2009 Minnesota Tax Incidence Study

(Using November 2008 Forecast)

An analysis of Minnesota's household and business taxes.
March 2009

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MINNESOTA · REVENUE

2009 Minnesota Tax Incidence Study

Analysis of Minnesota's household and business taxes.

MINNESOTA · REVENUE
Tax Research Division

March 9, 2009

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 9, 2009

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

I am pleased to transmit to you the tenth Minnesota Tax Incidence Study undertaken by the Department of Revenue in response to Minnesota Statutes, Section 270C.13 (Laws of 1990, Chapter 604, Article 10, Section 9; Laws of 2005, Chapter 151, Article 1, Section 15).

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 2006. 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?"

The report also estimates tax incidence across income groups for state and local taxes for 2011. By forecasting incidence into the future, it is possible to give policymakers 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. The 2011 projections also reflect the impact of the forecast for economic growth and expected changes in the distribution of income on the tax system. This version of the 2011 projections is based on the November 2008 economic forecast from the Department of Management and Budget.

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 $85,000.

Sincerely,

Ward Einess
Commissioner

600 North Robert Street
St. Paul, MN 55146

Minnesota Relay 711 (TTY)
An equal opportunity employer

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Executive Summary

This study reports the distribution of calendar year 2006 Minnesota state and local taxes in relation to taxpayer income, along with projections for calendar year 2011. 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. This is the tenth biennial tax incidence study prepared in response to the statutory requirement enacted in 1990.

The report estimates 1) how the total state and local tax burden on Minnesota households varies by income range, and 2) how the burden of each component of the overall state and local tax system is distributed across Minnesota households. Aggregating the impact of each component yields an estimate of the distribution of the total tax burden.

The estimates include 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 initial impact of taxes imposed on Minnesota households and businesses is discussed first. The analysis then proceeds to estimate the final incidence of taxes on Minnesota households, after taxes imposed on businesses have been shifted to those who bear the final burden.

The report:

- Analyzes $22.1 billion in taxes collected in 2006, a total that represents over 99 percent of all state and local taxes.
- Identifies the shares paid initially by households (64.8 percent by Minnesota residents and 2.8 percent by nonresidents) from the share paid initially by business (32.5 percent).
- Estimates the extent to which the business taxes are shifted to consumers (in higher prices) or labor (in lower wages), rather than being borne by owners of capital (in lower rates of return). Also estimates the extent to which the ultimate burden is "exported" to nonresident owners of capital or nonresident consumers.
- Calculates average household tax burden by income range. That burden consists of taxes imposed directly on households, such as the income tax or consumer sales tax, plus the household share of taxes initially imposed on business but shifted to households, the ultimate payers. Income is defined to include all forms of cash income, both taxable and nontaxable.
- Presents results by population decile, each decile including one-tenth of all households (the lowest-income 10 percent in decile 1 and highest-income 10 percent in decile 10).
- Projects the 2006 results forward to 2011, accounting for the effects of both law changes and economic growth on the mix and level of state and local taxes.

Conclusions of the research are:

- Of the total $22.1 billion in 2006 taxes, 83.9 percent of the burden ultimately falls on Minnesota residents ($18.5 billion). The remaining $3.5 billion of the tax burden is exported to nonresident consumers or nonresident owners of capital
- In 2006, the state and local tax burden on Minnesota households averaged 11.2 percent of income, down from 11.6 percent in 2004. But half of that drop is due to use of an expanded definition of income in this year's study.
- The local tax share of tax revenue rose from 25.8 percent in 2004 to 26.7 percent in 2006 and is projected to rise significantly to 31.7 percent in 2011. The state tax share fell from 74.2 percent in 2004 to 73.3 percent in 2006 and is projected to fall to 68.3 percent in 2011.
- The share of state and local revenue derived from consumption taxes fell from 33.7 percent in 2004 to 31.8 percent in 2006 and is projected to fall to 30.3 percent in 2011. The share of income tax rises between 2004 and 2006, but falls in 2011. The property tax share declines slightly between 2004 and 2006, but is projected to increase substantially by 2011.
- The business tax share of total tax revenue falls from 33.2 percent in 2004 to 32.5 percent in 2006 but is projected to rise to 32.7 percent in 2011.
- After allowing for the shifting of business taxes, the Minnesota tax system in 2006 was somewhat regressive (and significantly more so than in 2004). In contrast to the results shown in recent studies, effective tax rates were above the 11.2 percent average for all except the tenth decile. The Suits index, a measure of the progressivity or regressivity of a tax or tax system, fell from -0.024 in 2004 to -0.053 in 2006[1]. This change suggests a significant increase in overall regressivity, in large part due to greater income inequality in the stronger economy.[2]
- Minnesota's refundable income tax credits and property tax refunds for homeowners and renters substantially reduce overall regressivity. In their absence, the 2006 Suits index would fall from -0.053 to -0.075.
- Incomes are expected to grow by only 15.5 percent between 2006 and 2011. Tax receipts are forecast to grow at a slightly higher rate, raising the overall effective tax rate to 11.4 percent.
- The population-decile Suits index is projected to fall only slightly to -0.051 in 2011. Income growth is expected to outpace tax growth in the lowest three deciles; the reverse is true in deciles 4 through 10.

The ten biennial tax incidence studies cover a 20-year period. Comparison with earlier reports provides some historical context for the results of the current study. *Figures E-1* and *E-2* below show how effective tax rates and the population-decile Suits indexes have changed over the past decade and a half. The effective tax rate is the ratio of tax burden to total household income. For the Suits index, positive values reflect progressivity and negative values show regressivity.

[1] These are "population-decile" Suits indexes. The "full-sample" Suits index fell from -0.030 in 2004 to -0.062 in 2006 and -0.061 in 2011. The difference is explained in *Chapter 4, Section B.*

[2] For further discussion of possible reasons, see the last few pages of *Chapter 1*.

Figure E-1
Effective Tax Rates, All Taxes[3]

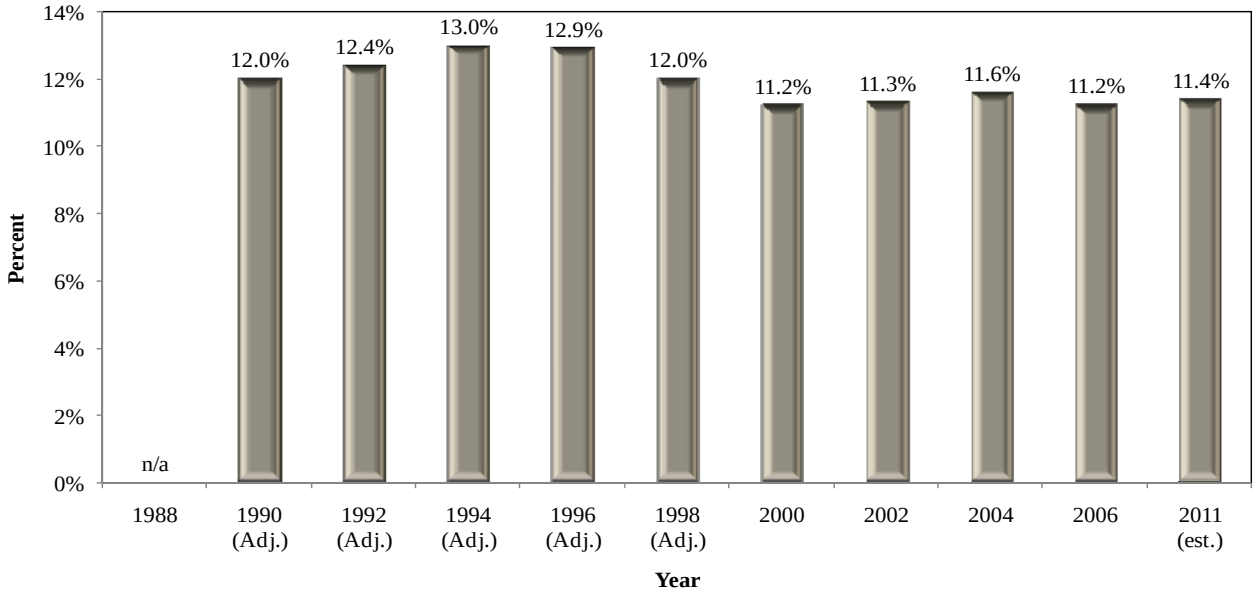
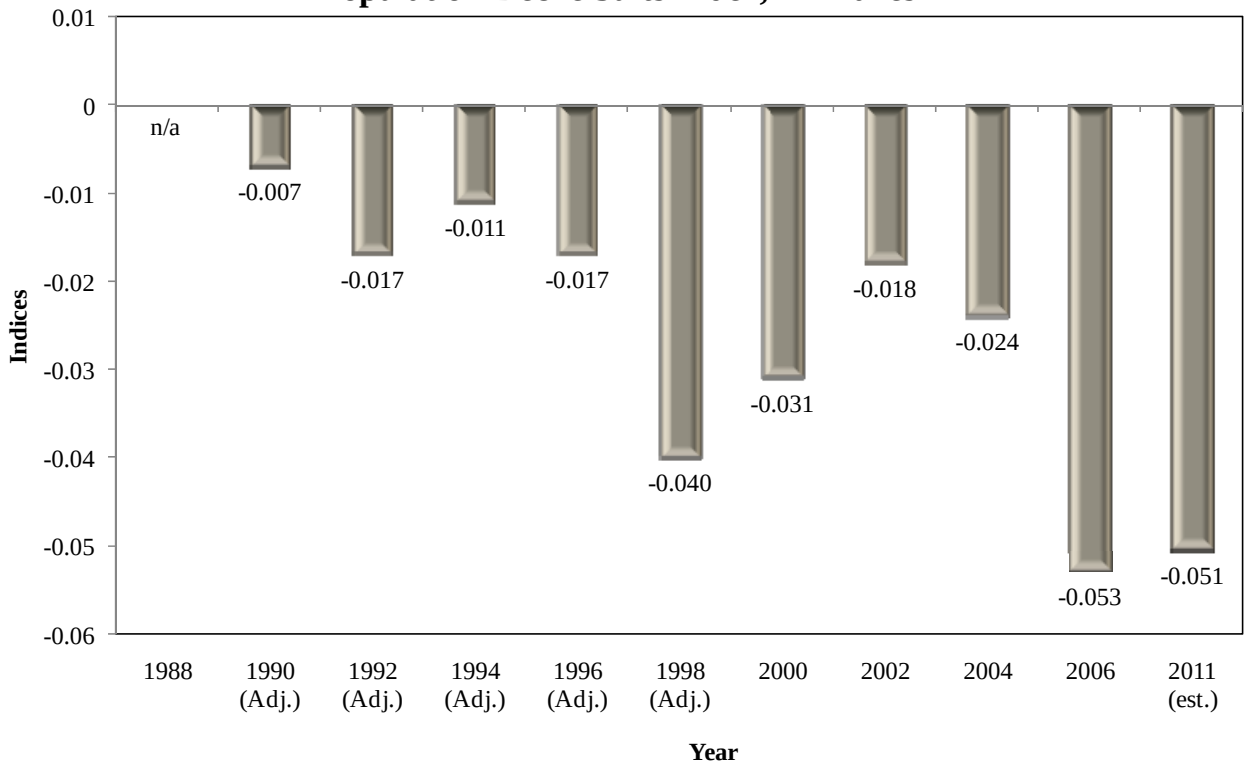


Figure E-2
Population-Decile Suits Index, All Taxes[4]



[3] Effective tax rates for 2006 and 2011 fell roughly 0.2 percentage points due to the use of a more comprehensive measure of income.

[4] Population-decile Suits indexes are used for historical comparisons because full-sample indexes were not reported prior to 2004. The earliest studies (before 2000) did not include all of the taxes included in more recent studies, so both the effective tax rates (*Figure E-1*) and Suits indexes (*Figure E-2*) are adjusted to make them comparable. Unadjusted effective tax rates reported in the published studies were 11.8%, 12.1%, 12.9%, 12.7%, and 11.8% for 1990-1998. The unadjusted Suits index was -0.004 in 1990 and -0.013 in 1992.

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Chapter 1: Overview of Study

Minnesota State and Local Tax Collections

Minnesota collected $22.1 billion in state and local taxes in 2006. By 2011, collections are expected to rise to $25.8 billion. This report estimates how much of the burden of total state and local taxes in each of those years falls on Minnesota residents and how the tax burden on Minnesota residents varies with income.

Minnesota's 2006 state and local taxes are summarized in *Table 1-1*. In 2006, 73 percent of the $22.1 billion of tax was collected at the state level; local governments collected the remainder, largely from property taxes. The study includes taxes paid by business as well as those paid directly by households. The 30 separate tax components included in the study account for over 99 percent of total state tax collections and over 99 percent of local tax collections. For each of the taxes, the study identifies how the burden is distributed. Combining the results for each of those components provides an estimate of the distribution of the burden of the complete state and local tax system.

The 2006 results are based on a stratified random sample of over 100,000 Minnesota households. The 2011 results are projected forward from 2006 based on the November 2008 economic forecast and are adjusted to account for law changes that took effect after 2006.

Table 1-1
Minnesota State and Local Tax Collections in 2006
($ Millions)

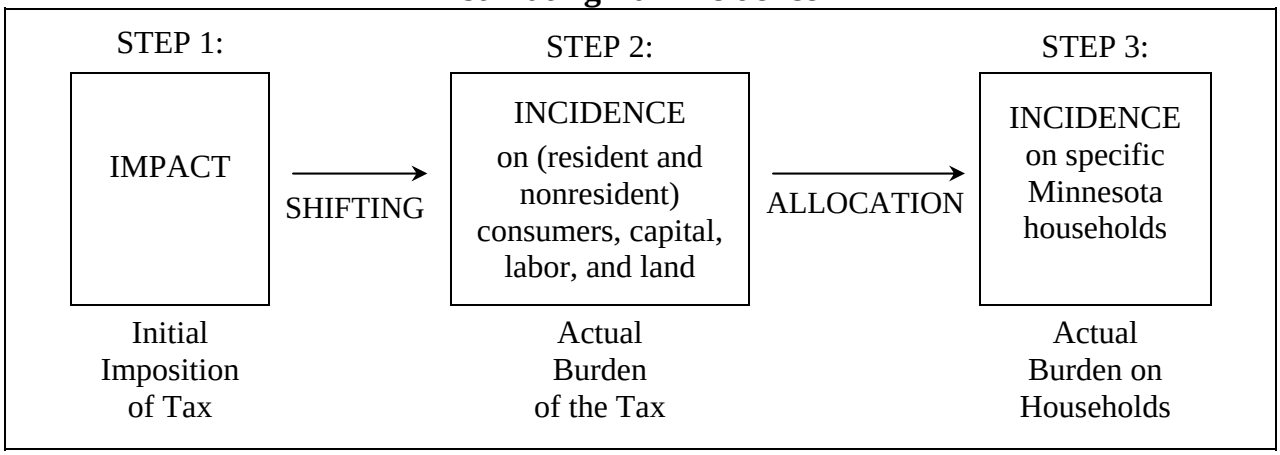
State		Local		State and Local	
Included		**Included**		**Included**	
Individual income tax	$7,047	Gross property taxes (after credits)			
Corporate franchise tax	1,123	Homestead property taxes	$3,059		
Estate tax	160	Property taxes on residential recreational property taxes (cabins)	131		
General sales and use tax	4,467	Rental property taxes (residential)	610		
Motor vehicle sales tax	535	Other business property taxes (including farming and taconite)	1,854		
Motor fuels excise taxes	649				
Alcoholic beverage excise taxes	72	Subtotal	$5,654		
Cigarette & tobacco excise taxes	234				
Insurance premiums tax	334	Local sales taxes	142		
Gambling taxes	52	Gross earnings taxes	98		
MinnesotaCare taxes	385				
Motor vehicle registration tax	488				
Mortgage and deed taxes	295				
Waste taxes	64				
State property tax	656				
Property tax refunds	(369)				
Total	$16,191	**Total**	$5,894	**Total**	$22,085
Omitted		**Omitted**		**Omitted**	
Controlled substances tax		General authorization lodging taxes			
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			
		Aggregate material production tax			
Total	$15	**Total**	$16	**Total**	$31
Total State Tax Collections	$16,206		$5,910		$22,116

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 burden 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



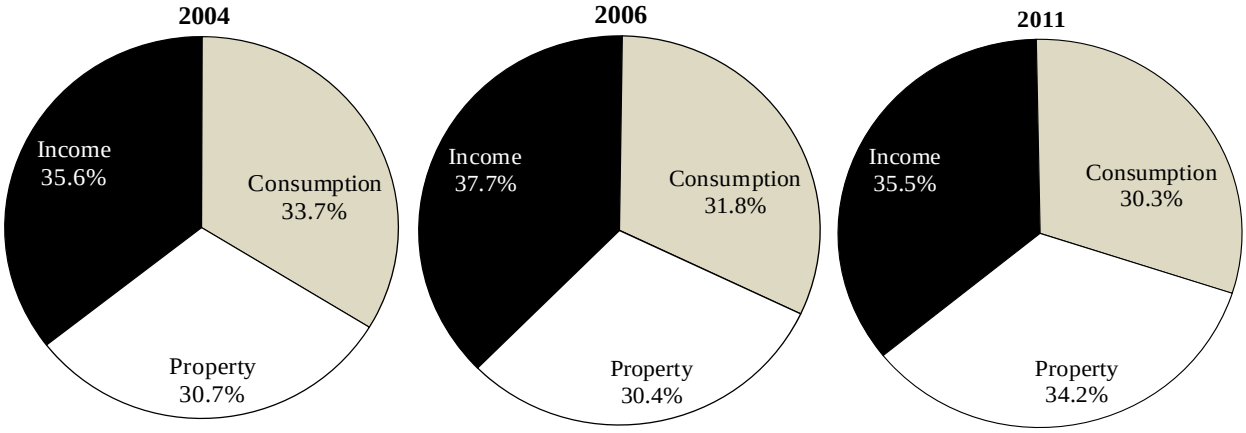
Each of the three steps shown in *Figure 1-1* are discussed separately below. The major findings from this study are reviewed in the context of that three-step estimating process.

Step 1 – Impact

Figure 1-2, derived from *Tables 1-2* and *1-3*, describes the revenues actually collected in 2004 and 2006 and expected to be collected in 2011. Taxes are divided into three general categories: Income, Consumption, and Property.[5]

[5] All taxes are assigned to one of the three categories. The motor vehicle registration tax and mortgage and deed taxes are defined as property taxes. The estate tax is defined as a tax on income. Property tax is net of property tax refunds.

Figure 1-2
Minnesota Tax System Impacts by Tax Area



The three graphs in *Figure 1-2* show that the consumption tax share is falling. The income tax share increased between 2004 and 2006, but is projected to fall in 2011. The property tax share – which declined slightly between 2004 and 2006, is projected to increase substantially in 2011. There are several reasons for that trend:

- Household income grew by more than 18.0 percent between 2004 and 2006 and is expected to grow only 15.5 percent between 2006 and 2011. As a general rule (in the absence of any law change), income tax revenue tends to grow faster than income, particularly when income grows rapidly. In contrast, taxes on consumption (sales and excise taxes) generally grow more slowly than income.
- Property taxes are levied primarily by local governments. Their rate of growth depends partly on changes in the system of state aid to schools and local governments. When state aid grows slowly, this places upward pressure on local property tax levies.

