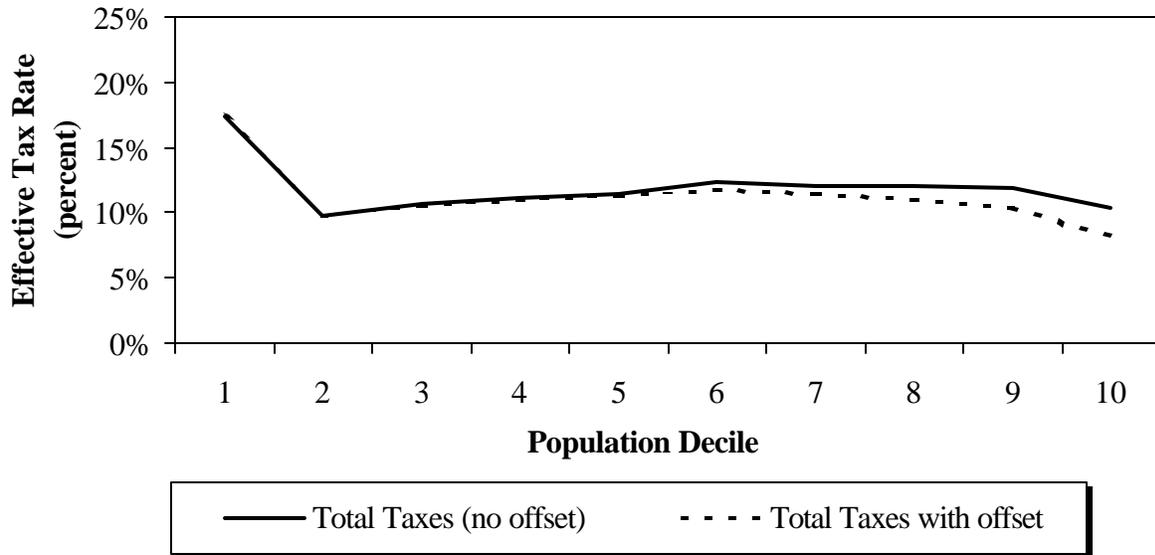
The impact of the federal tax offset is shown in *Tables 4-6* and *4-7*, and *Figure 4-1*. For all households combined, the federal offset would reduce the effective tax rate from 11.2 percent to 9.9 percent of income. There would be little change in the lowest deciles, which include few who itemize deductions. As expected, the impact of the federal tax offset rises with income. Despite the limitation on itemized deductions for high-income taxpayers, the effective tax rate in the tenth decile would fall from 10.3 percent to 8.2 percent. The adjusted tax burden is noticeably more regressive.

In summary, the federal tax offset (even if limited to individual taxes) would have a significant impact on the distribution of the Minnesota tax burden. Because a strong argument can be made against such an adjustment in a study of this kind, however, no federal tax offset is included in the results presented elsewhere in this study.

**Table 4-6**  
**Impact of Federal Tax Offset on Effective**  
**State and Local Tax Rates by Population Decile**  
**(Minnesota Residents, 2000)**

Population Decile	Income Range	Effective Tax Rate		
		No Federal Tax Offset	Change Due To Federal Tax Offset	Adjusted for Federal Tax Offset
First	\$ 8,945 & Under	17.4%	0.1%	17.3%
Second	8,946 - 14,734	9.8	0.0	9.8
Third	14,735 - 20,731	10.6	0.1	10.5
Fourth	20,732 - 27,424	11.1	0.2	10.9
Fifth	27,425 - 35,029	11.5	0.3	11.3
Sixth	35,030 - 44,822	12.3	0.6	11.7
Seventh	44,823 - 56,869	12.0	0.7	11.4
Eighth	56,870 - 72,622	12.0	1.0	11.0
Ninth	72,623 - 102,411	11.9	1.5	10.4
Tenth	\$102,412 & Over	10.3	2.1	8.2
Total		11.2%	1.3%	9.9%
Top 5%	\$144,714 & Over	9.9%	2.2%	7.7%
Top 1%	\$364,343 & Over	8.4%	2.2%	6.2%

**Figure 4-1**  
**Effective Tax Rates for 2000**  
**With and Without Federal Tax Offset**



**Table 4-7**  
**Suits Index With and Without Federal Tax Offset**

	<b>Without Offset</b>	<b>With Offset</b>
Income Tax	0.184	0.125
All Taxes	-0.030	-0.076

## Appendix

### The Incidence Study Database

The 2000 incidence study database includes detailed information on income and taxes for a stratified random sample of 76,491 Minnesota households. This sample is then “blown up” to represent over 2.3 million Minnesota households. Individual income tax returns and property tax refund returns filed with the Department of Revenue were the primary sources of information and were supplemented with data on nontaxable income obtained from various sources. The additional nontaxable income information provides a more accurate measure of total income, particularly for low-income households who did not meet tax filing requirements.

The use of social security numbers to merge income data from different sources for specific individuals is a unique and important aspect of this study. Income data was matched, for example, with property tax and market value information for individual homeowners. Because of these “hard matches,” the need to impute estimated values of income and tax variables to households in the database was minimized.

The incidence study database was developed in several steps. First, data were taken from state and federal income tax returns filed with Minnesota. Second, additional data were taken from property tax refund returns. Third, additional income amounts and data of other sorts were added from databases at several state agencies. Finally, estimates of household spending patterns were obtained from Consumer Expenditure Survey data.

For further explanation regarding creation of this database and related tax calculations, please refer to the 1999 Tax Incidence Study which can be located at [www.taxes.state.mn.us/reports/reports.html](http://www.taxes.state.mn.us/reports/reports.html).

## **Measurement of Household Income**

An appropriate measure of income is critical to any study of tax incidence. By definition, a tax incidence study compares taxes paid to some measure of a household's economic well-being or ability to pay. In this study, tax burdens are expressed as ratios of taxes paid to a broad measure of household money income. This comprehensive measure of money income includes not only income taxable on income tax returns but also nontaxable income, such as public assistance payments, tax-exempt interest, and nontaxable social security and pension income.

The definition of household in this study varies from that used by the Census. There are significantly more households than reported by the Census, and median income is considerably lower as a result. Despite the difference in definition, the count of incidence households is consistent with past studies. The definition used here is more appropriate when describing the distribution of the tax burden.

For a further discussion regarding definitions of households and income, please refer to the 1999 Minnesota Tax Incidence Study cited above.

## **Tax Incidence Analysis**

### ***Introduction***

The results of any incidence study are determined by the study's incidence assumptions. This section explains both the incidence assumptions used in this study and the method of allocating tax burdens to specific households. This study's incidence assumptions are summarized as follows:

## 1. Incidence of Taxes on Households

- The personal income tax is paid by individual taxpayers, and the incidence is the same as the initial impact of the tax.
- Taxes on purchases by consumers (sales, solid waste management) are borne by consumers of the taxed items.
- The property tax on homeowners is borne by the homeowner.
- The motor vehicle registration tax on vehicles owned by households is borne by the owner of the vehicle.
- Mortgage registration and deed transfer taxes on homes are borne by homeowners.

## 2. Incidence of Taxes on Business

Most taxes on business property, business purchases, and corporate income are partially shifted to consumers and workers. However, excise taxes – those on motor fuels (bought by consumers), tobacco, and alcohol – are assumed fully shifted to consumers, as are the taxes on consumer purchases of insurance, MinnCare taxes, and taxes on gambling. Since these are fully shifted to consumers, the nature of the analysis for each of these taxes is discussed below under taxes on households category.

The amount of tax shifting varies by tax and by business sector, depending on the scope of the product market (local or national) and the magnitude of Minnesota's tax rates compared to those in other states. To shift a tax, the individual or business legally liable to pay the tax must alter its economic behavior because of the tax. For example, a property tax paid by a business firm may lead the firm to raise its prices, lower its pay to employees, or the business owner may experience reduced profits.

The rationale for this study's incidence assumptions is discussed in the next two sections. First, taxes on households are discussed. The incidence of business taxes, which is discussed next, is much more complex. Many issues are unsettled, and a wide variety of approaches have been used in incidence studies other than Minnesota's approach. As a result, this section provides an extended discussion of the methodology underlying this study's approach to business tax incidence.

## **Taxes on Households**

### ***Taxes on Income or Wealth***

*Individual Income Tax.* This study assumes that the burden of the individual income tax is not amenable to shifting through changes in either wages or interest rates. This assumption is correct if total hours worked and savings rates are unresponsive to after-tax returns and the package of public spending and taxes in Minnesota (compared to other states) does not cause significant migration. Given this assumption, the state income tax burden equals each household's tax liability, as listed in the study's database.

*Estate Tax.* Newly included in this year's study is the estate tax. Defining the incidence of the estate tax presents unique problems; the impact of the tax is on the estate, not on a currently acting economic entity (person or firm) as is true of all other taxes. There is no consensus among economists as to whether the incidence of the tax properly applies to the decedent or to the estate beneficiaries, and arguments can be made for either position. Given the information that was available for analysis, the computations reported here were carried out assuming that the incidence of the estate tax was on the decedent.

In order to eliminate the chance that decedent incomes were understated due to lack of a full year's income in the year of death, estate tax returns were matched against income tax returns for the two years prior to the year the estate tax return was filed. For this study we used 1999 estate tax returns.

### ***Taxes on Consumer Purchases***

*Sales and Excise Taxes.* This study, like most other incidence studies, assumes that businesses legally liable for sales and excise taxes on final products and services will be able to raise product prices by the full amount of the tax, leaving wages and the return to capital unchanged. Therefore, the tax burden is fully shifted to consumers in higher prices. The sales and excise tax burdens were allocated in proportion to each household's consumption of taxed items, as estimated in the study's database.

*Insurance Premiums Taxes.* The insurance premiums tax equals a flat percentage of the premium paid on selected types of insurance. This tax was assumed to raise insurance premiums by the full amount of the tax, so its burden was distributed in proportion to each household's purchase of insurance subject to the tax. For auto, life, and household insurance, the tax burden allocation was in proportion to expenditures as estimated from the *Consumer Expenditure Survey*.