Another way of looking at this is to consider how Minnesota's tax system is split between state and local taxes. Between 2004 and 2006, the state's share fell from 74.2 percent to 73.3 percent. By 2011, it is expected to drop to 68.3 percent. Local taxes (including school taxes) rose from 25.8 percent in 2004 to 26.7 percent in 2006 and are expected to rise to 31.7 percent by 2011. Although local sales tax revenue is projected to grow by over 140 percent between 2004 and 2011, local property tax increases account for 95 percent of this local government revenue growth.

This study also highlights the distinction between taxes on households and taxes on business. Taxes on households include taxes paid directly by households (such as the individual income tax, homeowner property tax, vehicle registration tax on private vehicles, and the sales tax on consumer purchases). Household taxes are also defined to include taxes paid by business if the full tax is assumed to be passed on to households in higher prices. These fully-shifted taxes include excise taxes on cigarettes and alcohol, fuel taxes on fuel purchased by households, insurance taxes on homeowner insurance policies, and MinnesotaCare taxes on medical services. The term "business tax," as defined in this study, includes any tax paid by business that is not expected to be fully reflected in the price paid by consumers. Business taxes include, among others, the corporate franchise tax, business property taxes (including property taxes on rental housing), the sales tax on business purchases, and insurance taxes on business insurance.

Table 1-2
2006 State and Local Tax Collections by Type of Tax and Taxpayer Category

Tax Type	Collections		Percentage by Taxpayer Category			
	Total ($ Millions)	Percent Distribution	Households		Business	Total
			Resident	Nonresident		
State Taxes						
Taxes on Income and Estates						
Individual income tax	$7,047	31.9%	95.7%	4.3%		100.0%
Corporation franchise tax [1]	1,123	5.1%			100.0%	100.0%
Estate tax	160	0.7%	100.0%			100.0%
Total Income and Estate Taxes	$8,330	37.7%	82.9%	3.7%	13.5%	100.0%
Taxes on Consumption						
Total sales tax	$5,002	22.6%	51.5%	3.8%	44.7%	100.0%
General sales/use tax	4,467	20.2%	50.9%	4.2%	44.9%	100.0%
Sales tax on motor vehicles	535	2.4%	57.0%		43.0%	100.0%
Motor fuels excise taxes	649	2.9%	55.6%	5.0%	39.4%	100.0%
Alcoholic beverage excise taxes	72	0.3%	91.9%	8.1%	0.0%	100.0%
Cigarette and tobacco excise taxes	234	1.1%	96.4%	3.6%	0.0%	100.0%
Insurance premiums taxes	334	1.5%	73.8%		26.2%	100.0%
Gambling taxes	52	0.2%	99.0%	1.0%	0.0%	100.0%
MinnesotaCare taxes	385	1.7%	91.0%	9.0%	0.0%	100.0%
Solid waste management taxes	64	0.3%	43.4%		56.6%	100.0%
Total Consumption Taxes	$6,791	30.7%	57.5%	4.0%	38.5%	100.0%
Taxes on Property						
State Property Tax	$656	3.0%	3.8%	0.9%	95.2%	100.0%
Residential recreational property	31	0.1%	80.2%	19.8%		100.0%
Commercial [2]	433	2.0%			100.0%	100.0%
Industrial	129	0.6%			100.0%	100.0%
Utility	62	0.3%			100.0%	100.0%
Motor vehicle registration tax	488	2.2%	82.0%		18.0%	100.0%
Mortgage and deed taxes	295	1.3%	68.3%		31.7%	100.0%
Total Property Taxes	$1,438	6.5%	43.5%	0.4%	56.0%	100.0%
Property Tax Refunds						
Homeowners	-$218	-1.0%	100.0%			100.0%
Renters	-151	-0.7%	100.0%			100.0%
Total Property Tax Refunds	-$369	-1.7%	100.0%			100.0%
Total State Taxes	$16,191	73.3%	68.3%	3.6%	28.1%	100.0%
Local Taxes						
Property Taxes	$5,654	25.6%	56.0%	0.5%	43.6%	100.0%
General Property Tax	5,575	25.2%	56.7%	0.5%	42.8%	100.0%
Homeowners (before PTR)	3,059	13.9%	100.0%			100.0%
Residential recreational property	131	0.6%	80.2%	19.8%		100.0%
Commercial [2]	1,011	4.6%			100.0%	100.0%
Industrial	303	1.4%			100.0%	100.0%
Farm (other than residence) [3]	286	1.3%			100.0%	100.0%
Rental Housing (before PTR)	610	2.8%			100.0%	100.0%
Utility	176	0.8%			100.0%	100.0%
Mining Production Taxes (taconite)	79	0.4%			100.0%	100.0%
Taxes on consumption						
Local Sales Taxes	142	0.6%	50.9%	4.2%	44.9%	100.0%
Local Gross Earnings Taxes	98	0.4%			100.0%	100.0%
Total Local Taxes	$5,894	26.7%	54.9%	0.5%	44.6%	100.0%
Total State and Local Taxes	$22,085	100.0%	64.8%	2.8%	32.5%	100.0%

[1] Includes taconite/iron ore occupation tax.
[2] Includes resorts and railroads.
[3] Farm includes timber.

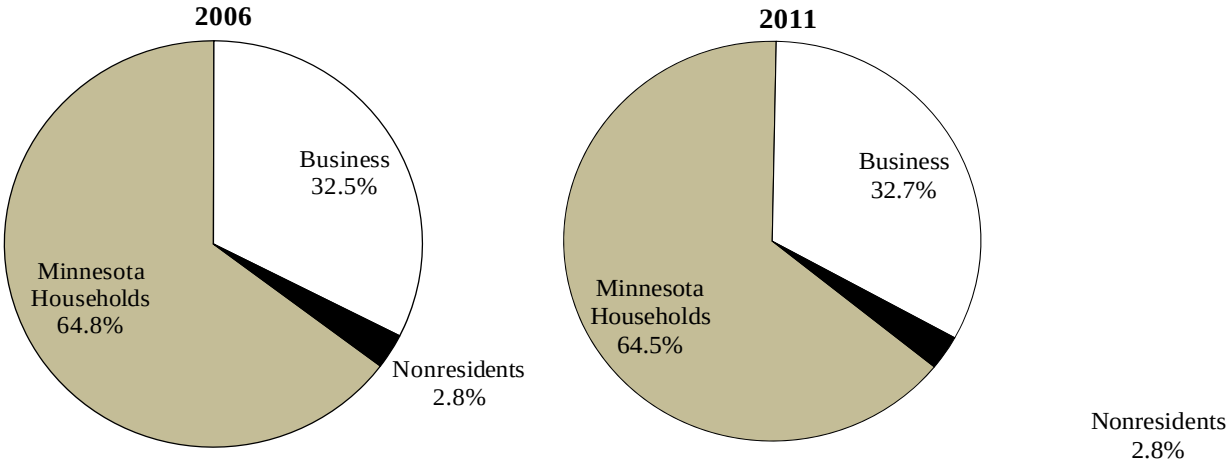
Table 1-3
2011 State and Local Tax Collections by Type of Tax and Taxpayer Category

Tax Type	Collections		Percentage by Taxpayer Category			
	Total ($ Millions)	Percent Distribution	Households		Business	Total
			Resident	Nonresident		
State Taxes						
Taxes on Income and Estates						
Individual income tax	$8,206	31.8%	95.7%	4.3%		100.0%
Corporation franchise tax [1]	842	3.3%			100.0%	100.0%
Estate tax	133	0.5%	100.0%			100.0%
Total Income and Estate Taxes	$9,181	35.5%	87.0%	3.9%	9.2%	100.0%
Taxes on Consumption						
Total sales tax	$5,249	20.3%	51.5%	3.8%	44.7%	100.0%
General sales/use tax	4,763	18.4%	50.9%	4.2%	44.9%	100.0%
Sales tax on motor vehicles	486	1.9%	57.0%		43.0%	100.0%
Motor fuels excise taxes	855	3.3%	55.6%	5.0%	39.4%	100.0%
Alcoholic beverage excise taxes	78	0.3%	91.9%	8.1%	0.0%	100.0%
Cigarette and tobacco excise taxes	202	0.8%	96.4%	3.6%	0.0%	100.0%
Insurance premiums taxes	377	1.5%	73.8%		26.2%	100.0%
Gambling taxes	44	0.2%	99.0%	1.0%	0.0%	100.0%
MinnesotaCare taxes	527	2.0%	91.0%	9.0%	0.0%	100.0%
Solid waste management taxes	75	0.3%	43.4%		56.6%	100.0%
Total Consumption Taxes	$7,407	28.7%	57.7%	4.1%	38.1%	100.0%
Taxes on Property						
State Property Tax	$799	3.1%	4.3%	1.1%	94.6%	100.0%
Residential recreational property	43	0.2%	80.2%	19.8%		100.0%
Commercial [2]	542	2.1%			100.0%	100.0%
Industrial	154	0.6%			100.0%	100.0%
Utility	60	0.2%			100.0%	100.0%
Motor vehicle registration tax	611	2.4%	82.0%		18.0%	100.0%
Mortgage and deed taxes	149	0.6%	68.3%		31.7%	100.0%
Total Property Taxes	$1,559	6.0%	40.9%	0.5%	58.6%	100.0%
Property Tax Refunds						
Homeowners	-$310	-1.2%	100.0%			100.0%
Renters	-190	-0.7%	100.0%			100.0%
Total Property Tax Refunds	-$500	-1.9%	100.0%			100.0%
Total State Taxes	$17,648	68.3%	70.3%	3.8%	26.0%	100.0%
Local Taxes						
Property Taxes	$7,771	30.1%	53.0%	0.5%	46.5%	100.0%
General Property Tax	7,692	29.8%	53.5%	0.5%	46.0%	100.0%
Homeowners (before PTR)	3,947	15.3%	100.0%			100.0%
Residential recreational property	210	0.8%	80.2%	19.8%		100.0%
Commercial [2]	1,530	5.9%			100.0%	100.0%
Industrial	439	1.7%			100.0%	100.0%
Farm (other than residence) [3]	404	1.6%			100.0%	100.0%
Rental Housing (before PTR)	950	3.7%			100.0%	100.0%
Utility	212	0.8%			100.0%	100.0%
Mining Production Taxes (taconite)	79	0.3%			100.0%	100.0%
Taxes on consumption						
Local Sales Taxes	287	1.1%	50.9%	4.2%	44.9%	100.0%
Local Gross Earnings Taxes	134	0.5%			100.0%	100.0%
Total Local Taxes	$8,192	31.7%	52.0%	0.7%	47.3%	100.0%
Total State and Local Taxes	$25,839	100.0%	64.5%	2.8%	32.7%	100.0%

[1] Includes taconite/iron ore occupation tax.
[2] Includes resorts and railroads.
[3] Farm includes timber.

Figure 1-3 shows that business taxes accounted for 32.5 percent of total state and local taxes in 2006, but are expected to rise slightly to 32.7 percent in 2011.

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



Given the 25 percent reduction in corporate income tax revenue forecast between 2006 and 2011, the shift away from households toward business may seem surprising. But the corporate income tax accounted for only one-sixth of total business taxes in 2006. Business property taxes – which accounted for more than 45 percent of total business taxes in 2006 – are forecast to increase 42 percent. This far exceeds the projected growth in homeowner property taxes net of property tax refunds (28 percent increase), the individual income tax (16 percent), or the household portion of state and local consumption taxes (11 percent).

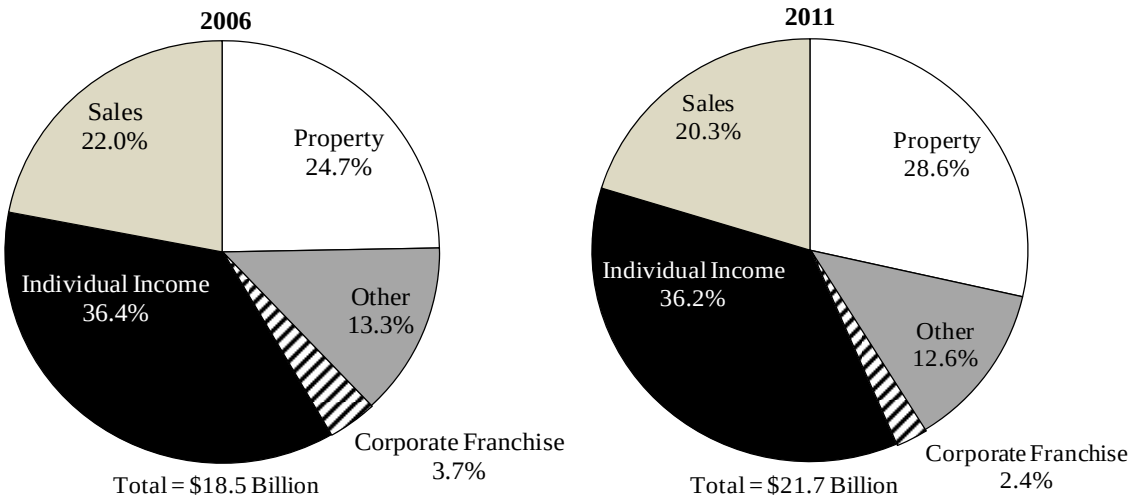
Step 2 – Shifting

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 both on (a) how Minnesota tax rates compare to those in other states and (b) the nature of the market for the goods or services produced by the business being taxed. *Appendix B* explains the method used to estimate the extent to which each tax initially levied on business is shifted to consumers (in higher prices) or labor (in lower wages), and how much is borne instead by the owners of capital (in lower rates of return).

Figure 1-4 indicates that in 2006 Minnesota households paid (either directly or indirectly through shifted business tax) a total of $18.5 billion in Minnesota state and local taxes. This equals 83.9 percent of total state and local tax collections ($22.1 billion). The other $3.5 billion (16.1 percent) is "exported" to nonresidents or visitors to the state. The share exported to nonresidents is expected to remain at 16.1 percent in 2011. The total burden on Minnesotans will rise by almost 17.0 percent (to $21.7 billion), increasing slightly faster than income growth (at 15.5 percent).

Between 2006 and 2011, the share of the property tax (after PTR) in the burden on Minnesota households increases. The share of sales taxes, corporate franchise tax, and other taxes falls, and the individual income tax share remains almost unchanged.

Figure 1-4
Household Incidence After Shifting



Step 3 – Allocation to Specific Households

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 2.4 million households.[6] Each dollar of tax not exported to a nonresident is allocated to a specific Minnesota household. The result is an estimated tax burden, or tax incidence, for each separate tax. These separate taxes are aggregated to estimate the total tax burden for each household. Effective tax rates are calculated by comparing the tax burden to the household's income.

[6] This study defines a household to include a taxpayer and any spouse or dependents. A U.S. Census household may include more than one household as defined in this study. Three single persons living together will be one Census household but three households for purposes of this study. On the other hand, a Census household can consist of a single person who is a dependent for tax purposes. Because of these definitional differences, the number of households reported in this study (2,448,872 in 2006) exceeds the number of households reported by the Census (2,042,297). (A more detailed comparison is found in the last section of *Chapter 5*.)

Tax Progressivity and the Suits Index

Taxes may be 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 sometimes difficult to summarize the overall distribution of a tax (progressive, proportional, or regressive) from the individual effective tax rates. The Suits index is often used as a summary measure of progressivity or regressivity.

The Suits index has numerical properties that make it easy to identify 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, if the total tax burden were paid by those in the highest income bracket, the index would be 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 1-4 presents population-decile Suits indexes for selected Minnesota state and local tax groups in 2006 and 2011. The only major progressive tax is the personal income tax. Consumption taxes are the most regressive category. Taken as a whole, the system of Minnesota taxes was regressive in 2006 (a population-decile Suits index of -0.053). State taxes were roughly proportional (+0.002), and local taxes were regressive (-0.208). Between 2006 and 2011, Minnesota's overall population-decile Suits index is expected to remain essentially unchanged.[7]

Table 1-4
Population-Decile Suits Indexes for Selected Minnesota State and Local Taxes

Tax Category	2006 Suits Index	2011 Suits Index
Personal Income Tax	+0.194	+0.181
Sales Taxes (State & Local)	-0.184	-0.177
Business Taxes	-0.210	-0.210
Individual Taxes	-0.006	-0.003
All State Taxes	+0.002	+0.016
All Local Taxes	-0.208	-0.201
Total Taxes	-0.053	-0.051

Unless otherwise noted, the Suits indexes cited in this study are calculated using population deciles. A Suits index calculated using every sample household (a "full-sample" Suits index) will differ from this "population-decile" Suits index. See *Section B* of *Chapter 4* for further explanation.

[7] *Tables 2-1* and *3-1* below show Suits indexes for each individual tax in 2006 and 2011 respectively. They also show both population-decile and full-sample versions of the Suits index.

Effective Tax Rates by Decile

For analytical purposes, Minnesota's households are divided into ten equal groups, or deciles. Each of these ten population deciles includes 10 percent of all households. The bottom (1st) decile includes the tenth with lowest incomes; the top (10th) decile includes the tenth with highest incomes. Income is defined to include all cash income, whether taxable or not. It includes nontaxable social security, interest, and pension income, as well as nontaxable workers' compensation and cash payments from the Minnesota Family Investment Program (MFIP).[8]

Because the information for the first decile includes data anomalies and measurement problems discussed in the box at the end of this section, effective tax rates for the first decile are not reliable.

As *Table 1-5* shows, Minnesota's state and local tax system is somewhat progressive between the lower and middle deciles and somewhat regressive between the middle and upper deciles. For 2006, effective tax rates rose from 11.5 percent of income in the third decile to 12.4 percent in the fifth decile, and then fell significantly to 10 percent of income in the tenth decile.[9]

Between 2006 and 2011, effective tax rates are projected to fall in the first three deciles and rise in deciles 4 though 10. The largest increases are in deciles 5 through 7. Despite these significant changes, the population-decile Suits index changes very little, rising from -0.053 to -0.051.

Table 1-5 also shows that overall, Minnesota residents paid an estimated 11.2 percent of their 2006 total income in state and local taxes; this will increase to 11.4 percent in the 2011 projections. For 2006, the effective tax rate was 8.3 percent for state taxes and 2.9 percent for local taxes. By 2011, the effective state rate is projected to fall to 7.9 percent, but the effective local tax rate is projected to rise to 3.5 percent.

The shift in the tax burden from state taxes to local taxes is substantial. The burden of state taxes is projected to increase by only 9.7 percent – more slowly than income growth (15.5 percent). The local tax burden is projected to grow by 37.5 percent – two and one-half times as fast as income.

[8] The database captures nontaxable income reported on income tax returns and property tax refund returns, along with workers' compensation and welfare income from administrative sources. For this study, household income does not include in-kind benefits such as food stamps, housing subsidies, energy assistance, or fringe benefits provided by employers. For more information on how income is defined, see *Appendix A* of this report.

[9] The income ranges for each population decile are shown in *Table 2-2* (for 2006) and *Table 3-2* (for 2011).

Table 1-5
Minnesota Effective Tax Rates for 2006 and 2011[1]
State and Local Taxes by Population Decile

Population Decile	2006			2011		
	State	Local	Total	State	Local	Total
First	13.4%	10.4%	23.8%	9.7%	12.4%	22.1%
Second	7.3%	5.2%	12.5%	5.4%	5.9%	11.2%
Third	6.9%	4.7%	11.5%	5.6%	5.5%	11.1%
Fourth	7.3%	4.3%	11.6%	6.6%	5.1%	11.7%
Fifth	8.1%	4.3%	12.4%	7.7%	5.0%	12.8%
Sixth	8.2%	4.0%	12.2%	7.8%	4.7%	12.5%
Seventh	8.5%	3.7%	12.2%	8.2%	4.3%	12.5%
Eighth	8.7%	3.2%	11.9%	8.4%	3.7%	12.1%
Ninth	8.7%	3.0%	11.7%	8.4%	3.5%	11.9%
Tenth	8.2%	1.8%	10.0%	7.9%	2.2%	10.1%
Total	8.3%	2.9%	11.2%	7.9%	3.5%	11.4%

[1]Parts may not sum to totals due to rounding.

As shown in *Figure 1-5*, state tax burdens and local tax burdens are distributed quite differently. Total state taxes for 2006 (individual and business combined) were roughly proportional overall, with effective tax rates rising continuously from 6.9 percent in the third decile to 8.7 percent in the eighth decile before falling to 8.2 percent in the tenth decile. Effective local tax rates, essentially local property taxes (before any state property tax refunds), declined consistently over all deciles and were regressive overall. Between 2006 and 2011, effective rates for state taxes are projected to fall across all deciles. Local taxes, in contrast, are expected to increase across the board.

Figure 1-5
Effective Tax Rates for 2006 and 2011
State and Local Taxes by Population Decile

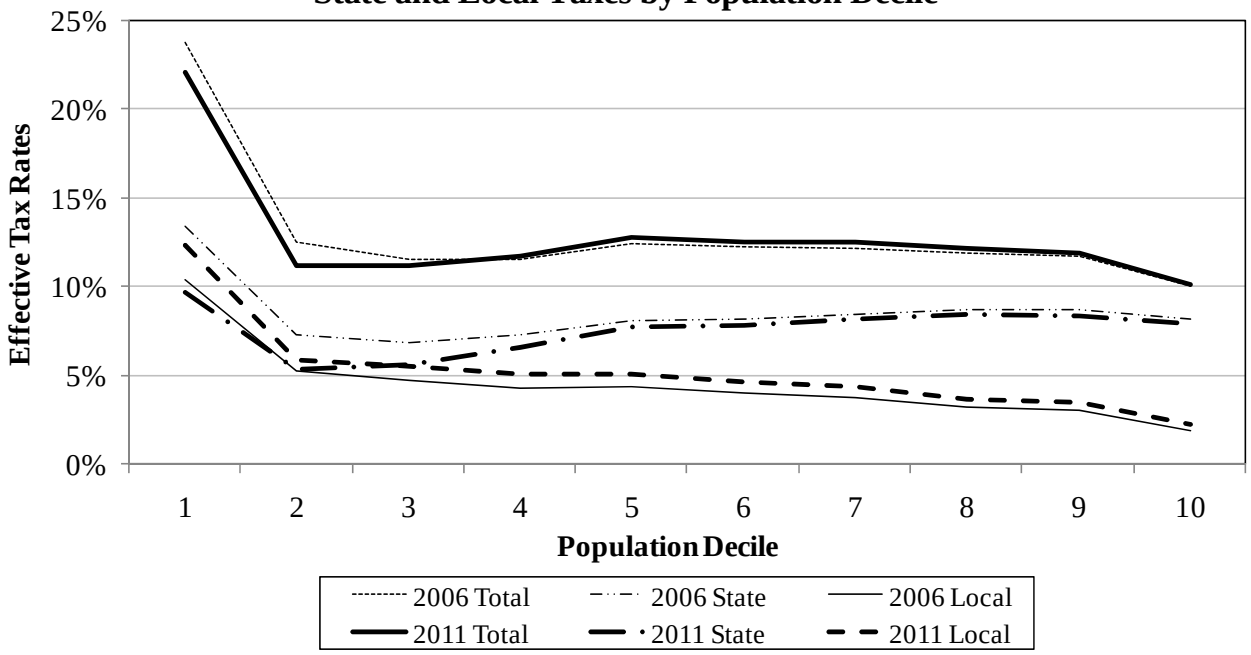


Table 1-6 and *Figure 1-6* show that the patterns of effective rates for taxes paid by individuals versus businesses are also quite different. For 2006, effective rates for taxes paid by individuals increased from 6.5 percent in the second decile to 9.4 percent in the eighth decile, and then declined to 8.3 percent in the tenth decile.

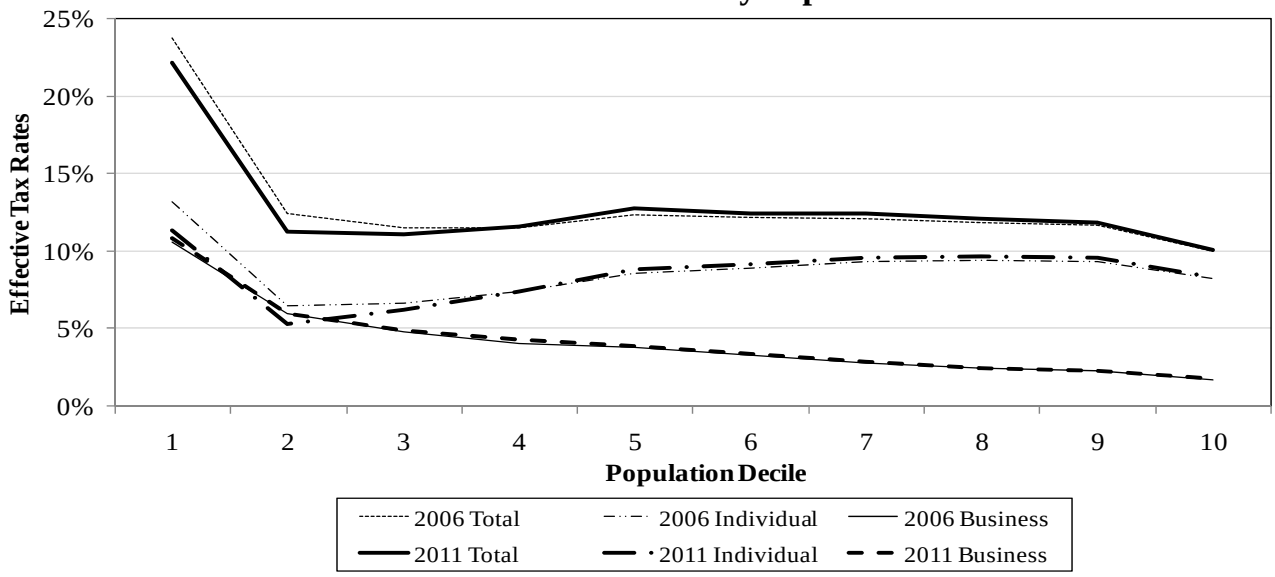
In contrast, Minnesota state and local taxes on businesses (after shifting) are regressive, with effective tax rates for 2006 falling from 6.0 to 1.7 percent between the second and tenth deciles. The overall effective rate for taxes on businesses after shifting was 2.6 percent and on individuals was 8.7 percent in 2006. For the projections to 2011, the overall effective tax rates for both businesses and individuals rose (though their rounded values remained unchanged).

Table 1-6
Minnesota Effective Tax Rates for 2006 and 2011[1]
Individual and Business Taxes by Population Decile

Population Decile	2006			2011		
	Individual	Business	Total	Individual	Business	Total
First	13.2%	10.6%	23.8%	11.3%	10.8%	22.2%
Second	6.5%	6.0%	12.5%	5.3%	6.0%	11.3%
Third	6.7%	4.9%	11.5%	6.2%	4.9%	11.2%
Fourth	7.5%	4.1%	11.6%	7.4%	4.3%	11.7%
Fifth	8.6%	3.8%	12.4%	8.9%	3.9%	12.8%
Sixth	8.9%	3.3%	12.2%	9.1%	3.3%	12.5%
Seventh	9.3%	2.8%	12.2%	9.6%	2.9%	12.5%
Eighth	9.4%	2.5%	11.9%	9.7%	2.4%	12.1%
Ninth	9.4%	2.3%	11.7%	9.6%	2.3%	11.9%
Tenth	8.3%	1.7%	10.0%	8.3%	1.8%	10.1%
Total	8.7%	2.6%	11.2%	8.7%	2.6%	11.4%

[1]Parts may not sum to totals due to rounding.

Figure 1-6
Effective Tax Rates for 2006 and 2011
Individual and Business Taxes by Population Decile



Effective Tax Rates in the First Decile

As shown in *Table 1-5*, the total effective tax rate of 23.8 percent for taxpayers in the first decile is much higher than the rates in other deciles.

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 2006. 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 2006.

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 possibly significant amount.

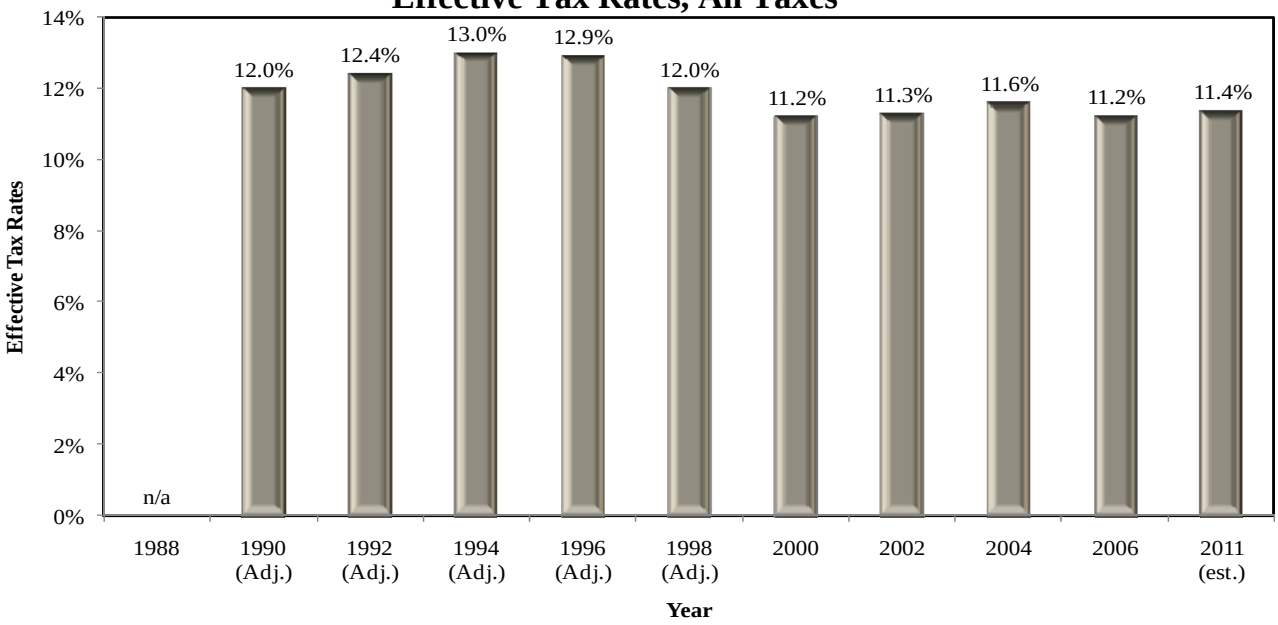
If the first decile were excluded, the population-decile Suits index for 2006 would rise from -0.053 to -0.044 – only slightly less regressive.

Historical Comparison with Earlier Studies

Incidence data has been collected and published in a series of studies, of which this is the tenth. That data extends back to 1988. It is interesting to consider the pattern of effective tax rates and population-decile Suits indexes over that time. This period illustrates the effect of the business cycle on incomes and tax receipts. It includes both periods of very rapid growth in the mid- and late 1990's, the slowdown of the early 1990's, the contraction from 2000 to 2002, and growth between 2002 and 2006.

As shown in *Figure 1-*7, effective tax rates over the period 1988–2006 first rise but then fall and remain well below those of the 1990's. The effective tax rate for the tax system as a whole was 12.0 percent in 1990.[10] Effective tax rates rose to 13.0 percent just four years later in 1994, before beginning a sustained decline to 11.2 percent in 2000. The decline through 2000 was attributable partly to tax cuts and partly to income growth, especially in the late 1990's, that outstripped tax collections (see *Table 1-7*). As the economy emerged from recession after 2002, the effective tax rate rose to 11.6 percent in 2004, but fell to 11.2 percent in 2006. It is projected to increase slightly to 11.4 percent by 2011. Both the 2006 and 2011 effective tax rates would have been 0.2 percentage points higher, though, if this study had not broadened the definition of income.

Figure 1-7
Effective Tax Rates, All Taxes[11]



Changes in the population-decile Suits index are shown in *Table 1-7* and *Figure 1-8*. The tax system was essentially proportional in 1990, with a population-decile Suits index near zero. The Suits index fell from -0.017 in 1992 to a low of -0.040 in 1998. It rose somewhat in succeeding years, reaching -0.018 in 2002, but then fell to -0.024 in 2004. This study shows it dropping significantly to -0.053 in 2006 and predicts little change for 2011.

[10] The study for 1988 included only individual taxes, so its 9.1 percent average effective tax rate is not comparable.
[11] Because earlier studies (before 2000) did not include all of the taxes included in more recent studies, effective tax rates (*Figure 1-7*) and Suits indexes (*Figure 1-8*) are adjusted to make them comparable. Unadjusted effective tax rates (reported in the published studies were 11.8%, 12.1%, 12.9%, 12.7%, and 11.8% for 1990-1998.

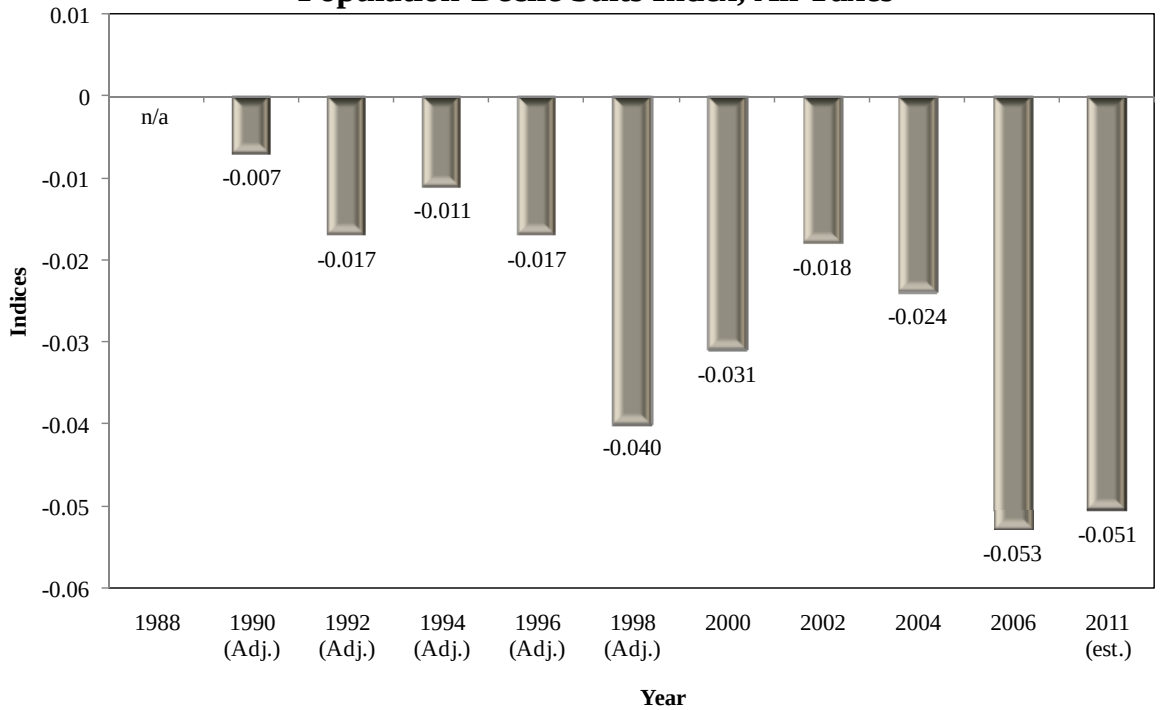
Table 1-7
Households, Household Income, Total Taxes, Effective Tax Rates, and Population-Decile Suits Indexes, All Taxes, 1988-2011

Year	Number of Households	Household Income ($ Thousands)	Total Taxes as Imposed ($ Thousands)	Tax Dollars Included in Study (%)	Total Taxes After Shifting ($ Thousands)	Effective Tax Rate	Pop. Decile Suits Index
1988	2,035,717	$59,590,130	$9,092,150	n/a	n/a	n/a	n/a
1990	2,072,488	65,842,600	9,575,000	97.1%	$7,747,743	11.8%	-0.007
1992	2,120,967	74,410,299	11,050,000	96.9%	8,991,383	12.1%	-0.017
1994	2,148,820	80,148,374	12,539,000	98.0%	10,323,412	12.9%	-0.011
1996	2,193,971	93,272,563	14,495,000	98.0%	11,886,823	12.7%	-0.017
1998	2,232,670	114,610,957	16,137,000	97.8%	13,526,348	11.8%	-0.040
2000	2,322,380	132,094,974	17,599,000	99.8%	14,809,590	11.2%	-0.031
2002	2,340,070	127,311,429	17,174,000	99.9%	14,412,365	11.3%	-0.018
2004	2,363,258	138,824,077	19,313,000	99.9%	16,170,469	11.6%	-0.024
2006	2,448,872	165,040,421	22,085,000	99.9%	18,537,221	11.2%	-0.053
2011 (est.)	2,575,557	190,644,090	25,839,000	99.9%	21,675,104	11.4%	-0.051

Interval	Household Growth	Income Growth	Post-Shifting Tax Growth
1988-1990	1.8%	10.5%	n/a
1990-1992	2.3%	13.0%	16.1%
1992-1994	1.3%	7.7%	14.8%
1994-1996	2.1%	16.4%	15.1%
1996-1998	1.8%	22.9%	13.8%
1998-2000	4.0%	15.3%	9.5%
2000-2002	0.8%	-3.6%	-2.7%
2002-2004	1.0%	9.0%	12.2%
2004-2006	3.6%	18.9% *	14.6%
2006-2011 (est.)	5.2%	15.5%	16.9%

*Two percentage points was due to expanded definition of income.

Figure 1-8
Population-Decile Suits Index, All Taxes[12]



[12] The unadjusted Suits index was -0.004 in 1990 and -0.013 in 1992. (See previous footnote.)