The premiums tax on insurance provided through employers (most health and workers' compensation) was assumed borne by the employee. By raising the cost of these fringe benefits, the tax either reduced cash wages or other fringe benefits. The tax on health insurance premiums was assigned according to the distribution of total health insurance premiums. In Minnesota, workers' compensation policies are purchased from private insurers. Given the structure of medical and wage replacement benefits, the premium per employee was assumed to increase with wages, subject to a minimum (for workers earning less than half the average state wage) and a maximum (for those earning more than 150 percent of the average state wage).

*Gambling Taxes.* Gross receipts taxes on pulltabs, tipboards, bingo, raffles, and horse racing were assumed to be borne by the bettor. A survey by the Minnesota Lottery (1994) provided substantial information about how gambling varies by income level. The pattern of expenditures on pulltabs (the primary source of revenue) was similar to that for the lottery, so the more detailed distributional information about lottery expenditures was used to distribute these gambling taxes.

*MinnesotaCare Taxes.* The 1.5 percent gross receipts tax on most medical bills (including hospital, physician, dental, and laboratory services along with prescription drugs) was assumed to be paid by consumers in higher out-of-pocket medical costs or higher costs for insurance (except for Medicare premiums). The higher costs of employer-provided health insurance were assumed to be borne by households in reduced wages or other fringe benefits. MinnesotaCare taxes were distributed in proportion to the sum of the cost of health insurance plus out-of-pocket costs for medical services and prescription drugs.

## ***Property Taxes on Non-Business Property***

*Homeowner Property Taxes.* The homeowner is both the owner and consumer of housing. As a result, the homeowner bears the full tax burden, regardless of how the burden is split between consumers and owners. The tax burden on the household was assumed to be the total property tax paid on the homestead, as identified in the incidence study database. Similarly, the property tax on cabins was assumed borne by the owners.

*Motor Vehicle Registration Tax.* The registration tax on motor vehicles owned by households was assumed to be fully borne by the owner. The tax is generally proportional to the market value of the vehicle. Lacking data on the distribution of vehicle stock by income level, this study used the distribution of vehicle purchases (before subtracting trade-in) as an approximation. The tax burden was allocated in proportion to the average gross vehicle expenditures by households of the same size and income level.

*Mortgage Registration and Deed Transfer Taxes.* The homeowner portion of these taxes was assumed to be borne by the owner of the home. Given a lack of information about the identity of those buying homes or obtaining mortgages in 2000, the burden of the mortgage registration tax was distributed over all mortgage holders (in proportion to mortgage interest paid in 2000); the deed transfer tax burden was distributed over all homeowners (in proportion to the estimated market value of the home).

## ***Adjustment for Burdens on Nonresident Households***

The proportion of the total receipts from each of these taxes that was allocated to Minnesota households was given in *Table 1-2*. For the general sales and use tax and the excise taxes, the Minnesota household share was estimated by the Minnesota Consumption Tax Model. For the other taxes (insurance premiums tax, property tax on cabins, gambling taxes, MinnesotaCare taxes, motor vehicle registration tax, and mortgage and deed taxes), the total burden on Minnesota households was defined as total collections minus the estimated taxes paid by business and nonresident visitors and tourists.

Some incidence studies reduce state and local tax burdens to reflect the “federal tax offset.” State income taxes and homeowner property taxes are both deductible in calculating federal income tax liability, so households paying these Minnesota taxes will pay less in federal income tax (if they itemize deductions). A portion of these deductible taxes is sometimes considered to be shifted to the federal government in lower federal tax revenue. Although no such adjustment is included in this study’s general results, the impact of such an adjustment (and the arguments for and against it) are presented earlier; see *Table 4-6* and *4-7*.

## **Taxes on Business**

### ***Introduction***

This study includes over \$6.8 billion in business taxes, as summarized in *Table 2-1*. These business taxes (including rental property taxes) account for a significant percent of Minnesota’s state and local tax revenue. Business taxes include both taxes on capital (structures, capital equipment, and land) and taxes on business purchases of short-lived intermediate inputs (such as gasoline and restaurant meals).

This study estimated the incidence of each of these business taxes. While the initial impact of these taxes is on business, they are partially shifted forward to consumers in higher prices or backward to labor in lower wages. Much of the tax is paid by nonresidents, either as consumers of goods and services produced in Minnesota or as owners of capital and land located in Minnesota. This section summarizes how this study estimated the incidence of business taxes, and how business tax burdens were allocated to Minnesota households.

### ***The Conceptual Structure***

The following six principles define this study’s approach to estimating the incidence of Minnesota’s existing business taxes.

1. *Capital moves to where it earns the highest return.* If a tax on capital in a single state (or industry) reduces the after-tax rate of return, investors will move their capital to lower-tax locations (or industries). As production falls, prices will rise or costs (including wages) will fall until the after-tax rate of return is again equal to the after-tax rate of return elsewhere. Only the average tax on all forms of capital in all states — a tax which owners of capital cannot avoid — will be fully borne by capital so long as capital is free to move in search of the highest rate of return.