Table 1-8 shows effective tax rates by decile from each incidence study year. It is interesting to compare the pattern of effective tax rates in 1990 and 1992 with those for more recent years. *Figure 1-9* compares effective tax rates in 1992 and 2006. In 1992, effective tax rates were virtually the same for deciles 2 through 10. All were between 11.9 percent and 12.3 percent. Moreover, the tax rate was only slightly lower for the top 1 percent (at 11.6 percent of income). The pattern is quite different in more recent years, including 2006:

- The lower deciles (3 and 4) now have effective tax rates significantly lower than the average for deciles 5 through 9.
- The effective tax rates now drop significantly between the ninth and tenth deciles. The drop was largest in 1998 (a drop from 12.5 percent of income to 10.6 percent of income, or 1.9 percentage points). The difference fell to one percentage point in 2002 but has risen to 1.7 percentage points in 2006 and an expected 1.8 percentage points in 2011.

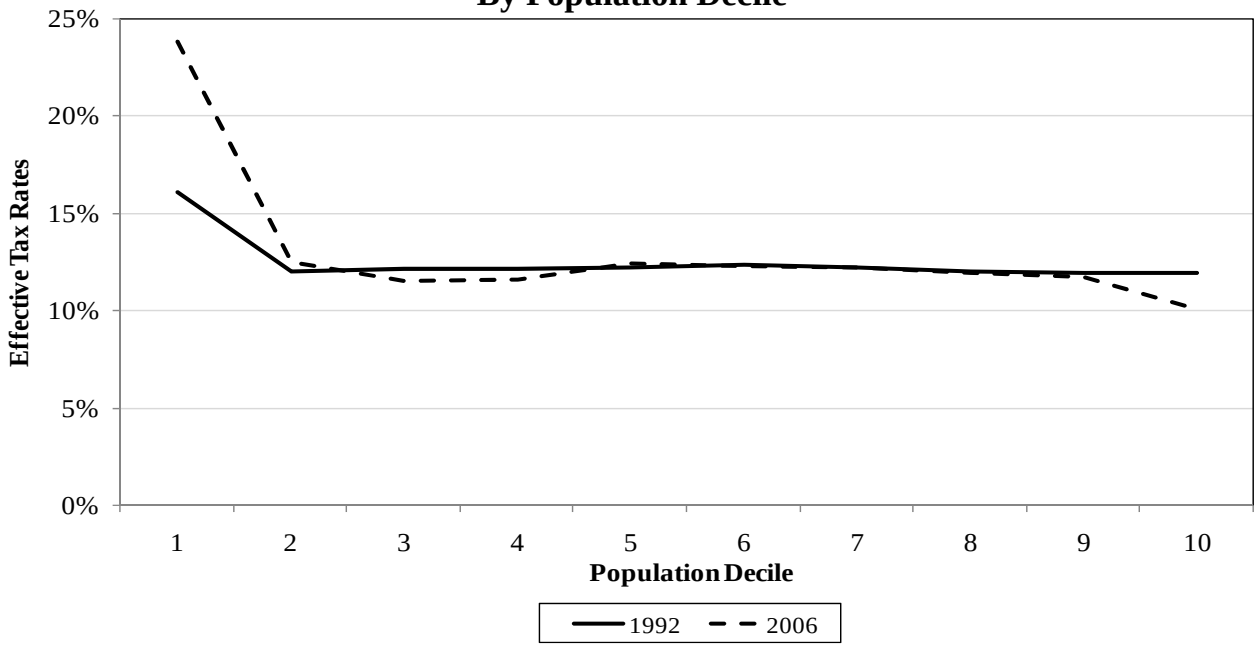
Each of these two characteristics has been found consistently in recent studies, regardless of the point in the business cycle. The first apparently reflects the increased role of refundable income tax credits and property tax refunds after 2002. The cause of the second is also likely to involve law changes.

Table 1-8
Effective Tax Rates by Population Decile
All Taxes, 1988–2006, 2011 (est.)

Decile	1988[1]	1990	1992	1994	1996	1998	2000	2002	2004	2006	2011 (est.)
First	16.7%	17.9%	16.1%	17.3%	17.8%	20.2%	17.4%	18.2%	18.9%	23.8%	22.1%
Second	9.1%	11.1%	12.0%	12.3%	12.0%	11.3%	9.8%	10.5%	11.3%	12.5%	11.2%
Third	9.2%	10.7%	12.1%	11.8%	12.2%	10.8%	10.6%	10.1%	10.5%	11.5%	11.1%
Fourth	9.2%	11.3%	12.1%	12.8%	12.5%	12.0%	11.1%	11.0%	11.5%	11.6%	11.7%
Fifth	8.8%	11.1%	12.2%	12.8%	13.0%	12.1%	11.5%	11.4%	11.9%	12.4%	12.8%
Sixth	9.0%	11.8%	12.3%	13.2%	13.1%	13.1%	12.3%	11.9%	12.2%	12.2%	12.5%
Seventh	9.0%	12.0%	12.2%	13.0%	13.1%	12.9%	12.0%	12.0%	12.3%	12.2%	12.5%
Eighth	8.9%	11.9%	12.0%	13.0%	13.0%	12.9%	12.0%	11.8%	12.3%	11.9%	12.1%
Ninth	8.9%	11.8%	11.9%	13.0%	13.0%	12.5%	11.9%	11.7%	12.3%	11.7%	11.9%
Tenth	9.1%	11.7%	11.9%	12.6%	12.2%	10.6%	10.3%	10.7%	10.9%	10.0%	10.1%
Total	9.1%	11.8%	12.1%	12.9%	12.7%	11.8%	11.2%	11.3%	11.6%	11.2%	11.4%
Top 5%	9.1%	11.6%	11.8%	12.3%	11.9%	10.1%	9.9%	10.5%	10.5%	9.7%	9.7%
Top 1%	8.9%	11.2%	11.6%	11.8%	11.0%	8.3%	8.4%	9.0%	9.6%	8.9%	8.8%

[1]The 1988 study did not include shifted business taxes.

Figure 1-9
Effective Tax Rates for 1992 and 2006
By Population Decile

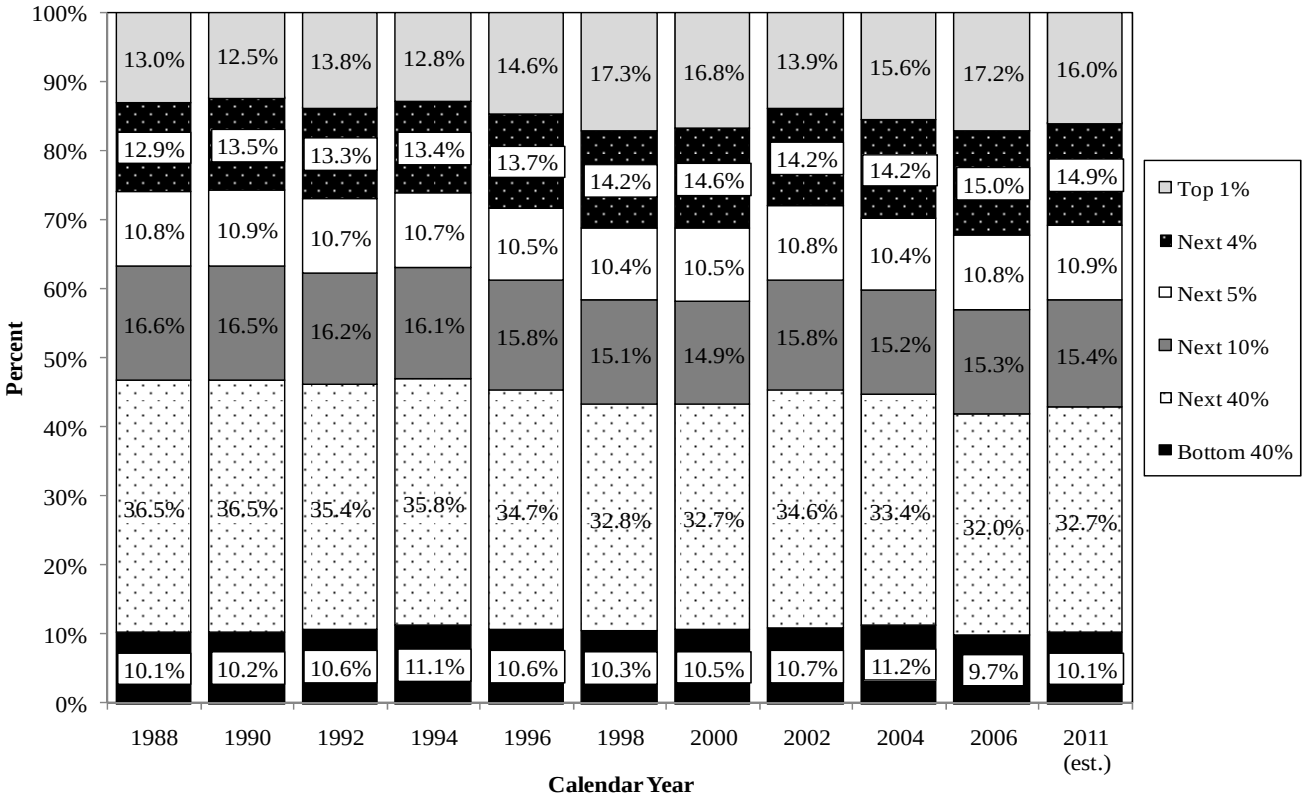


Why did Minnesota's tax system become significantly more regressive in 2006?

Although the historical changes in the degree of regressivity are due partly to changes in tax laws, the role of the business cycle may be even more important. During the past two decades, income inequality has generally risen during times of rapid growth and fallen during economic contractions. The years of greatest regressivity (1998, 2000, and 2006) were years when the distribution of income was most unequal, due at least partly to unusually high capital gains income. As shown in *Figure 1-10*, the income share of the top 5 percent and top 1 percent of Minnesota households was unusually high in those years. In 1998 and 2000 the top 5 percent of households accounted for 31.4 percent of total household income, up from an average of only 26.7 percent in 1988-1996. It was even higher (at 32.2 percent) in 2006 and remains high by historical standards in the projections for 2011. In 1998 and 2000 the top 1 percent received over 17 percent of total income, up from an average of 13.3 percent in the earlier study years. The share of the top 1 percent again exceeded 17 percent in 2006 and remains high by historical standards in the projections for 2011. This concentration of income by itself, with no change in tax law, will increase the measured regressivity of the tax system. Lower regressivity in recession years (such as 2002) partly reflects the reduced share of income at the top. A substantial portion of the increase in regressivity in 2006 and 2011 is likely the result of the unusually high share of income received by the richest Minnesotans.[13]

[13] A simple correlation between the Suits index and the share of income received by the top 1 percent of households (1990-2006) is -0.907, suggesting that the variation in income inequality could explain almost all of the variation in the Suits index.

Figure 1-10
Shares of Household Income



There are no obvious policy changes between 2004 and 2006 that could explain a reduction in the Suits index that is as large as reported here. Nor does the change in the mix of taxes over those years – away from progressive taxes toward regressive taxes – explain such a decline. If anything, the mix of taxes moved the other way. If the mix of taxes were the only thing that changed, the system would have become slightly less regressive. Increased regressivity is due not to a shift in the tax mix, but to an increase in the regressivity of almost every separate tax type. Such a widespread pattern – for property, consumption, and income taxes alike – strengthens the case that the primary cause of increased regressivity was greater inequality in the distribution of income, rather than policy changes.

Part of the change in the Suits index in 2006 can be explained in other ways, though. For the first time, motor vehicle registration tax records were matched directly to sample households. This improved data shows that the motor vehicle registration tax – with the caps enacted in 2000 – is much more regressive than had been assumed in the last two studies. This methodological change reduced the overall Suits index by roughly 0.004. This change is a correction in measurement and does not reflect a true increase in regressivity compared to 2004. (If corrected, the 2002 and 2004 results would report a more negative overall Suits index than shown in *Table 1-7* and *Figure 1-8*.)

In another methodological change, this year's study expanded the measure of income. The statute authorizing this study specifies that it should use the broadest measure of income for which reliable data is available. The 2006 measure of household income starts with federal gross income (FGI) rather than federal adjusted gross income (FAGI), as in past years. Federal law has increased the number of adjustments to FGI in recent years. This may be an appropriate means to reduce taxes, but few of these adjustments seem appropriate when defining a broad measure of income.

The current study also includes some additional forms of nontaxable income for the first time, including voluntary contributions to deferred compensation accounts. These changes move the income definition closer to that used for the property tax refund and several of Minnesota's refundable income tax credits. The new definition is also closer to the definitions of cash income used by the U.S. Treasury and the Congressional Budget Office. When combined with improved data on some low-income households that do not file income tax returns, these definitional changes increased measured household income by over $2 billion dollars (or 1.4 percent). Without the change, the effective tax rate would have been two-tenths of a percent higher (11.4 percent of income rather than 11.2 percent). However, the population-decile Suits index is identical under both definitions of income, so this does not help explain the increased regressivity.

Why is the Suits index predicted to change so little between 2006 and 2011?

There are quite significant changes in the distribution of the tax burden between 2006 and 2011. The effective tax rate falls in the second and third deciles, rises substantially in deciles 5 through 9, and remains unchanged for the top 5 percent of households. The tax system becomes relatively more progressive in the lower range but more regressive at the top. These two patterns offset one another, so the Suits index changes little.

The 5-year projection shows important shifts in the mix of taxes. Regressive taxes that are projected to increase their shares include homeowner and business property taxes, the motor fuels tax, the MinnesotaCare provider taxes, local sales taxes, and the motor vehicle registration tax. The combined impact of their increased shares – by itself – would reduce the Suits index by 0.013. But the increased shares for those regressive taxes are coming at the expense of other regressive taxes – the general sales tax, corporate tax, cigarette tax, and mortgage and deed taxes. Combined with a large increase in homeowner property tax refunds, the net impact of all of these fairly large shifts is only mildly regressive. The overall system is expected to be slightly less regressive in 2011 than in 2006, but this is only because many separate tax types are expected to become less regressive – perhaps due to a reversal of the income inequality in 2006.

back

Chapter 2: Principal Results, 2006

This section examines the state and local tax burdens imposed on Minnesota taxpayers in 2006. 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 2006.

Only Minnesota taxes paid by residents are included in the analysis below; Minnesota taxes paid by nonresidents and taxes Minnesota residents pay 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), shifted backward to Minnesota workers (in lower wages), or borne by owners of capital (in lower rates of return).

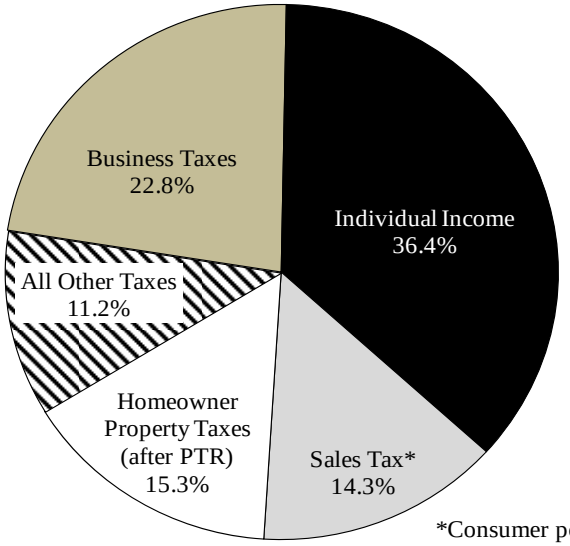
Total Tax Burden

For 2006, Minnesota residents paid a total of $18.5 billion in Minnesota state and local taxes while receiving $165.0 billion in total money income.[14] 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 36.4 percent of the total state and local tax burden on Minnesota residents. Homeowner property taxes (after PTR) accounted for 15.3 percent and the consumer state and local sales tax (including sales tax on motor vehicles) accounted for 14.3 percent of the total. Taxes imposed on business accounted for 22.8 percent. All other taxes comprised the remaining 11.2 percent.

[14] Total tax collections were $22.1 billion, but $3.5 billion is estimated to have been paid by nonresident consumers or nonresident owners of capital. Total money income includes all cash income, whether taxable or nontaxable. It includes nontaxable social security, interest, and retirement income, nontaxable workers' compensation payments, and cash payments from the Minnesota Family Investment Program (MFIP). Income excludes the value of fringe benefits and in-kind benefits such as food stamps, rent subsidies, and energy assistance. For a more complete description of the definition of household income, see *Appendix A* of this study.

Figure 2-1
2006 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 2-1*. Of the $22.1 billion in total tax collections in 2006, $18.5 billion or 84 percent of the total burden falls on Minnesotans, directly or indirectly. The rest is exported to nonresident consumers and owners of capital.

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 95 percent of total collections. Minnesota residents pay a smaller share of the general sales tax (80 percent). At the other end of the scale, Minnesotans are estimated to pay only 14 percent of the property taxes on industrial property.

Summary List

Table 2-1
2006 Tax Collection Amounts

Tax Type	Total ($ Millions)	As Imposed			After shifting		Suits Index	
		MN HH's	NR	Business	Minnesota	Exported	Pop. Decile	Full Sample
State Taxes								
Taxes on Income and Estates								
Individual income tax	$7,047	$6,742	$305		$6,742	$305	0.194	0.211
Corporation franchise tax [1]	1,123			$1,123	684	439	-0.175	-0.197
Estate tax	160	160			160		0.226	0.277
Total Income and Estate Taxes	$8,330	$6,902	$305	$1,123	$7,586	$744	0.161	0.176
Taxes on Consumption								
Total sales tax	$5,002	$2,578	$189	$2,235	$3,962	$1,040	-0.184	-0.204
General sales/use tax	4,467	2,273	189	2,005	3,569	898	-0.193	-0.213
Sales tax on motor vehicles	535	305		230	393	143	-0.099	-0.122
Motor fuels excise taxes	649	361	33	256	486	163	-0.288	-0.318
Alcoholic beverage excise taxes	72	66	6		66	6	-0.134	-0.132
Cigarette and tobacco excise taxes	234	225	8		225	8	-0.568	-0.586
Insurance premiums taxes	334	246		87	289	44	-0.284	-0.311
Gambling taxes	52	51	1		51	1	-0.533	-0.552
MinnesotaCare taxes	385	350	35		350	35	-0.299	-0.334
Solid waste management taxes	64	28		36	59	5	-0.359	-0.382
Total Consumption Taxes	$6,791	$3,906	$271	$2,614	$5,489	$1,302	-0.226	-0.248
Taxes on Property								
State Property Tax	$656	$25	$6	$624	$299	$357	-0.154	-0.169
Residential recreational property	31	25	6		25	6	-0.257	-0.293
Commercial [2]	433			433	220	213	-0.152	-0.166
Industrial	129			129	17	112	0.019	0.045
Utility	62			62	37	26	-0.182	-0.203
Motor vehicle registration tax	488	400		88	448	39	-0.353	-0.381
Mortgage and deed taxes	295	201		93	262	33	-0.164	-0.197
Total Property Taxes	$1,438	$626	$6	$806	$1,009	$429	-0.245	-0.270
Property Tax Refunds								
Homeowners	-$218	-$218			-$218		0.712	0.720
Renters	-151	-151			-151		0.898	0.903
Total Property Tax Refunds	-$369	-$369			-$369		0.788	0.795
Total State Taxes	$16,191	$11,065	$582	$4,543	$13,715	$2,475	0.002	-0.001
Local Taxes								
Property Taxes (Pay 2006)	$5,654	$3,164	$26	$2,464	$4,651	$1,003	-0.209	-0.238
General Property Tax	5,575	3,164	26	2,386	4,643	933	-0.209	-0.239
Homeowners (before PTR)	3,059	3,059			3,059	0	-0.178	-0.214
Residential recreational property	131	105	26		105	26	-0.257	-0.293
Commercial [2]	1,011			1,011	513	498	-0.152	-0.166
Industrial	303			303	41	262	0.019	0.045
Farm (other than residence) [3]	286			286	278	8	-0.331	-0.359
Rental Housing (before PTR)	610			610	544	67	-0.391	-0.407
Utility	176			176	104	72	-0.182	-0.203
Mining Production Taxes (taconite)	79			79	8	71	0.212	0.279
Taxes on consumption								
Local Sales Taxes	142	72	6	64	114	29	-0.193	-0.213
Local Gross Earnings Taxes	98			98	58	40	-0.182	-0.203
Total Local Taxes	$5,894	$3,236	$32	$2,626	$4,822	$1,072	-0.208	-0.237
Total State and Local Taxes	$22,085	$14,302	$614	$7,169	$18,537	$3,547	-0.053	-0.062

[1] Includes taconite/iron ore occupation tax.
[2] Includes resorts and railroads.
[3] Includes timber.