2. *Minnesota's taxes do not occur in isolation.* Every state levies business taxes. The incidence of a tax levied at the same rate in all states differs greatly from the incidence of a tax levied only in Minnesota. For example, a one percent tax levied on business capital in only Minnesota will be largely shifted to consumers and workers; capital is unlikely to bear much of the final burden due to the ease of capital movement. In contrast, if all states impose the identical one percent tax on the value of all business capital, investors cannot escape the tax. Such a “national” tax on capital is much more likely to be borne by capital, reducing the after-tax rate of return on capital throughout the nation.

This distinction between a single-state tax and a nation-wide tax is crucial to the results of this study. The incidence of a particular Minnesota tax on business depends on how Minnesota's tax rate compares to those of other states. If, for example, a particular Minnesota business tax rate is 10 percent above the national average, the incidence of this 10 percent “Minnesota differential” will differ greatly from the incidence of the remainder of the tax.

3. *Minnesota's tax structure evolved over time.* In describing the incidence of existing business taxes, this study assumes that businesses, consumers, and workers have fully adjusted to tax differences across states.
4. *Some businesses, depending on their market, can shift Minnesota business taxes forward to consumers in higher prices.* Given time for full adjustment, the ability to shift taxes forward to consumers depends on the nature of the product being sold. Some producers, such as restaurants, compete only with other Minnesota companies; tax increases would affect all restaurants equally, and prices would rise to cover this higher cost. In contrast, a higher Minnesota tax on manufacturers is much harder to shift to consumers because firms compete in a national market. Therefore, Minnesota manufacturers cannot raise prices to cover higher state taxes. In this study, producers of “local market products” are assumed to pass tax differentials on to consumers but producers of “national market products” cannot.
5. *A tax that reduces the competitiveness of Minnesota businesses will be borne by immobile resources — those either unable or unwilling to leave the state.* If capital is mobile and prices cannot be increased (due to competition), the burden of business taxes will reduce payments to inputs that are geographically tied to the state, including labor and land.

6. *An increase in taxes reflects an increase in state and local government spending.* This study assumes that workers do not move between Minnesota and other states in response to changes in state taxes, because tax changes are offset by expenditure changes, leaving the net benefits to Minnesota taxpayers unchanged. In other words, labor (along with land) is assumed to be immobile. In contrast, changes in taxes on business income are assumed not to be offset by changes in benefits from government expenditures.

In summary, these six concepts have guided this study's approach to estimating the incidence of Minnesota's existing business taxes. The study provides an answer to the question: What is the burden of Minnesota taxes on Minnesota residents, in a multistate context where Minnesota's taxes coexist with those of other states, assuming that producers and consumers have fully adjusted to existing tax rate differences?

### *Allocation of Business Taxes*

The six concepts discussed above are used in this section to determine the allocation of business taxes among the four major taxpayer categories: Minnesota consumers, capital and labor, and nonresidents. The methodology used in this step is discussed in detail before the results are presented.

Several major features of the tax incidence approach used in this study are important to keep in mind. First, this study emphasizes the importance of Minnesota tax rates relative to those in other states. In estimating the incidence of existing business taxes, it is the relative tax rate that matters, not the absolute level of taxes. The incidence of a property tax on manufacturers, for example, depends on how heavily other states tax such property.

Second, this study emphasizes the difference between the incidence of existing business taxes and the incidence of an incremental increase in those taxes. Much of an existing business tax is matched by taxes in other states. The incidence of an increase in such a tax (unmatched by increases in other states) would be quite different. The tax incidence results in this study measure the distribution of existing taxes, not the distribution of increasing Minnesota taxes relative to other states.

Third, this study estimates the burden of business taxes after businesses, consumers, and workers have fully adjusted to them in the long run. For example, relatively high tax rates on capital may reduce wages of Minnesota workers through less capital investment. This long-term perspective is appropriate for estimating the incidence of existing taxes.

### **Allocation of Business Taxes: An Example**

To understand the allocation approach used in this study, suppose that Minnesota levied a \$120 million tax on capital — manufacturing equipment, for example. The owners of that capital are legally liable for the tax, but who would bear the ultimate burden? The first step in answering this question is to determine how shifting spreads the tax to capital owners, consumers and labor.

#### ***Allocating the Burden Among Capital, Consumers, and Labor***

For each of the business taxes on capital, the tax paid by a particular economic sector is divided into three parts:

- The portion representing the *national average tax rate on all capital*.
- The portion representing the *national sector differential*.
- The portion representing the *Minnesota sector differential*.

This 3-part division of the tax is based on the answers to three questions. The approach is summarized in *Figure 5-1*, using the example of a \$120 million property tax on capital in the manufacturing sector.

*Question 1.* What portion of this \$120 million Minnesota tax represents the national average tax on all capital? If all states levied an identical tax on *all* forms of capital, capital would be unable to shift that tax to others and the entire burden would be borne by capital. Given the variation in rates among the states, it is the “average national tax rate on capital” which is borne by capital owners.

The average tax rate on all capital is measured in this study as the average state tax rate on all capital — total tax revenue (in all states) divided by the total national stock of capital. If the Minnesota tax rate on a particular sector is equal to the national average tax rate on all capital, then the tax will be borne entirely by the owners of capital; if the Minnesota tax rate exceeds the national average tax rate the remainder of the Minnesota tax would be shifted either forward to consumers or backward to labor and other immobile inputs.