Of the total, $7.2 billion or 32.4 percent of Minnesota taxes are imposed on businesses. Of that amount, $2.9 billion or almost 41 percent is exported.

The population-decile Suits index (second-to-last column of *Table 2-1*) shows 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 (population-decile Suits index greater than zero). The state consumption taxes as a group are the most regressive, with a population-decile Suits index of -0.226. The progressive income tax and the few other progressive taxes largely offset the many regressive taxes, but the population-decile Suits index of the tax system as a whole remains regressive at -0.053.

Taxes by Decile

To summarize the distribution of tax burdens by income level, the population of Minnesota households is 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 incomes and the tenth decile includes the highest-income 10 percent of households. There were 244,887 households in each population decile. The total burden by tax type for each decile is summarized in *Table 2-2*.

Taxpayers in the top decile (incomes of $123,938 and over) bore 38.5 percent of the total tax burden while having 43 percent of total income. By tax type, taxpayers in the top decile paid 56.6 percent of the individual income tax, 29.2 percent of the consumer sales tax, 27.3 percent of the gross homeowner property tax, and 29.2 percent of business taxes.[15]

[15] Business taxes include the total property tax on rental housing, nonresidential local property taxes, total state business taxes, local gross earnings taxes, and local sales taxes on business purchases.

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Table 2-2 2006 Population Deciles - Amounts ($ Thousands)

Population Decile	Income Range	Number of Households	Household Income	State Income Taxes: Individual Income Tax	State Income Taxes: Corporate Franchise Tax	State Sales Tax: Purchases by Individuals	State Sales Tax: Purchases by Businesses	State Sales Tax: Sales Tax Total	Property Tax Refund	State Property Tax	State Excise Taxes	Other State Taxes: Taxes on Individuals	Other State Taxes: Taxes on Businesses
First	$9,782 & Under	244,887	$1,463,662	-$19,069	$19,965	$76,478	$44,893	$121,371	-$42,063	$9,593	$41,233	$58,115	$6,906
Second	$9,783 - $16,056	244,887	3,146,018	-20,580	25,735	98,532	55,997	154,529	-60,654	11,371	46,652	65,057	7,483
Third	$16,057 - $23,186	244,887	4,770,605	4,274	33,300	124,372	71,235	195,607	-64,923	14,747	54,473	80,031	9,631
Fourth	$23,187 - $30,951	244,887	6,618,880	91,670	39,962	150,876	82,684	233,560	-62,944	16,902	60,445	92,859	10,424
Fifth	$30,952 - $40,060	244,887	8,690,034	210,335	48,337	180,669	99,277	279,946	-49,715	20,706	68,194	112,505	13,489
Sixth	$40,061 - $51,501	244,887	11,156,718	329,851	56,340	214,888	114,250	329,138	-40,990	23,347	75,628	129,387	15,034
Seventh	$51,502 - $66,615	244,887	14,394,169	496,680	67,566	260,462	134,876	395,338	-26,274	27,834	85,276	156,395	16,940
Eighth	$66,616 - $86,673	244,887	18,595,488	737,581	82,667	320,288	161,784	482,073	-13,386	33,687	97,704	179,952	19,206
Ninth	$86,674 - $123,937	244,887	25,171,087	1,096,927	103,149	398,750	199,874	598,624	-4,110	42,848	110,002	214,974	25,283
Tenth	$123,938 & Over	244,887	71,033,758	3,814,052	207,008	752,669	418,764	1,171,433	-3,540	97,937	138,032	347,234	59,016
TOTALS		2,448,872	$165,040,421	$6,741,721	$684,029	$2,577,985	$1,383,633	$3,961,618	-$368,598	$298,972	$777,639	$1,436,509	$183,412
Top 5%	Over $175,704	122,547	$53,211,166	$2,985,160	$140,031	$505,136	$287,579	$792,716	-$1,787	$69,482	$80,468	$220,261	$41,794
Top 1%	Over $447,889	24,491	$28,415,305	$1,705,201	$57,644	$218,087	$120,787	$338,875	-$278	$31,393	$27,148	$88,427	$17,083

Population Decile	Residential Local Property Taxes: Homeowners Gross	Residential Local Property Taxes: Renters Gross	Residential Local Property Taxes: Owners of Rental Prop.	Residential Local Property Taxes: Total on Rental Prop.	Residential Local Property Taxes: Residential Total [1]	Nonresidential Local Property Taxes	Other Local Taxes [2]	Local Taxes Total	Total State Taxes: Total on Individuals	Total State Taxes: Total on Businesses	Total State Taxes: State Taxes Total	Total State and Local Taxes
First	$75,937	$13,177	$14,012	$27,189	$106,549	$40,124	$5,412	$152,085	$111,574	$84,477	$196,051	$348,136
Second	72,552	24,671	14,493	39,165	115,979	40,176	6,926	163,081	124,843	104,749	229,593	392,674
Third	115,856	29,777	19,673	49,450	170,690	43,197	8,699	222,586	193,024	134,116	327,140	549,726
Fourth	155,544	37,639	19,358	56,997	219,474	51,905	10,468	281,846	326,793	156,086	482,879	764,725
Fifth	216,303	37,432	25,069	62,500	287,045	74,340	12,439	373,824	514,793	189,004	703,797	1,077,621
Sixth	279,333	29,015	26,143	55,158	342,830	88,069	14,641	445,540	700,053	217,682	917,735	1,363,276
Seventh	363,606	19,202	29,260	48,462	423,181	92,152	17,552	532,885	962,477	257,279	1,219,756	1,752,641
Eighth	420,996	10,483	32,567	43,049	478,614	92,932	21,450	592,996	1,310,251	309,234	1,619,484	2,212,480
Ninth	522,566	7,049	43,285	50,334	593,677	135,439	26,378	755,494	1,802,745	384,952	2,187,696	2,943,191
Tenth	836,325	2,667	108,843	111,510	969,661	276,829	55,090	1,301,580	5,018,648	812,524	5,831,172	7,132,752
TOTALS	$3,059,017	$211,110	$332,702	$543,812	$3,707,699	$935,163	$179,056	$4,821,918	$11,065,202	$2,650,102	$13,715,304	$18,537,221
Top 5%	$504,333	$1,182	$78,330	$79,511	$595,512	$190,431	$38,049	$823,991	$3,768,938	$559,187	$4,328,125	$5,152,117
Top 1%	$145,802	$439	$29,362	$29,801	$178,479	$76,990	$17,278	$272,746	$2,030,203	$235,290	$2,265,493	$2,538,239

[1] Includes seasonal recreational residential (cabins).

[2] Includes taconite production tax.

In contrast, taxpayers in the bottom decile (incomes of $9,782 and below) bore 1.8 percent of the total tax burden and received only 0.9 percent of total income. The bottom decile taxpayers had a negative net individual income tax burden due to refundable tax credits. First decile households paid 3 percent of the consumer sales tax, 2.5 percent of gross homeowner property tax, and 3.7 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 2-3*. Effective tax rates by population deciles for the four major tax types included in this study are presented in *Table 2-4* 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. However, as a whole, the state and local system of taxation in Minnesota remains regressive overall.

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Table 2-3 2006 Population Deciles - Effective Tax Rates

Population Decile	Income Range	Number of Households	Household Income	State Income Taxes: Individual Income Tax	State Income Taxes: Corporate Franchise Tax	State Sales Tax: Purchases by Individuals	State Sales Tax: Purchases by Businesses	State Sales Tax: Sales Tax Total	Property Tax Refund	State Property Tax	State Excise Taxes	Other State Taxes: Taxes on Individuals	Other State Taxes: Taxes on Businesses
First	$9,782 & Under	244,887	$1,463,662	- 1.3%	1.4%	5.2%	3.1%	8.3%	- 2.9%	0.7%	2.8%	4.0%	0.5%
Second	$9,783 - $16,056	244,887	3,146,018	- 0.7%	0.8%	3.1%	1.8%	4.9%	- 1.9%	0.4%	1.5%	2.1%	0.2%
Third	$16,057 - $23,186	244,887	4,770,605	0.1%	0.7%	2.6%	1.5%	4.1%	- 1.4%	0.3%	1.1%	1.7%	0.2%
Fourth	$23,187 - $30,951	244,887	6,618,880	1.4%	0.6%	2.3%	1.2%	3.5%	- 1.0%	0.3%	0.9%	1.4%	0.2%
Fifth	$30,952 - $40,060	244,887	8,690,034	2.4%	0.6%	2.1%	1.1%	3.2%	- 0.6%	0.2%	0.8%	1.3%	0.2%
Sixth	$40,061 - $51,501	244,887	11,156,718	3.0%	0.5%	1.9%	1.0%	3.0%	- 0.4%	0.2%	0.7%	1.2%	0.1%
Seventh	$51,502 - $66,615	244,887	14,394,169	3.5%	0.5%	1.8%	0.9%	2.7%	- 0.2%	0.2%	0.6%	1.1%	0.1%
Eighth	$66,616 - $86,673	244,887	18,595,488	4.0%	0.4%	1.7%	0.9%	2.6%	- 0.1%	0.2%	0.5%	1.0%	0.1%
Ninth	$86,674 - $123,937	244,887	25,171,087	4.4%	0.4%	1.6%	0.8%	2.4%	0.0%	0.2%	0.4%	0.9%	0.1%
Tenth	$123,938 & Over	244,887	71,033,758	5.4%	0.3%	1.1%	0.6%	1.6%	0.0%	0.1%	0.2%	0.5%	0.1%
TOTALS		2,448,872	$165,040,421	4.1%	0.4%	1.6%	0.8%	2.4%	- 0.2%	0.2%	0.5%	0.9%	0.1%
Top 5%	Over $175,704	122,547	$53,211,166	5.6%	0.3%	0.9%	0.5%	1.5%	0.0%	0.1%	0.2%	0.4%	0.1%
Top 1%	Over $447,889	24,491	$28,415,305	6.0%	0.2%	0.8%	0.4%	1.2%	0.0%	0.1%	0.1%	0.3%	0.1%

Population Decile	Residential Local Property Taxes: Homeowners Gross	Residential Local Property Taxes: Renters Gross	Residential Local Property Taxes: Owners of Rental Prop.	Residential Local Property Taxes: Total on Rental Prop.	Residential Local Property Taxes: Residential Total [1]	Nonresidential Local Property Taxes	Other Local Taxes
First	5.2%	0.9%	1.0%	1.9%	7.3%	2.7%	0.4%
Second	2.3%	0.8%	0.5%	1.2%	3.7%	1.3%	0.2%
Third	2.4%	0.6%	0.4%	1.0%	3.6%	0.9%	0.2%
Fourth	2.3%	0.6%	0.3%	0.9%	3.3%	0.8%	0.2%
Fifth	2.5%	0.4%	0.3%	0.7%	3.3%	0.9%	0.1%
Sixth	2.5%	0.3%	0.2%	0.5%	3.1%	0.8%	0.1%
Seventh	2.5%	0.1%	0.2%	0.3%	2.9%	0.6%	0.1%
Eighth	2.3%	0.1%	0.2%	0.2%	2.6%	0.5%	0.1%
Ninth	2.1%	0.0%	0.2%	0.2%	2.4%	0.5%	0.1%
Tenth	1.2%	0.0%	0.2%	0.2%	1.4%	0.4%	0.1%
TOTALS	1.9%	0.1%	0.2%	0.3%	2.2%	0.6%	0.1%
Top 5%	0.9%	0.0%	0.1%	0.1%	1.1%	0.4%	0.1%
Top 1%	0.5%	0.0%	0.1%	0.1%	0.6%	0.3%	0.1%

Local Taxes Total	Total State Taxes: Total on Individuals	Total State Taxes: Total on Businesses	Total State Taxes: State Taxes Total	Total State and Local Taxes
10.4%	7.6%	5.8%	13.4%	23.8%
5.2%	4.0%	3.3%	7.3%	12.5%
4.7%	4.0%	2.8%	6.9%	11.5%
4.3%	4.9%	2.4%	7.3%	11.6%
4.3%	5.9%	2.2%	8.1%	12.4%
4.0%	6.3%	2.0%	8.2%	12.2%
3.7%	6.7%	1.8%	8.5%	12.2%
3.2%	7.0%	1.7%	8.7%	11.9%
3.0%	7.2%	1.5%	8.7%	11.7%
1.8%	7.1%	1.1%	8.2%	10.0%
2.9%	6.7%	1.6%	8.3%	11.2%
1.5%	7.1%	1.1%	8.1%	9.7%
1.0%	7.1%	0.8%	8.0%	8.9%

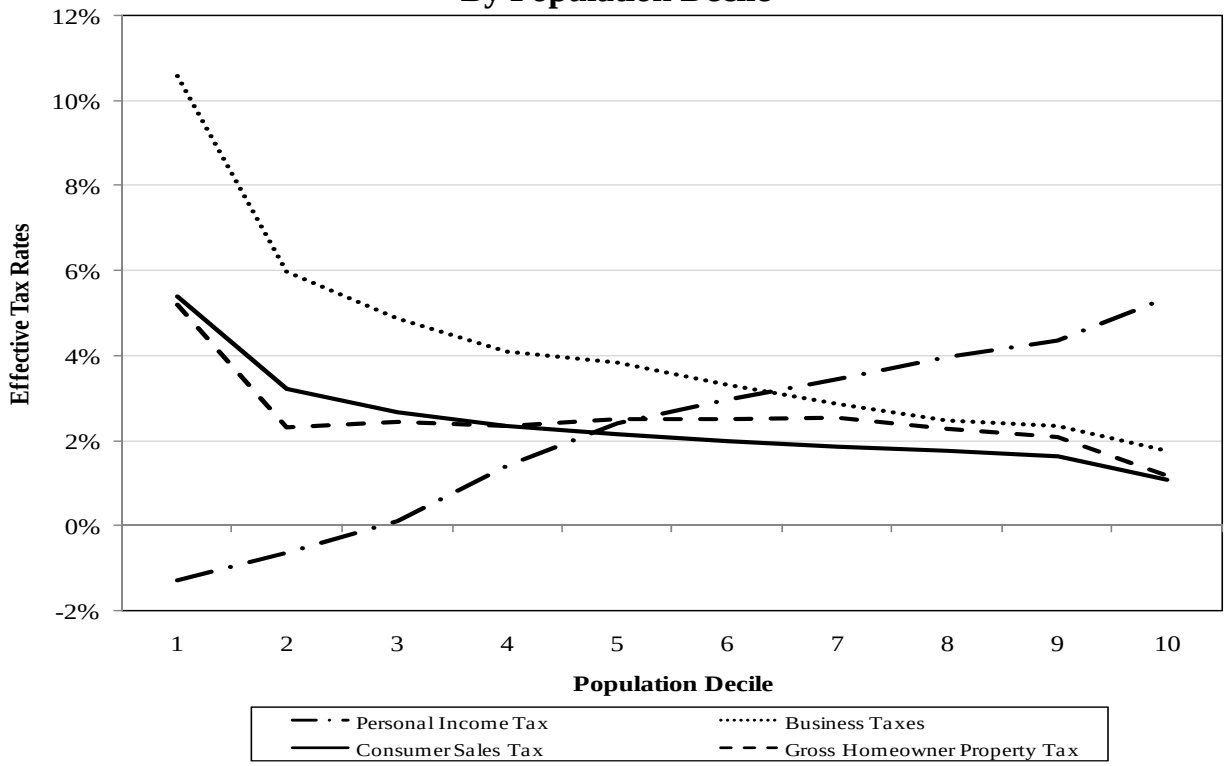
[1] Includes seasonal recreational residential (cabins).

Table 2-4
Effective Tax Rates (2006)

Population Decile	Personal Income Tax	Business Taxes	Consumer Sales Tax[1]	Homeowner Property Tax (before PTR)
First	-1.3%	10.6%	5.4%	5.2%
Second	-0.7%	6.0%	3.2%	2.3%
Third	0.1%	4.9%	2.7%	2.4%
Fourth	1.4%	4.1%	2.3%	2.3%
Fifth	2.4%	3.8%	2.1%	2.5%
Sixth	3.0%	3.3%	2.0%	2.5%
Seventh	3.5%	2.8%	1.9%	2.5%
Eighth	4.0%	2.5%	1.8%	2.3%
Ninth	4.4%	2.3%	1.6%	2.1%
Tenth	5.4%	1.7%	1.1%	1.2%
Total	4.1%	2.6%	1.6%	1.9%

[1]Includes motor vehicle and local sales taxes.

Figure 2-2
Effective Tax Rates for 2006
By Population Decile



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 2-3* for 2006, effective tax rates rose significantly with increases in household income. At the low end, the effective tax rate for the income tax was negative for the first and second deciles, showing the impact of refundable credits (which more than offset any income tax liabilities).[16] It rose steadily from 0.1 percent of income for the third decile to 5.4 percent for the tenth decile. The top 5 percent and 1 percent of households have even higher effective tax rates, at 5.6 and 6 percent respectively.

Sales Tax on Consumer Purchases

In agreement with other 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 discussed below in the business tax category.) Higher income households spend a smaller portion of their income on items subject to the sales tax. This is partly due to their higher savings rates and partly to the mix of consumer goods and services they buy. Hence, tax burdens as a proportion of income tend to decline as one moves up the income scale.

For 2006, the effective state and local consumer sales tax rate for the bottom decile was 5.4 percent, compared to the rate for the top decile of 1.1 percent (see *Table 2-4*). Effective tax rates for the second through ninth deciles, representing 80 percent of all taxpayers, declined continuously from 3.2 to 1.6 percent.