For each particular tax on capital, this study estimates the average national tax rate on all capital. If the Minnesota tax rate on a particular form of capital is twice the national average (as is assumed hypothetically in *Figure 5-xx*), then the burden of the first half of the tax is assumed to fall on capital. What happens to the remaining half (\$60 million) depends on the answers to the next two questions.

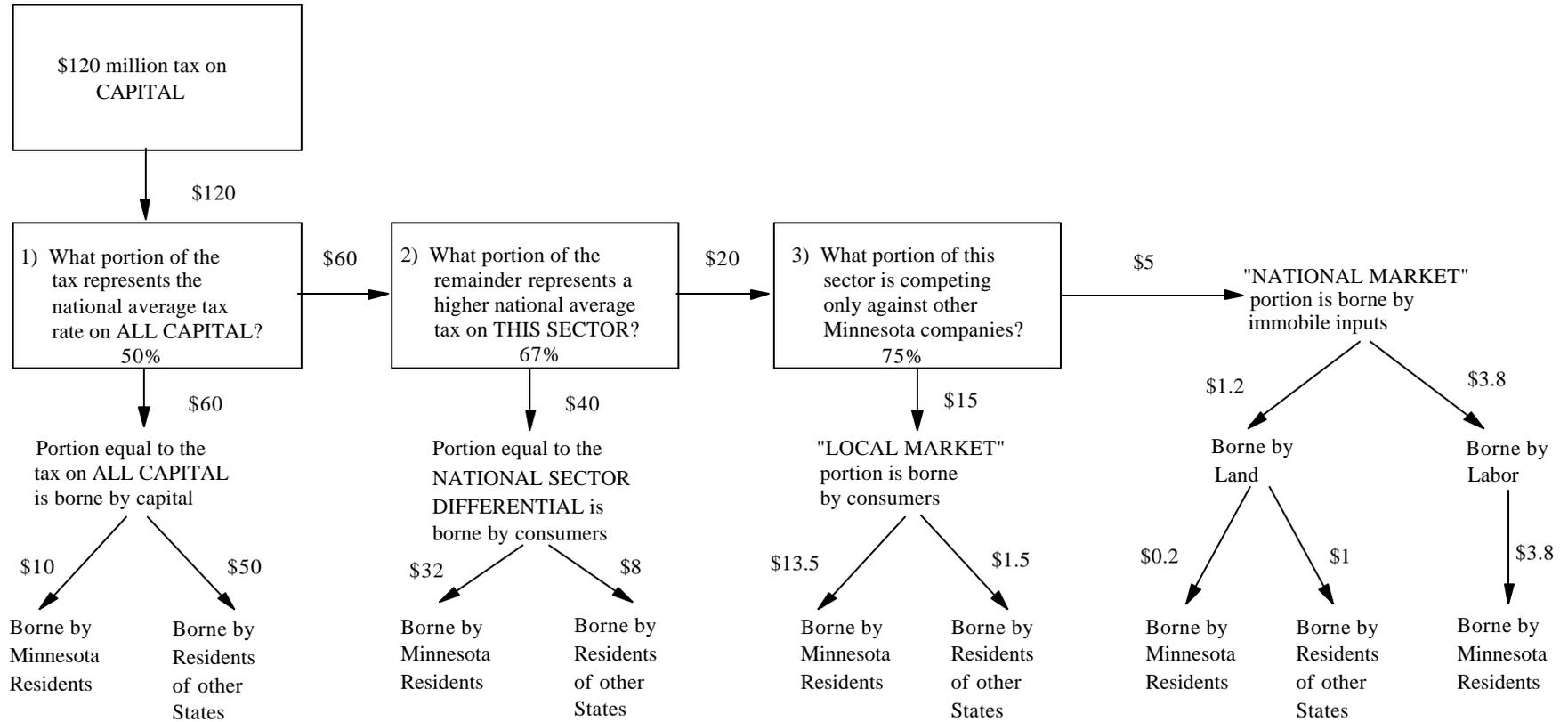
*Question 2.* What portion of the remaining \$60 million in taxes on capital equipment represents a higher national average tax on this particular sector? Because capital taxes are levied at different rates on different forms of capital, some forms of capital are taxed in all states at a higher rate than all capital. For example, commercial property is taxed at a considerably higher rate than manufacturing property, and both are taxed more heavily than agriculture. In this example, suppose the national tax rate in the manufacturing sector is 1.67 times as high as the national average tax on all capital. This 67 percent higher-than-average tax rate difference for the manufacturing sector is referred to as its “national sector differential.”

Despite these heavier taxes, however, the after-tax rate of return in manufacturing cannot remain lower (with mobile capital) than the rate of return available in other sectors. As firms adjust by reducing output, the portion of a tax on capital equal to this “national sector differential” is borne entirely by consumers in the form of higher prices. For each tax on capital, this study estimates the average national tax rate on capital invested in each sector. The share of the Minnesota tax representing the “national sector differential” is allocated to consumers of products produced in Minnesota. (See *Figure 5-1.*)

The remaining tax (if any) is the “Minnesota sector differential” — the amount by which Minnesota’s tax rate on capital invested in this sector exceeds the national average tax rate in this sector. To determine who bears the burden of this “Minnesota differential,” it is necessary to answer the third question.

**Figure 5-1**

**Incidence of a Hypothetical \$120 Million Tax on Capital**



Summary of Tax Incidence (\$ Millions)			
<u>Taxpayer Category</u>	<u>Total</u>	<u>Minnesota Residents</u>	<u>Residents of Other States</u>
Capital*	\$61.2	\$10.2	\$51.0
Consumers	55.0	45.5	9.5
Labor	<u>3.8</u>	<u>3.8</u>	<u>0.0</u>
Total	\$120.0	\$59.5	\$60.5

\*Capital includes land.

*Question 3.* What portion of this sector’s producers compete only against other Minnesota producers in “local markets”? For products sold in local markets, the Minnesota differential will result in higher prices to consumers.

In contrast, prices for products that compete in national markets (including most manufactured products) are determined nationally. A “Minnesota sector differential” on producers of such national market products cannot usually be shifted to consumers, so that the burden of the tax must fall on immobile resources, land and labor. This study assumes that immobile labor and landowners share the burden of any Minnesota sector differential for national market products in proportion to their relative shares in production.

In summary, to allocate the burden of taxes among capital owners, consumers, and labor, this study divides the tax into three parts (the percentages refer to the example in *Figure 5-1*):

1. The portion representing the “national average tax on all capital” is borne by capital (50 percent).
2. The portion representing the “national sector differential” is borne by consumers (33 percent).
3. The portion representing the “Minnesota sector differential” is borne by:
  - Consumers for products sold in “local markets” (13 percent);
  - Labor and landowners for products sold in “national markets” (4 percent).

This approach requires an estimate, for each tax, of the national average tax on all capital. For each tax and each sector, it requires an estimate of the Minnesota differential — the excess of Minnesota taxes over the national average for that sector. The study also needs to estimate, for each sector, the extent to which its products are sold in local as opposed to national markets.

## *Allocating the Burden between Minnesota Residents and Nonresidents*

*Exported Tax Burden.* A large amount of capital located in Minnesota is owned by nonresidents. For the portion of any tax borne by capital and land, much of the burden will fall on residents of other states. This study assumed that nonresidents own 90 percent of the stock in corporations subject to Minnesota tax, and 20 percent of most noncorporate businesses (but only 5 percent of non-homestead residential property). As such, in sectors which are predominantly corporate, most of the burden falling on capital was exported.

Consumers located in other states will pay some of the “national sector differential” on Minnesota firms that is shifted forward in higher prices. In addition, nonresident visitors bear some of the tax shifted to in-state consumption. For each sector, this study estimated the proportion of sales made to (1) out-of-state consumers and (2) visitors.

The burden on labor (in the form of reduced wages) was assumed to fall entirely on Minnesota residents.

*Imported Tax Burden.* Both Minnesota consumers and Minnesota owners of capital and land located in other states pay taxes to other states. However, taxes that Minnesota residents pay to other states are ignored here; this study estimates and analyzes the incidence of Minnesota taxes on Minnesota residents.

*Federal Tax Offset.* In estimating the incidence of existing Minnesota taxes, this study makes no adjustment for the “federal tax offset” due to the deductibility of Minnesota business taxes in calculating federal taxable income. Given the “multistate” approach taken in this study, the federal tax offset is most likely to be quite small. All 50 states levy business taxes. Since approximately one-third of every state’s business taxes are offset by a reduction in federal revenues, the federal government has essentially replaced this lost tax revenue through higher federal tax rates. A state’s “net” federal tax offset would be its “gross” federal tax offset minus the state’s share of those increased federal tax payments. As a result, the net offset for the average state would be zero; with above average business taxes, Minnesota’s would be positive. However, given the offset’s small and uncertain size, this study simply assumes it is zero.

The same argument also applies to the federal tax offset for non-business taxes (the individual income tax, homeowner property tax, and motor vehicle registration tax) deductible in calculating federal individual income tax liability; the net offset for the average state is again zero. Given the multistate perspective of this study, no federal tax offset for household taxes is included. For informational purposes, however, the impact of the federal tax offset for non-business taxes is presented in *Table 4-6* and *4-7*.

### ***Taxes on Intermediate Business Inputs***

The incidence of a tax on short-lived intermediate business inputs like gasoline, business meals, lodging, or liquor, is different from the incidence of a tax on capital. While a uniform national tax on all capital would be borne by capital, a uniform national tax on business purchases of gasoline, for example, would not. It would almost certainly be shifted forward to consumers in higher prices. Taxes on short-lived intermediate products raise the cost of production, but they do not raise the cost of capital.

As a result, the approach to the incidence of such taxes skips the first of the three questions asked about capital taxes. The tax on intermediate business purchases is divided into only two parts:

1. The portion representing the “average national tax rate” on this sector is shifted forward to consumers in higher prices.
2. The portion representing the “Minnesota differential” is borne by:
  - a. Consumers for products sold in “local markets;”
  - b. Labor and landowners for products sold in “national markets.”