Residential Property Taxes[17]

Homeowner Property Taxes. The property tax on owner-occupied homes (before PTR) showed little variation between the second and ninth deciles. For 2006, the effective property tax rate was 5.2 percent for the first decile, between 2.3 and 2.5 percent for the second through eighth deciles, and then fell to 2.1 percent in the ninth decile and 1.2 percent in the tenth decile.

[16] The impact of these refundable credits on the distribution of the overall tax burden is shown in *Chapter 4* (*Section D*).
[17] The impact of property tax refunds on residential property taxes is summarized in Chapter 4 (*Table 4-10*).

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 consumers (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 2006 gross rental property tax (65 percent) was borne by the investors who own rental housing; the remaining share (35 percent) was assumed to be shifted to renters in higher rents.[18] The effective tax rate on renters was, therefore, lower than it would have been if all of the tax had been passed along in higher rents.

Other Individual Taxes

The "other state taxes" category in *Table 2-3* 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 was shown in *Figure 2-1* above, business taxes accounted for 22.8 percent of the total tax burden on Minnesota residents. Business taxes include the following:

Business property taxes[19]
Corporate franchise tax
Sales tax paid on business purchases of capital equipment and other intermediate inputs
Motor vehicle registration tax paid on vehicles owned by business
Insurance premiums tax on business insurance
Mortgage and deed taxes on business property
Solid waste management taxes on services to business
Excise tax on motor fuels purchased and used by business
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) or in some cases 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 B*.)

[18] Note that this is the result for existing taxes. The model predicts that over 80 percent of a change in tax would be shifted forward to renters. See *Chapter 4* (*Section F*).
[19] Includes the tax on rental housing.

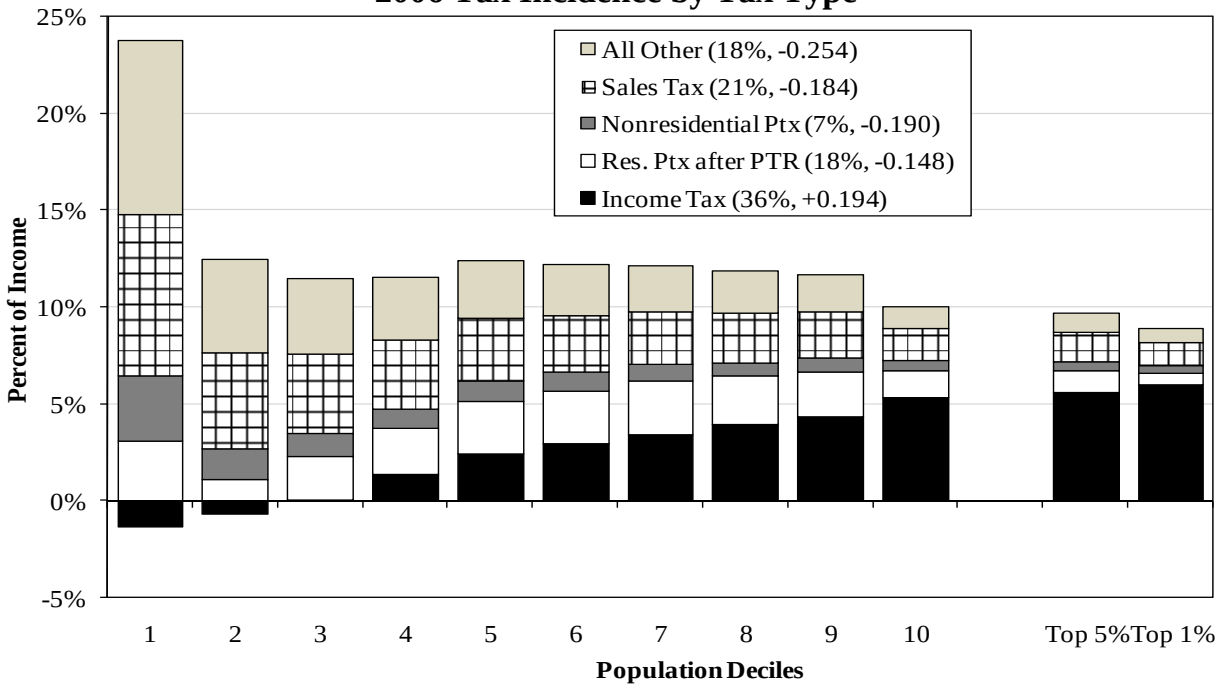
To determine the incidence of each business tax, the study first estimated tax payments made by the different business sectors. The degree to which taxes were shifted to consumers, labor, or nonresidents depended on two things: (a) how Minnesota's tax rates compared to those in other states and (b) the market characteristics of the business sector. 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. As shown above in *Table 2-4*, the effective tax rate fell as income increased. The effective tax rate was 6.0 percent in the second decile; it fell steadily as income rose, reaching 1.7 percent in the tenth decile.

Summary of 2006 Tax Burden by Major Tax Type

Figure 2-3 summarizes how the 2006 tax burden of the major tax categories varies by population decile. The categories for this table combine both the individual and business components of these tax types. For example, the state sales tax total includes both the consumer and business portions (including the tax on motor vehicles). Residential property tax includes homeowner and rental property taxes, along with cabins.[20]

Figure 2-3
2006 Tax Incidence by Tax Type



Note: Numbers in parentheses show percent of total tax burden and the population-decile Suits index.

[20] For an analysis of residential property taxes excluding cabins, see *Chapter 4* (*Section D*).

Figure 2-3 clearly demonstrates the importance of the progressive income tax in offsetting most of the regressivity of other taxes. Note that the sum of state sales tax, nonresidential property tax, and "all other taxes" accounts for more than half of the overall tax burden for those in the first six deciles. The sum accounts for more than 80 percent of the overall tax burden in deciles 2 and 3. The residential property tax burden (after PTR) is noticeably less regressive than the sales tax or "all other taxes," mostly because of the property tax refunds. In their absence, the Suits index for residential property taxes would be -0.211 – more regressive than either the sales tax or nonresidential property taxes.

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Chapter 3: Projected Results, 2011

This section examines the state and local tax burdens imposed on Minnesota taxpayers in 2011. The taxes included are the same as those analyzed for 2006.

Tax Incidence Projections to 2011

To analyze tax incidence five years beyond 2006, the 2006 results must be projected into the future. A variety of methods were used to do this.

Income – The HITS income tax model[21] uses growth rates derived from the state economic forecast to grow each of the various categories of income: wages, interest, pensions, capital gains, social security, etc. The expected growth rates vary by type of income. These differential growth rates were applied to each type of income a sample household received in 2006, yielding an estimate of total household income in 2011. Because the various types of income are assumed to grow at different rates, some households in the model will experience faster income growth than others. Because of this, sample households may switch deciles between 2006 and 2011.

Population – The number of Minnesota households is expected to grow by 5.17 percent between 2006 and 2011. Therefore, each sample household is assumed to represent 5.17 percent more households in 2011.

Taxes – All taxes were adjusted for tax law changes that have already gone into effect or, under current law, are scheduled to go into effect. Income tax projections are from the HITS income tax model. For the remaining taxes in the study, total collections were based on the November 2008 forecast from the Department of Management and Budget. Business taxes were assumed to be shifted in the same manner as were the corresponding 2006 business taxes. Taxes imposed directly on households were assumed to be allocated to the various households in the sample in the same way as were the 2006 taxes, with one exception. The structure of the motor vehicle registration was changed in 2008, with a repeal of the dollar caps for vehicles purchased after the date of enactment and a modified depreciation schedule. This will increase the tax on newer vehicles and reduce the tax on some older vehicles. The 2011 projections model the impact of that change.

[21] The House Income Tax Simulation (HITS) model is the micro-simulation model used both for forecasting and for estimating the revenue impact of proposed changes in tax law. The version used in this study is based on a stratified random sample of tax year 2006 income tax returns and the November 2008 economic forecast.

Special Difficulties in Making Projections for 2011

Estimating the distribution of the tax burden five years beyond the base year is particularly difficult this year. In addition to the unusually high degree of economic uncertainty, there are two technical problems:

- The November 2008 forecast adjusted its capital gains forecast for the impact of increased federal capital gains tax rates effective for tax year 2011. Anticipating that tax increase, taxpayers are expected to shift a significant share of capital gains realizations from 2011 into 2010. As a result, the capital gains realizations expected in 2011 are very low. Capital gains income is highly concentrated among high-income households, so this shift from 2011 into 2010 will have a significant impact on both the distribution of income and the distribution of income tax liability. This change in the distribution of income in 2011 is in a sense artificial, and it has nothing to do with Minnesota's tax policy. Yet it could distort the estimates of 2011 tax burdens.[22]
- The income tax model used to make these five-year projections assumes zero growth in income tax filers between 2006 and 2011, despite an expected population increase exceeding 5 percent. Because 88 percent of Minnesota households filed tax returns in the 2006, holding the filer population constant would require the nonfiler population to grow by over 40 percent. If this were done, it would greatly increase the low-income share of the population. Lacking any better option, this study simply assumes that both filer and nonfiler populations grow by 5 percent. Both the income and the income tax liability of each filer must then be adjusted downward by about 5 percent to match the total dollars included in the forecast.

Given the great impact that shifts in the income distribution have on the distribution of the tax burden, these complications suggest caution in using the 2011 results.

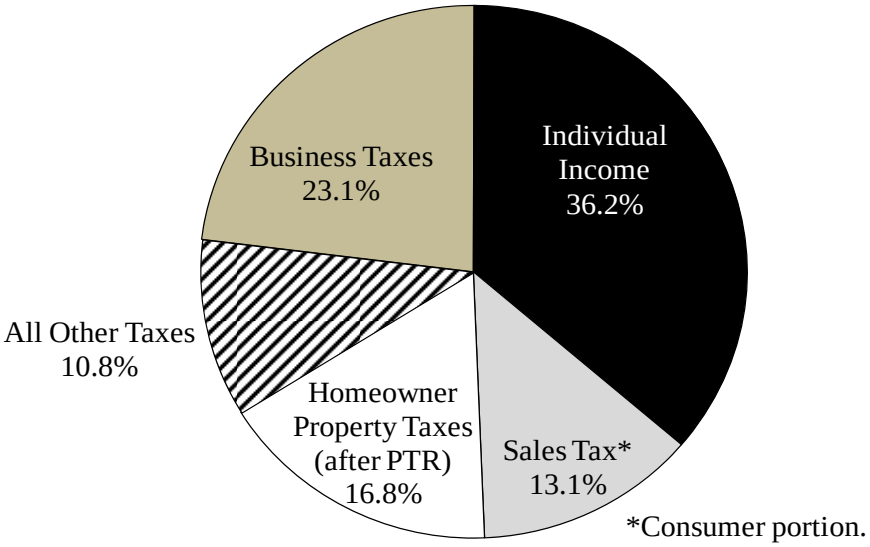
Total Tax Burden in 2011

For 2011, Minnesota residents are expected to pay a total of $21.7 billion in taxes while earning $190.6 billion in total money income. Minnesota residents thus will pay 11.4 percent of their total income in state and local taxes.

[22] To estimate the potential bias created by the drop in capital gains, we used the model to increase those gains to the level the forecast would have predicted in the absence of the federal law change. Somewhat surprisingly, the impact was small and the Suits index was unchanged .

As shown in *Figure 3-1*, the individual income tax is projected to account for 36.2 percent of the total state and local tax burden on Minnesota residents in 2011. Homeowner property taxes (after PTR) and state and local consumer sales taxes (including sales tax on motor vehicles) are projected to be 16.8 percent and 13.1 percent of the total, respectively. Taxes on business will account for 23.1 percent. All other taxes will comprise the remaining 10.8 percent.

Figure 3-1
2011 Distribution of Minnesota
State and Local Tax Burdens by Tax



Compared to 2006 (as shown in *Figure 2-1*), the share of homeowner property taxes is significantly higher in 2011. The business taxes share is also a bit higher. In contrast, the shares of sales tax and "all other taxes" are down significantly. The income tax share is also a bit lower.

Details of Minnesota tax collections before and after tax shifting are shown in *Table 3-1*. Of the $25.8 billion in total tax collections in 2011, $21.7 billion or 84 percent is paid by Minnesotans, directly or indirectly. The rest is exported to taxpayers out of state.

As was the case in 2006, the income tax is borne almost entirely by Minnesota residents, who pay over 95 percent of total collections. Residents of Minnesota pay 79.9 percent of the general sales tax. At the other end of the scale, Minnesotans pay only 13.4 percent of the property taxes on industrial property.

Of the total, $8.5 billion or 32.7 percent of Minnesota taxes are imposed on businesses. Of that amount, $3.4 billion or almost 41 percent is exported.

The population-decile Suits index shows 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 (population-decile Suits index greater than zero). The consumption taxes as a group are the most regressive, with a population-decile Suits index of -0.219. The progressive income tax and the few other progressive taxes largely offset the many regressive taxes, but the population-decile Suits index of the tax system as a whole remains regressive at -0.051.

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 are expected to be 257,556 households in each population decile. The total burden by tax type for each decile is summarized in *Table 3-2*.

Taxpayers in the top decile (incomes of $136,955 and over in 2011) are expected to bear 37.2 percent of the total tax burden while having 41.8 percent of total income. By tax type, taxpayers in the top decile would pay 53.9 percent of the individual income tax, 28.7 percent of the consumer sales tax, 27.2 percent of the gross homeowner property tax, and 28.4 percent of business taxes.[23]

In contrast, taxpayers in the bottom decile (incomes of $11,201 and below) are projected to bear 1.8 percent of the total tax burden while receiving only 0.9 percent of total income. The bottom decile taxpayers will have a negative individual income tax burden due to the refundable tax credits. They will pay 2.9 percent of the consumer sales tax, 2.5 percent of gross homeowner property tax, and 3.7 percent of business taxes.

[23] Business taxes include the total property tax on rental housing, nonresidential local property taxes, total state business taxes, local gross earnings taxes, and local sales taxes on business purchases.

Summary List

Table 3-1
2011 Tax Collection Amounts

Tax Type	Total ($ Millions)	As Imposed			After shifting		Suits Index	
		MN HH's	NR	Business	Minnesota	Exported	Pop. Decile	Full Sample
State Taxes								
Taxes on Income and Estates								
Individual income tax	$8,206	$7,851	$355		$7,851	$355	0.181	0.195
Corporation franchise tax [1]	842			$842	513	329	-0.153	-0.170
Estate tax	133	133			133		0.248	0.248
Total Income and Estate Taxes	$9,181	$7,984	$355	$842	$8,497	$685	0.162	0.174
Taxes on Consumption								
Total sales tax	$5,249	$2,701	$201	$2,347	$4,162	$1,087	-0.177	-0.195
General sales/use tax	4,763	2,423	201	2,138	3,805	957	-0.183	-0.202
Sales tax on motor vehicles	486	277		209	357	130	-0.107	-0.129
Motor fuels excise taxes	855	475	43	337	640	215	-0.281	-0.308
Alcoholic beverage excise taxes	78	71	6		71	6	-0.125	-0.123
Cigarette and tobacco excise taxes	202	195	7		195	7	-0.571	-0.588
Insurance premiums taxes	377	278		99	327	50	-0.272	-0.295
Gambling taxes	44	44	0		44	0	-0.522	-0.541
MinnesotaCare taxes	527	479	47		479	47	-0.286	-0.320
Solid waste management taxes	75	32		42	69	6	-0.343	-0.363
Total Consumption Taxes	$7,407	$4,276	$306	$2,825	$5,988	$1,419	-0.219	-0.239
Taxes on Property								
State Property Tax	$799	$34	$9	$756	$366	$433	-0.148	-0.161
Residential recreational property	43	34	9		34	9	-0.242	-0.275
Commercial [2]	542			542	275	267	-0.147	-0.159
Industrial	154			154	21	133	0.022	0.049
Utility	60			60	35	25	-0.171	-0.189
Motor vehicle registration tax	611	501		110	562	49	-0.304	-0.329
Mortgage and deed taxes	149	102		47	133	17	-0.159	-0.189
Total Property Taxes	$1,559	$637	$9	$913	$1,060	$499	-0.232	-0.254
Property Tax Refunds								
Homeowners	-$310	-$310			-$310		0.766	0.771
Renters	-190	-190			-190		0.916	0.919
Total Property Tax Refunds	-$500	-$500			-$500		0.823	0.827
Total State Taxes	$17,648	$12,398	$670	$4,580	$15,045	$2,603	0.016	0.013
Local Taxes								
Property Taxes (Pay 2011)	$7,771	$4,115	$42	$3,615	$6,323	$1,449	-0.202	-0.228
General Property Tax	7,692	4,115	42	3,536	6,315	1,377	-0.202	-0.229
Homeowners (before PTR)	3,947	3,947			3,947	0	-0.166	-0.199
Residential recreational property	210	168	42		168	42	-0.242	-0.275
Commercial [2]	1,530			1,530	777	753	-0.147	-0.159
Industrial	439			439	59	380	0.022	0.049
Farm (other than residence) [3]	404			404	392	12	-0.313	-0.336
Rental Housing (before PTR)	950			950	847	104	-0.384	-0.398
Utility	212			212	125	87	-0.171	-0.189
Mining Production Taxes (taconite)	79			79	8	71	0.229	0.301
Taxes on consumption								
Local Sales Taxes	287	146	12	129	229	58	-0.183	-0.202
Local Gross Earnings Taxes	134			134	79	55	-0.171	-0.189
Total Local Taxes	$8,192	$4,261	$54	$3,877	$6,630	$1,561	-0.201	-0.227
Total State and Local Taxes	$25,839	$16,659	$723	$8,457	$21,675	$4,164	-0.051	-0.061

[1] Includes taconite/iron ore occupation tax.
[2] Includes resorts and railroads.
[3] Includes Timber.