### **Business Tax Allocators**

After estimating the share of Minnesota business taxes borne by Minnesota owners of capital and land, consumers, and labor, the final step was to allocate those taxes to specific households based on each household’s characteristics contained in the database records. In most cases, the study allocated to each household the average tax burden for households with the same characteristics. *Table 5-1* summarizes the allocators used in this final step.

**Table 5-1**  
**Business Tax Allocators**

Allocator	Used to Distribute Tax Borne By:
Dividend income	Corporate owners
Noncorporate capital ownership	Noncorporate owners
Total consumer expenditures	Consumers
Labor income	Workers
Farm income	Farmers using their own land
Farm rents	Farmers leasing their land

*Burden on Consumers.* Taxes shifted forward to consumers were allocated to consumers based on their share of total consumer expenditures, as estimated from the *Consumer Expenditure Survey*. Total expenditures for a particular household were estimated based on household income and size.

*Burden on Renters.* This is a particular case of the burden on consumers. In this case the total property tax for some renters is known directly, as it is reported on the form required to file for the property tax refund. The renter burden is calculated as a fraction of total rent (using the most recent census information) and this fraction is applied to the total property tax to obtain the renter share. For renters who do not file for the property tax refund, the property tax burden is assumed to be the same as for those renters who do file who have similar incomes and household characteristics.

*Burden on Corporate Capital.* The burden on corporate capital was allocated to households in proportion to taxable dividends received. This allocator was used to estimate the total income received by owners of corporate stock, both as dividends and as capital gains on appreciated stock. Although dividends received may not be a good measure of corporate ownership for particular individuals, the decile-by-decile distribution of dividend income should match the distribution of corporate capital fairly closely.

*Burden on Noncorporate Capital.* Noncorporate business capital includes capital owned by sole proprietors, partnerships, and S corporations. This study used a variety of information from Schedules C and E to develop a reasonable estimate of each household's ownership of noncorporate capital. The construction of this measure guaranteed that: (1) households with large business losses are assigned some capital ownership (based on either claimed depreciation or the size of claimed losses); and (2) the shares of capital ownership imputed to those with sole proprietor income, rental income, and partnership and S corporation income are roughly proportional to each income source's aggregate share of claimed depreciation.

*Burden on Farmers.* Rental land accounts for about one third of Minnesota farm land. Approximately half of all farm property taxes were paid on rented land, reflecting higher classification rates on non-homestead farms. Therefore about half of the farm property tax burden was allocated in proportion to farm income, with the rest allocated in proportion to farm rents (reported on Schedule E).

*Burden on Labor.* The burden on labor (through lower wages) was allocated based on each household's share of earned income, defined as the sum of wages and salaries.

A summary description of the incidence results for the distribution of each business tax to consumers, capital and labor (both residents and nonresidents) is provided in *Table 5-2*. The business tax allocators used to estimate the business tax burden for specific Minnesota households are discussed below. Further explanation of the incidence estimated for each of the business taxes can be found in the 1999 Tax Incidence Study.

**Table 5-2**  
**Distribution of Business Tax Burden by Taxpayer Category (2000)**

	Percent Borne by Minnesota Taxpayers			Percent Exported
	Consumers	Labor	Capital	
<b>Business Property Taxes</b>				
Commercial	36%	3%	15%	45%
Industrial	2%	0%	10%	88%
Farm	0%	0%	98%	2%
Public utility	57%	4%	2%	37%
Rental housing	49%	0%	38%	13%
All Sectors	32%	2%	24%	42%
<b>Sales Tax on Business Inputs</b>				
Agriculture	19%	13%	19%	50%
Mining	7%	0%	4%	89%
Construction	80%	8%	5%	8%
Durable manufacturing	13%	0%	4%	83%
Nondurable manufacturing	13%	0%	4%	83%
TCPU	46%	3%	3%	47%
FIRE	56%	3%	9%	33%
Services	73%	5%	8%	14%
Retail trade	49%	9%	13%	29%
Wholesale trade	51%	4%	5%	41%
All Sectors	55%	9%	8%	28%
<b>Corporate Franchise Tax</b>				
Commercial	53%	8%	3%	37%
Manufacturing	12%	9%	3%	76%
Public utility	49%	8%	3%	40%
Mining	2%	17%	0%	81%
All Sectors	42%	8%	3%	47%
<b>Other Business Taxes</b>				
Motor fuels	59%	0%	0%	41%
Motor vehicle registration	28%	13%	12%	47%
Mortgage and deed taxes	20%	0%	36%	44%
Insurance premium	25%	0%	13%	63%

## Estimating the Impact of a Change in Business Taxes

This study estimates the burden of existing business taxes at current law levels. *The results presented here do not directly apply to changes in the level of business taxes.* As explained in this section, the first step in the incidence analysis was to divide existing business taxes into three parts: the national average tax on all capital, the sector differential, and the Minnesota differential. In contrast, a change in business taxes in Minnesota (unmatched by changes elsewhere) would consist of only one part; the Minnesota differential. As a result, distribution of the burden would be different.

Compared to the results presented in this study, the incidence of an increase or decrease in Minnesota business taxes would fall:

- less on nonresidents,
- less on Minnesota owners of capital,
- more on Minnesota consumers, and
- more on Minnesota labor.