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Table 3-2 2011 Population Deciles - Amounts ($ Thousands)

Population Decile	Income Range	Number of Households	Household Income	State Income Taxes: Individual Income Tax	State Income Taxes: Corporate Franchise Tax	State Sales Tax: Purchases by Individuals	State Sales Tax: Purchases by Businesses	State Sales Tax: Sales Tax Total	Property Tax Refund	State Property Tax	State Excise Taxes	Other State Taxes: Taxes on Individuals	Other State Taxes: Taxes on Businesses
First	$11,201 & Under	257,556	$1,731,594	-$27,601	$13,972	$79,226	$47,492	$126,718	-$70,555	$12,062	$44,895	$62,607	$5,849
Second	$11,202 - $18,454	257,556	3,804,877	-28,406	18,832	104,619	59,079	163,698	-94,785	14,352	52,407	70,760	6,861
Third	$18,455 - $26,461	257,556	5,746,493	11,388	24,050	131,823	75,013	206,837	-95,229	18,141	61,331	87,825	8,684
Fourth	$26,462 - $35,169	257,556	7,899,569	127,495	29,589	159,694	88,630	248,324	-89,265	20,983	69,310	106,372	10,191
Fifth	$35,170 - $45,349	257,556	10,311,250	282,598	35,466	189,873	105,815	295,688	-58,120	25,540	78,475	123,857	12,531
Sixth	$45,350 - $58,040	257,556	13,221,934	413,976	41,789	226,463	122,564	349,027	-48,663	28,725	87,557	145,584	14,426
Seventh	$58,041 - $74,595	257,556	16,989,908	620,443	51,259	276,469	146,103	422,572	-28,078	35,131	99,897	173,242	17,202
Eighth	$74,596 - $96,681	257,556	21,850,712	903,174	62,167	338,841	172,119	510,959	-11,106	40,445	115,745	200,326	19,521
Ninth	$96,682 - $136,954	257,556	29,387,136	1,315,542	77,663	417,473	213,555	631,028	-2,125	52,102	129,808	242,815	25,110
Tenth	$136,955 & Over	257,556	79,700,616	4,232,300	157,932	776,258	431,176	1,207,433	-1,874	118,164	166,638	356,845	56,280
TOTALS		2,575,557	$190,644,090	$7,850,908	$512,719	$2,700,739	$1,461,544	$4,162,283	-$499,800	$365,645	$906,063	$1,570,232	$176,654
Top 5%	Over $193,687	128,815	$59,008,080	$3,247,396	$107,157	$517,625	$291,331	$808,956	-$1,036	$83,442	$97,269	$205,298	$39,515
Top 1%	Over $481,439	25,761	$30,596,398	$1,789,116	$46,122	$219,022	$119,325	$338,347	-$144	$37,801	$32,026	$48,797	$17,285

Population Decile	Residential Local Property Taxes: Homeowners Gross	Residential Local Property Taxes: Renters Gross	Residential Local Property Taxes: Owners of Rental Prop.	Residential Local Property Taxes: Total on Rental Prop.	Residential Local Property Taxes: Residential Total [1]	Nonresidential Local Property Taxes	Other Local Taxes [2]	Local Taxes Total	Total State Taxes: Total on Individuals	Total State Taxes: Total on Businesses	Total State Taxes: State Taxes Total	Total State and Local Taxes
First	$99,987	$20,852	$21,802	$42,654	$148,039	$56,711	$9,654	$214,404	$84,588	$83,358	$167,946	$382,351
Second	87,411	39,157	22,758	61,916	155,951	54,659	12,489	223,099	99,077	104,640	203,718	426,817
Third	151,176	46,642	29,801	76,443	236,064	65,644	15,626	317,334	190,281	132,745	323,027	640,360
Fourth	199,454	58,854	30,424	89,278	299,881	81,407	18,777	400,065	365,608	157,390	522,998	923,063
Fifth	280,028	58,911	39,086	97,997	391,286	105,854	22,206	519,347	607,339	188,696	796,034	1,315,381
Sixth	367,958	44,106	41,245	85,351	466,853	124,434	26,128	617,415	813,593	218,828	1,032,421	1,649,836
Seventh	471,453	29,373	47,751	77,125	566,515	136,370	31,701	734,586	1,128,718	262,950	1,391,668	2,126,253
Eighth	544,057	16,006	50,754	66,760	634,384	134,538	37,997	806,919	1,531,484	309,748	1,841,232	2,648,150
Ninth	673,215	10,514	67,699	78,213	784,774	193,758	46,818	1,025,350	2,085,449	386,494	2,471,943	3,497,292
Tenth	1,071,860	4,302	166,727	171,030	1,278,034	399,767	94,080	1,771,882	5,491,565	802,153	6,293,718	8,065,600
TOTALS	$3,946,600	$328,718	$518,047	$846,766	$4,961,782	$1,353,142	$315,476	$6,630,400	$12,397,702	$2,647,002	$15,044,705	$21,675,104
Top 5%	$635,981	$1,729	$119,033	$120,762	$775,400	$282,037	$64,024	$1,121,460	$4,040,408	$547,589	$4,587,997	$5,709,458
Top 1%	$184,971	$655	$46,202	$46,857	$236,455	$113,018	$27,971	$377,444	$2,078,215	$231,134	$2,309,349	$2,686,793

[1] Includes seasonal recreational residential (cabins).

[2] Includes taconite production tax.

Overall Effective Tax Rates

In a similar fashion as was done for taxes paid in 2006, effective tax rates by tax type for 2011 are reported in *Table 3-3*. Effective tax rates by population deciles for the four major tax types included in this study are presented in *Table 3-4* and are illustrated 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 is progressive, while the three remaining taxes are generally regressive. Because the progressive individual income tax accounts for over one-third of the total tax burden, it offsets much of the regressivity of the other state and local taxes. Yet, as a whole, the overall state and local system is expected to remain regressive in 2011, with a population-decile Suits index of -0.051.

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 3-3* for 2011, effective tax rates rise significantly with increases in household income. At the low end, the effective tax rate for the income tax is negative for the first and second deciles because refundable tax credits will more than offset any income tax liability.[24] The effective tax rate rises steadily from 0.2 percent of income for the third decile to 5.3 percent for the tenth decile. Effective tax rates for the top 5 percent and 1 percent of households are even higher, at 5.5 and 5.8 percent respectively.

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 discussed below in the business tax category.) Higher income households spend a smaller portion of their income on items subject to the sales tax. This is partly due to their higher savings rates and partly to the mix of consumer goods and services they buy. Hence, tax burdens as a proportion of income tend to decline as one moves up the income scale.

For 2011, the effective state and local consumer sales tax rate for the bottom decile will be 4.8 percent, of income compared to the rate for the top decile of 1.0 percent (see *Table 3-4*). Effective tax rates for the second through ninth deciles, representing 80 percent of all taxpayers, fell steadily from 2.9 to 1.5 percent.

[24] The impact of these refundable credits on the distribution of the overall tax burden is shown in *Chapter 4* (*Section D*).

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Table 3-3 2011 Population Deciles - Effective Tax Rates

Population Decile	Income Range	Number of Households	Household Income	State Income Taxes: Individual Income Tax	State Income Taxes: Corporate Franchise Tax	State Sales Tax: Purchases by Individuals	State Sales Tax: Purchases by Businesses	State Sales Tax: Sales Tax Total	Property Tax Refund	State Property Tax	State Excise Taxes	Other State Taxes: Taxes on Individuals	Other State Taxes: Taxes on Businesses
First	$11,201 & Under	257,556	$1,731,594	- 1.6%	0.8%	4.6%	2.7%	7.3%	- 4.1%	0.7%	2.6%	3.6%	0.3%
Second	$11,202 - $18,454	257,556	3,804,877	- 0.7%	0.5%	2.7%	1.6%	4.3%	- 2.5%	0.4%	1.4%	1.9%	0.2%
Third	$18,455 - $26,461	257,556	5,746,493	0.2%	0.4%	2.3%	1.3%	3.6%	- 1.7%	0.3%	1.1%	1.5%	0.2%
Fourth	$26,462 - $35,169	257,556	7,899,569	1.6%	0.4%	2.0%	1.1%	3.1%	- 1.1%	0.3%	0.9%	1.3%	0.1%
Fifth	$35,170 - $45,349	257,556	10,311,250	2.7%	0.3%	1.8%	1.0%	2.9%	- 0.6%	0.2%	0.8%	1.2%	0.1%
Sixth	$45,350 - $58,040	257,556	13,221,934	3.1%	0.3%	1.7%	0.9%	2.6%	- 0.4%	0.2%	0.7%	1.1%	0.1%
Seventh	$58,041 - $74,595	257,556	16,989,908	3.7%	0.3%	1.6%	0.9%	2.5%	- 0.2%	0.2%	0.6%	1.0%	0.1%
Eighth	$74,596 - $96,681	257,556	21,850,712	4.1%	0.3%	1.6%	0.8%	2.3%	- 0.1%	0.2%	0.5%	0.9%	0.1%
Ninth	$96,682 - $136,954	257,556	29,387,136	4.5%	0.3%	1.4%	0.7%	2.1%	0.0%	0.2%	0.4%	0.8%	0.1%
Tenth	$136,955 & Over	257,556	79,700,616	5.3%	0.2%	1.0%	0.5%	1.5%	0.0%	0.1%	0.2%	0.4%	0.1%
TOTALS		2,575,557	$190,644,090	4.1%	0.3%	1.4%	0.8%	2.2%	- 0.3%	0.2%	0.5%	0.8%	0.1%
Top 5%	Over $193,687	128,815	$59,008,080	5.5%	0.2%	0.9%	0.5%	1.4%	0.0%	0.1%	0.2%	0.3%	0.1%
Top 1%	Over $481,439	25,761	$30,596,398	5.8%	0.2%	0.7%	0.4%	1.1%	0.0%	0.1%	0.1%	0.2%	0.1%

Population Decile	Residential Local Property Taxes: Homeowners Gross	Residential Local Property Taxes: Renters Gross	Residential Local Property Taxes: Owners of Rental Prop.	Residential Local Property Taxes: Total on Rental Prop.	Residential Local Property Taxes: Residential Total [1]	Nonresidential Local Property Taxes	Other Local Taxes	Local Taxes Total	Total State Taxes: Total on Individuals	Total State Taxes: Total on Businesses	Total State Taxes: State Taxes Total	Total State and Local Taxes
First	5.8%	1.2%	1.3%	2.5%	8.5%	3.3%	0.6%	12.4%	4.9%	4.8%	9.7%	22.1%
Second	2.3%	1.0%	0.6%	1.6%	4.1%	1.4%	0.3%	5.9%	2.6%	2.8%	5.4%	11.2%
Third	2.6%	0.8%	0.5%	1.3%	4.1%	1.1%	0.3%	5.5%	3.3%	2.3%	5.6%	11.1%
Fourth	2.5%	0.7%	0.4%	1.1%	3.8%	1.0%	0.2%	5.1%	4.6%	2.0%	6.6%	11.7%
Fifth	2.7%	0.6%	0.4%	1.0%	3.8%	1.0%	0.2%	5.0%	5.9%	1.8%	7.7%	12.8%
Sixth	2.8%	0.3%	0.3%	0.6%	3.5%	0.9%	0.2%	4.7%	6.2%	1.7%	7.8%	12.5%
Seventh	2.8%	0.2%	0.3%	0.5%	3.3%	0.8%	0.2%	4.3%	6.6%	1.5%	8.2%	12.5%
Eighth	2.5%	0.1%	0.2%	0.3%	2.9%	0.6%	0.2%	3.7%	7.0%	1.4%	8.4%	12.1%
Ninth	2.3%	0.0%	0.2%	0.3%	2.7%	0.7%	0.2%	3.5%	7.1%	1.3%	8.4%	11.9%
Tenth	1.3%	0.0%	0.2%	0.2%	1.6%	0.5%	0.1%	2.2%	6.9%	1.0%	7.9%	10.1%
TOTALS	2.1%	0.2%	0.3%	0.4%	2.6%	0.7%	0.2%	3.5%	6.5%	1.4%	7.9%	11.4%
Top 5%	1.1%	0.0%	0.2%	0.2%	1.3%	0.5%	0.1%	1.9%	6.8%	0.9%	7.8%	9.7%
Top 1%	0.6%	0.0%	0.2%	0.2%	0.8%	0.4%	0.1%	1.2%	6.8%	0.8%	7.5%	8.8%

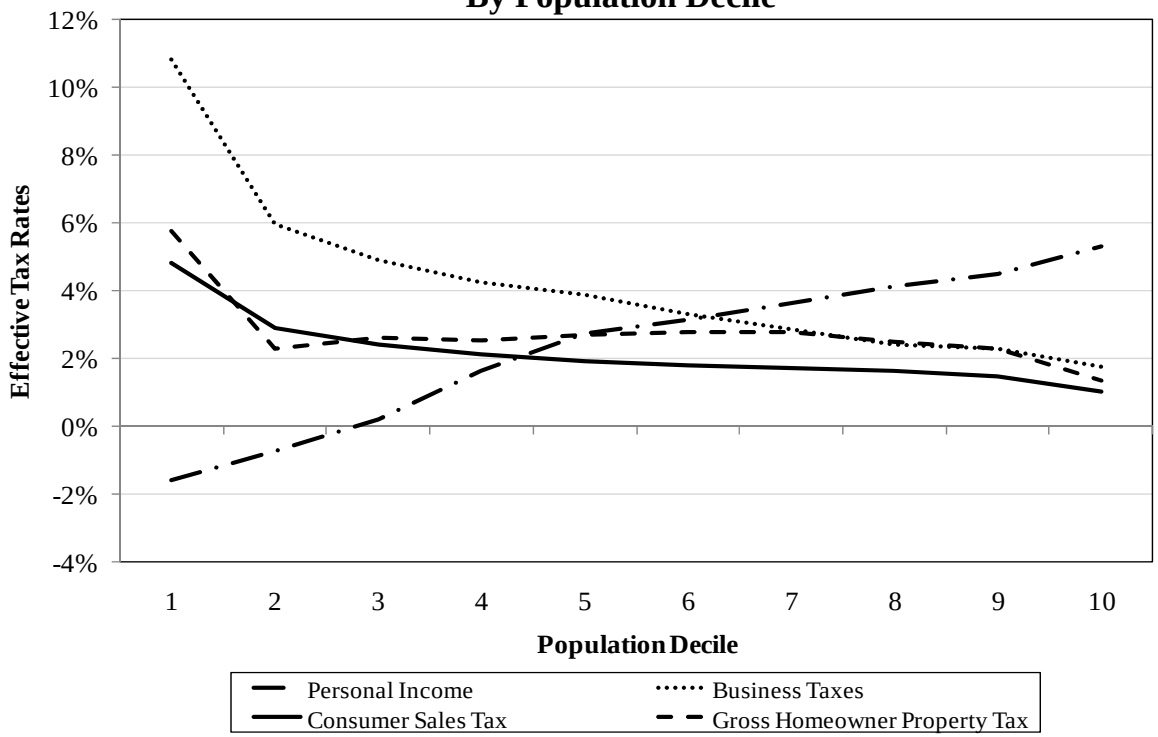
[1] Includes seasonal recreational residential (cabins).

Table 3-4
Effective Tax Rates (2011)

Population Decile	Personal Income Tax	Business Taxes	Consumer Sales Tax[1]	Homeowner Property Tax (before PTR)
First	-1.6%	10.8%	4.8%	5.8%
Second	-0.7%	6.0%	2.9%	2.3%
Third	0.2%	4.9%	2.4%	2.6%
Fourth	1.6%	4.3%	2.1%	2.5%
Fifth	2.7%	3.9%	1.9%	2.7%
Sixth	3.1%	3.3%	1.8%	2.8%
Seventh	3.7%	2.9%	1.7%	2.8%
Eighth	4.1%	2.4%	1.6%	2.5%
Ninth	4.5%	2.3%	1.5%	2.3%
Tenth	5.3%	1.8%	1.0%	1.3%
Total	4.1%	2.6%	1.5%	2.1%

[1]Includes motor vehicle and local sales taxes.

Figure 3-2
Effective Tax Rates for 2011
By Population Decile



Residential Property Taxes[25]

Homeowner Property Taxes. For 2011, the effective homeowner property tax rate (before property tax refunds) is 2.3 percent for the second decile, between 2.5 and 2.8 percent in the third to eighth deciles, 2.3 percent 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 2011 rental property tax (65 percent) was borne by the investors who own rental housing; the remaining share (35 percent) was assumed to be shifted to renters in higher rents.[21] 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 3-3* 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 3-1* above, business taxes were 23.1 percent of the total tax burden on Minnesota residents. Business taxes include the following:

Business property taxes[26]
Corporate franchise tax
Sales tax paid on business purchases of capital equipment and other intermediate inputs
Motor vehicle registration tax paid on vehicles owned by business
Insurance premiums tax on business insurance
Mortgage and deed taxes on business property
Solid waste management taxes on services to business
Excise tax on motor fuels purchased and used by business
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) or in some cases 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

[25] The impact of these refundable credits on the distribution of the overall tax burden is shown in *Chapter 4* (*Section D*).
[26] Includes the tax on rental housing.

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.)

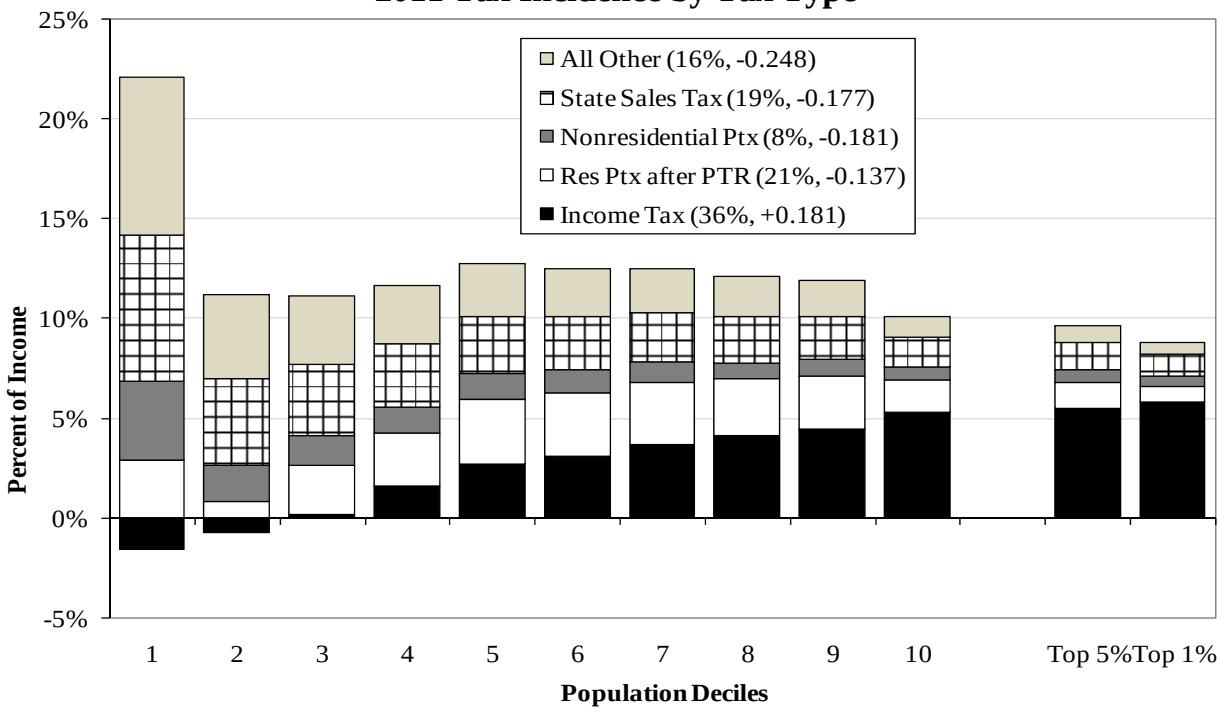
To determine the incidence of each business tax, the study first estimated tax payments made by the different business sectors. The degree to which taxes were shifted to consumers, labor, or nonresidents depended on two things: (a) how Minnesota's tax rates compared to those in other states and (b) the market characteristics of the business sector. 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 percent in the second decile; it fell steadily as income rose, reaching 1.8 percent in the tenth decile.