Illustrations of the magnitude of these differences were presented in the 1993 edition of this study (Appendix B).



## Glossary of Tax Incidence Study Terms

- ***Consumer Expenditure Survey*** – a database produced annually by the Bureau of Labor Statistics that contains information from a large nationwide sample of households on the amounts spent for a great variety of goods and services. Used to estimate consumption patterns for Minnesota households.
- ***Decile*** – one tenth of an ordered list. In this study decile usually means a particular tenth of the total number of households in the state after those households have been ordered or ranked by income; sometimes referred to as a population decile. For example, the first decile means the tenth of the population ranking lowest in income; the tenth decile is the tenth of the population having the highest incomes. An alternative use of the term in this study means a tenth of the total income of the households so ranked; this is referred to as an income decile. For example, the tenth income decile refers to those households receiving the highest tenth of total income.
- ***Effective tax rate*** – tax paid as a percentage of gross income. Effective tax rates can be calculated for single taxes or groups of taxes. In this study they are also calculated for business taxes by industry sector. Effective tax rates by decile are one of the main methods by which study results are presented. It should be noted that effective tax rates for the first decile are unreliable for several reasons. That decile includes households with temporarily low incomes or who consume based on wealth rather than current income (retirees, for example).
- ***Federal offset*** – the reduction in federal taxes due to the reduction in federal taxable income that occurs when state taxes are included in itemized deductions. Because of this offset, the burden of state taxes would be lower than it otherwise appears, as long as federal rates are not increased to make up for the lower revenue.
- ***Gross state product (GSP)*** – GSP is the value added in production by the labor and property located in the state. GSP for a state is derived as the sum of the GSP originating in all industries in the state.

- **Household** – for tax filers, in this study a household is defined as the one or two people entitled to file one income tax return or property tax refund return, plus any dependents. For the nonfilers in this study, a household means those people living at the same address who presumably would be entitled to file one income tax return if they were filers, plus any dependents. This definition differs from that used by the U.S. Census Bureau, which defines a household as any group of people who share living arrangements.
- **Impact of tax** – refers to the initial burden of the tax, experienced by the person or firm legally obligated to pay the tax. The impact is distinguished from the incidence of the tax.
- **Incidence of tax** – refers to the ultimate burden of the tax after the person or business firm legally obligated to pay the tax alters its behavior in response (if it does alter its behavior). In some cases, namely taxes imposed directly on households, both the impact and the incidence are the same. In other cases, such as taxes on businesses, the incidence is shifted from the business to others.
- **Income** – for this study household income means all cash income received by anyone in the household, whether or not such income is taxable. Excluded from the definition is any noncash income, such as food stamps or income in kind. This is a broader measure of income than some others; for example, personal income as defined in the national income accounts does not include capital gains.
- **Industry sectors** – in this study private production of goods and services is divided into ten sectors: agriculture; mining; construction; manufacture of durable goods; manufacture of nondurable goods; transportation, communication and public utilities (TCPU); finance, insurance and real estate (FIRE); services; retail trade; and wholesale trade.
- **Progressive tax** – a tax for which the effective tax rate rises as income rises.
- **Proportional tax** – a tax for which the effective rate does not change with income.
- **Regressive tax** – a tax for which the effective tax rate falls as income rises.
- **Suits index** – a numerical score ranging between –1 and +1 that indicates the extent to which a tax is progressive or regressive. Negative values indicate a regressive tax, positive values a progressive tax, and zero shows a proportional tax. The closer the Suits index is to +1 or –1, the higher the degree of progressivity or regressivity.
- **Tax shifting** – the process by which the incidence of a tax is translated from the economic entity legally obligated to pay the tax to those bearing the ultimate burden of the tax.

## Legislative Mandate

### **270.0682 Tax Incidence Reports**

Subdivision 1. Biennial report. The commissioner of revenue shall report to the legislature by March 1 of each odd-numbered year on the overall incidence of the income tax, sales and excise taxes, and property tax. The report shall present information on the distribution of the tax burden (1) for the overall income distribution, using a systemwide incidence measure such as the Suits index or other appropriate measures of equality and inequality, (2) by income classes, including at a minimum deciles of the income distribution, and (3) by other appropriate taxpayer characteristics.

Subdivision 2. Bill analyses. At the request of the chair of the house tax committee or the senate committee on taxes and tax laws, the commissioner of revenue shall prepare an incidence impact analysis of a bill or a proposal to change the tax system which increases, decreases, or redistributes taxes by more than \$20,000,000. To the extent data is available on the changes in the distribution of the tax burden that are affected by the bill or proposal, the analysis shall report on the incidence effects that would result if the bill were enacted. The report may present information using systemwide measures, such as Suits or other similar indexes, by income classes, taxpayer characteristics, or other relevant categories. The report may include analyses of the effect of the bill or proposal on representative taxpayers. The analysis must include a statement of the incidence assumptions that were used in computing the burdens.

Subdivision 3. Income measure. The incidence analyses shall use the broadest measure of economic income for which reliable data is available.

History: 1990 c 604 art 10 s 9.