Summary of 2011 Tax Burden by Major Tax Type

Figure 3-3 summarizes how the 2011 tax burden of the major tax categories varies by population decile. The categories for this table combine both the individual and business components of these tax types. For example, the state sales tax total includes both the consumer and business portions (including the tax on motor vehicles). Residential property tax includes homeowner and rental property taxes, along with cabins.[27]

Figure 3-3
2011 Tax Incidence by Tax Type



Note: Numbers in parentheses show percent of total tax burden and the population-decile Suits index.

[27] For an analysis of residential property taxes excluding cabins, see *Chapter 4* (*Section D*).

Figure 3-3 clearly demonstrates the importance of the progressive income tax in offsetting most of the regressivity of other taxes. Note that the sum of state sales tax, nonresidential property tax, and "all other taxes" accounts for at least half of the overall tax burden for those in the first six deciles. The sum accounts for more than 75 percent of the overall tax burden in deciles 2 and 3. The residential property tax burden (after PTR) is noticeably less regressive than the sales tax or "all other taxes," mostly because of the property tax refunds. In their absence, the Suits index for residential property taxes would be -0.206 – more regressive than either the sales tax or nonresidential property taxes.

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Chapter 4: Additional Results

This chapter provides additional analysis of the 2006 results.

- Section A reports the 2006 results by income deciles rather than population deciles. The households in each income decile receive 10 percent of total household income. This provides added detail for high-income households (but less detail for lower-income households).
- Section B discusses three alternative methods that have been used to compute Suits indexes in recent editions of this study. It explains why the "full-sample" Suits index is generally preferred over "population-decile" and "income-decile" indexes, and why – in spite of this preference – this study uses the population-decile Suits index.
- Section C explains why the study disregards the "federal tax offset" in calculating the burden of state and local taxes. For those who itemize deductions, an increase in their state income tax, homestead property tax, or motor vehicle registration tax may reduce their federal income tax liability. Taking this into account would reduce the estimated tax rates reported in this study. Effective tax rates and Suits indexes adjusted for the federal tax offset are included in this section.
- Section D demonstrates the significant impact that refundable income tax credits and property tax refunds have on the distribution of the overall tax burden. Effective tax rates and Suits indexes are calculated both with and without these provisions.
- Section E shows how the results of this study would change if the Health Impact Fee on cigarettes and other tobacco products were included. Effective tax rates and Suits indexes are calculated both with and without the Health Impact Fee.
- Section F explains why this study's estimates of the incidence of *existing* business taxes should not be used to estimate the incidence of a *change* in Minnesota taxes. The difference between "average incidence" (for existing taxes) and "incremental incidence" (for a change in taxes) is illustrated for the corporate income tax, rental property tax, and industrial property tax.
- Section G presents results from a 50-state study of overall tax incidence. Though the results apply to a different year (2002) and are limited to the population of non-seniors, they help provide context for the results of Minnesota's tax incidence studies.

Section A
An Alternative Presentation: Income Deciles

The results presented elsewhere in this study have been summarized for deciles of households. Each population decile represented 10 percent of the population of households in the study. This section provides an alternative way to summarize the distribution of the 2006 and 2011 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 2-2, 2-3, 3-2,* and *3-3.* In both distributions, households are ranked by income level. Using the year 2006 for purposes of illustration in the population decile distribution, each decile of 245,000 households is 10 percent of all households; in the income decile distribution, each decile with $16.5 billion of income constitutes 10 percent of total income. Because of their relatively low incomes, it takes 996,000 households in the first income decile to account for 10 percent of total income; in contrast, there are only 5,996 high-income households in the tenth decile, who also received 10 percent of total income.

Again using the year 2006 for illustration, the first decile includes 40.7 percent of all households. Their share of total taxes (11.3 percent) exceeded their share of household income (10 percent). First income-decile households (with 10 percent of total income) paid less than 1 percent of the individual income tax, but paid 17.9 percent of the consumer sales tax, 26.6 percent of excise taxes, and 20.1 percent of all business taxes borne by Minnesota residents.

The tenth income decile includes less than 0.3 percent of all households. Their share of total taxes (7.7 percent) was lower than their share of household income (10 percent). They paid 15.5 percent of the individual income tax, 4.1 percent of the consumer sales tax, 1.6 percent of excise taxes, and 4.1 percent of business taxes borne by Minnesota residents.

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Table 4-1 2006 Income Deciles - Amounts ($ Thousands)

Income Decile	Income Range	Number of Households	Household Income	State Income Taxes: Individual Income Tax	State Income Taxes: Corporate Franchise Tax	State Sales Tax: Purchases by Individuals	State Sales Tax: Purchases by Businesses	State Sales Tax: Sales Tax Total	Property Tax Refund	State Property Tax	State Excise Taxes	Other State Taxes: Taxes on Individuals	Other State Taxes: Taxes on Businesses
First	$31,684 & under	995,809	$16,508,046	$67,241	$121,827	$461,323	$260,440	$721,763	-$233,860	$53,718	$207,127	$302,837	$35,036
Second	$31,685 - $48,624	416,936	16,501,409	438,819	87,997	331,193	180,170	511,363	-79,367	37,316	121,231	202,360	24,200
Third	$48,625 - $65,885	290,483	16,502,986	560,641	78,057	300,835	156,032	456,867	-33,411	32,101	99,498	181,840	19,941
Fourth	$65,886 - $83,369	222,786	16,510,075	647,523	74,098	286,198	145,520	431,718	-13,027	30,410	87,839	161,251	17,431
Fifth	$83,370 - $104,822	176,941	16,507,984	705,224	69,145	269,625	133,513	403,138	-4,438	28,200	77,807	147,406	16,429
Sixth	$104,823 - $135,885	139,841	16,505,946	736,610	65,147	249,381	125,827	375,208	-1,154	27,004	64,131	130,261	15,526
Seventh	$135,886 - $193,764	103,625	16,493,813	779,934	61,595	221,074	122,877	343,952	-1,864	27,290	49,645	113,272	17,433
Eighth	$193,765 - $347,794	66,273	16,508,110	846,974	54,820	192,421	110,053	302,474	-1,067	24,784	35,708	87,861	15,974
Ninth	$347,795 - $1,059,688	30,183	16,500,386	914,040	44,222	161,066	91,043	252,109	-334	21,511	22,588	64,137	13,072
Tenth	$1,059,689 & over	5,996	16,501,666	1,044,715	27,121	104,868	58,157	163,026	-77	16,638	12,064	45,286	8,371
TOTALS		2,448,872	$165,040,421	$6,741,721	$684,029	$2,577,985	$1,383,633	$3,961,618	-$368,598	$298,972	$777,639	$1,436,509	$183,412
Top 5%	Over $3,304,033	978	$8,255,292	$553,309	$10,903	$38,421	$23,728	$62,149	-$12	$7,802	$4,890	$20,949	$3,615
Top 1%	Over $31,909,301	24	$1,652,732	$104,351	$1,568	$4,838	$3,231	$8,069	$0	$1,293	$737	$687	$512

Income Decile	Residential Local Property Taxes: Homeowners Gross	Residential Local Property Taxes: Renters Gross	Residential Local Property Taxes: Owners of Rental Prop.	Residential Local Property Taxes: Total on Rental Prop.	Residential Local Property Taxes: Residential Total [1]	Nonresidential Local Property Taxes	Other Local Taxes [2]
First	$430,033	$108,035	$68,399	$176,434	$627,058	$178,734	$32,261
Second	412,386	58,260	44,296	102,555	528,730	133,825	22,738
Third	418,066	24,084	34,161	58,245	489,041	113,811	20,253
Fourth	378,018	9,739	29,856	39,595	430,640	83,989	19,227
Fifth	354,036	5,849	27,287	33,137	401,185	89,536	17,747
Sixth	326,694	2,927	26,572	29,499	368,494	78,090	16,681
Seventh	300,074	1,221	33,476	34,697	343,247	81,982	15,442
Eighth	242,941	392	30,116	30,508	279,191	81,409	13,901
Ninth	147,796	532	25,589	26,121	177,414	52,742	11,895
Tenth	48,972	72	12,949	13,021	62,699	41,045	8,910
TOTALS	$3,059,017	$211,110	$332,702	$543,812	$3,707,699	$935,163	$179,056
Top 5%	$12,968	$6	$5,002	$5,008	$18,091	$18,942	$3,847
Top 1%	$591	$0	$488	$488	$1,081	$3,107	$604

Income Decile	Local Taxes Total	Total State Taxes: Total on Individuals	Total State Taxes: Total on Businesses	Total State Taxes: State Taxes Total	Total State and Local Taxes
First	$838,054	$785,642	$490,046	$1,275,688	$2,113,742
Second	685,292	1,000,858	343,061	1,343,919	2,029,211
Third	623,105	1,097,726	297,809	1,395,535	2,018,639
Fourth	533,856	1,159,129	278,114	1,437,243	1,971,099
Fifth	508,468	1,186,263	256,648	1,442,910	1,951,378
Sixth	463,265	1,170,387	242,346	1,412,733	1,875,997
Seventh	440,671	1,153,330	237,928	1,391,258	1,831,929
Eighth	374,501	1,153,851	213,676	1,367,528	1,742,029
Ninth	242,051	1,154,935	176,411	1,331,346	1,573,398
Tenth	112,655	1,203,081	114,064	1,317,145	1,429,800
TOTALS	$4,821,918	$11,065,202	$2,650,102	$13,715,304	$18,537,221
Top 5%	$40,881	$616,249	$47,356	$663,605	$704,486
Top 1%	$4,792	$110,486	$6,732	$117,217	$122,009

[1] Includes seasonal recreational residential (cabins)

[2] Includes taconite production tax

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Table 4-2 2006 Income Deciles - Effective Tax Rates

Income Decile	Income Range	Number of Households	Household Income	State Income Taxes: Individual Income Tax	State Income Taxes: Corporate Franchise Tax	State Sales Tax: Purchases by Individuals	State Sales Tax: Purchases by Businesses	State Sales Tax: Sales Tax Total	Property Tax Refund	State Property Tax	State Excise Taxes	Other State Taxes: Taxes on Individuals	Other State Taxes: Taxes on Businesses
First	$31,684 & under	995,809	$16,508,046	0.4%	0.7%	2.8%	1.6%	4.4%	- 1.4%	0.3%	1.3%	1.8%	0.2%
Second	$31,685 - $48,624	416,936	16,501,409	2.7%	0.5%	2.0%	1.1%	3.1%	- 0.5%	0.2%	0.7%	1.2%	0.1%
Third	$48,625 - $65,885	290,483	16,502,986	3.4%	0.5%	1.8%	0.9%	2.8%	- 0.2%	0.2%	0.6%	1.1%	0.1%
Fourth	$65,886 - $83,369	222,786	16,510,075	3.9%	0.4%	1.7%	0.9%	2.6%	- 0.1%	0.2%	0.5%	1.0%	0.1%
Fifth	$83,370 - $104,822	176,941	16,507,984	4.3%	0.4%	1.6%	0.8%	2.4%	0.0%	0.2%	0.5%	0.9%	0.1%
Sixth	$104,823 - $135,885	139,841	16,505,946	4.5%	0.4%	1.5%	0.8%	2.3%	0.0%	0.2%	0.4%	0.8%	0.1%
Seventh	$135,886 - $193,764	103,625	16,493,813	4.7%	0.4%	1.3%	0.7%	2.1%	0.0%	0.2%	0.3%	0.7%	0.1%
Eighth	$193,765 - $347,794	66,273	16,508,110	5.1%	0.3%	1.2%	0.7%	1.8%	0.0%	0.2%	0.2%	0.5%	0.1%
Ninth	$347,795 - $1,059,688	30,183	16,500,386	5.5%	0.3%	1.0%	0.6%	1.5%	0.0%	0.1%	0.1%	0.4%	0.1%
Tenth	$1,059,689 & over	5,996	16,501,666	6.3%	0.2%	0.6%	0.4%	1.0%	0.0%	0.1%	0.1%	0.3%	0.1%
TOTALS		2,448,872	$165,040,421	4.1%	0.4%	1.6%	0.8%	2.4%	- 0.2%	0.2%	0.5%	0.9%	0.1%
Top 5%	Over $3,304,033	978	$8,255,292	6.7%	0.1%	0.5%	0.3%	0.8%	0.0%	0.1%	0.1%	0.3%	0.0%
Top 1%	Over $31,909,301	24	$1,652,732	6.3%	0.1%	0.3%	0.2%	0.5%	0.0%	0.1%	0.0%	0.0%	0.0%

Income Decile	Residential Local Property Taxes: Homeowners Gross	Residential Local Property Taxes: Renters Gross	Residential Local Property Taxes: Owners of Rental Prop.	Residential Local Property Taxes: Total on Rental Prop.	Residential Local Property Taxes: Residential Total [1]	Nonresidential Local Property Taxes	Other Local Taxes	Local Taxes Total	Total State Taxes: Total on Individuals	Total State Taxes: Total on Businesses	Total State Taxes: State Taxes Total	Total State and Local Taxes
First	2.6%	0.7%	0.4%	1.1%	3.8%	1.1%	0.2%	5.1%	4.8%	3.0%	7.7%	12.8%
Second	2.5%	0.4%	0.3%	0.6%	3.2%	0.8%	0.1%	4.2%	6.1%	2.1%	8.1%	12.3%
Third	2.5%	0.1%	0.2%	0.4%	3.0%	0.7%	0.1%	3.8%	6.7%	1.8%	8.5%	12.2%
Fourth	2.3%	0.1%	0.2%	0.2%	2.6%	0.5%	0.1%	3.2%	7.0%	1.7%	8.7%	11.9%
Fifth	2.1%	0.0%	0.2%	0.2%	2.4%	0.5%	0.1%	3.1%	7.2%	1.6%	8.7%	11.8%
Sixth	2.0%	0.0%	0.2%	0.2%	2.2%	0.5%	0.1%	2.8%	7.1%	1.5%	8.6%	11.4%
Seventh	1.8%	0.0%	0.2%	0.2%	2.1%	0.5%	0.1%	2.7%	7.0%	1.4%	8.4%	11.1%
Eighth	1.5%	0.0%	0.2%	0.2%	1.7%	0.5%	0.1%	2.3%	7.0%	1.3%	8.3%	10.6%
Ninth	0.9%	0.0%	0.2%	0.2%	1.1%	0.3%	0.1%	1.5%	7.0%	1.1%	8.1%	9.5%
Tenth	0.3%	0.0%	0.1%	0.1%	0.4%	0.2%	0.1%	0.7%	7.3%	0.7%	8.0%	8.7%
TOTALS	1.9%	0.1%	0.2%	0.3%	2.2%	0.6%	0.1%	2.9%	6.7%	1.6%	8.3%	11.2%
Top 5%	0.2%	0.0%	0.1%	0.1%	0.2%	0.2%	0.0%	0.5%	7.5%	0.6%	8.0%	8.5%
Top 1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.2%	0.0%	0.3%	6.7%	0.4%	7.1%	7.4%

[1] Includes seasonal recreational residential (cabins).

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Table 4-3 2011 Income Deciles - Amounts ($ Thousands)

Income Decile	Income Range	Number of Households	Household Income	State Income Taxes: Individual Income Tax	State Income Taxes: Corporate Franchise Tax	State Sales Tax: Purchases by Individuals	State Sales Tax: Purchases by Businesses	State Sales Tax: Sales Tax Total	Property Tax Refund	State Property Tax	State Excise Taxes	Other State Taxes: Taxes on Individuals	Other State Taxes: Taxes on Businesses
First	$35,005 & Under	1,026,859	$19,064,477	$81,576	$86,022	$473,013	$269,001	$742,013	-$349,201	$65,262	$226,926	$325,932	$31,456
Second	$35,006 - $53,483	436,139	19,065,186	545,499	63,448	341,905	188,116	530,021	-93,587	45,120	138,000	222,008	22,221
Third	$53,484 - $72,133	305,629	19,065,036	675,050	57,968	313,326	166,379	479,705	-38,757	39,277	114,965	198,051	19,579
Fourth	$72,134 - $91,043	235,395	19,070,014	773,538	55,034	298,818	153,076	451,894	-12,850	36,327	103,071	177,341	17,453
Fifth	$91,044 - $113,259	188,426	19,064,144	834,437	51,875	282,191	142,727	424,918	-2,960	34,223	92,369	166,880	16,322
Sixth	$113,260 - $144,456	150,169	19,074,968	872,301	49,419	260,732	135,042	395,774	-684	33,255	76,902	147,928	16,216
Seventh	$144,457 - $201,166	113,389	19,063,304	906,737	46,056	234,301	129,285	363,586	-840	32,345	61,851	126,289	15,673
Eighth	$201,167 - $346,507	75,094	19,048,974	978,875	42,172	204,839	116,953	321,791	-638	30,724	46,163	116,985	14,978
Ninth	$346,508 - $951,731	36,334	19,068,520	1,012,039	35,120	173,287	98,321	271,608	-207	27,461	30,200	72,655	13,030
Tenth	$951,732 & Over	8,123	19,059,468	1,170,857	25,606	118,327	62,645	180,972	-75	21,651	15,615	16,164	9,727
TOTALS		2,575,557	$190,644,090	$7,850,908	$512,719	$2,700,739	$1,461,544	$4,162,283	-$499,800	$365,645	$906,063	$1,570,232	$176,654
Top 5%	Over $2,633,206	1,442	$9,536,889	$633,267	$11,389	$43,919	$25,607	$69,527	-$9	$10,529	$6,106	$5,063	$4,568
Top 1%	Over $27,177,998	30	$1,917,321	$125,799	$1,829	$5,423	$3,321	$8,745	$0	$1,746	$874	$173	$728

Income Decile	Residential Local Property Taxes: Homeowners Gross	Residential Local Property Taxes: Renters Gross	Residential Local Property Taxes: Owners of Rental Prop.	Residential Local Property Taxes: Total on Rental Prop.	Residential Local Property Taxes: Residential Total [1]	Nonresidential Local Property Taxes	Other Local Taxes [2]	Local Taxes Total	Total State Taxes: Total on Individuals	Total State Taxes: Total on Businesses	Total State Taxes: State Taxes Total	Total State and Local Taxes
First	$535,972	$164,834	$104,520	$269,354	$836,689	$257,442	$56,277	$1,150,409	$733,989	$475,997	$1,209,985	$2,360,394
Second	518,997	91,608	68,000	159,608	700,887	185,688	39,760	926,335	1,136,834	335,895	1,472,729	2,399,065
Third	537,211	37,966	53,184	91,150	648,485	165,705	35,925	850,115	1,247,507	298,330	1,545,838	2,395,952
Fourth	480,873	16,775	46,495	63,269	564,689	119,125	33,694	717,508	1,326,115	275,693	1,601,808	2,319,316
Fifth	451,628	9,087	42,933	52,019	525,704	113,213	31,489	670,406	1,360,703	257,361	1,618,064	2,288,469
Sixth	428,596	4,572	43,055	47,627	496,463	133,562	29,545	659,570	1,345,661	245,451	1,591,112	2,250,682
Seventh	394,240	2,220	47,783	50,003	458,581	111,952	27,352	597,885	1,316,873	234,822	1,551,695	2,149,580
Eighth	320,902	733	47,383	48,116	378,837	112,129	24,673	515,639	1,335,522	215,529	1,551,051	2,066,690
Ninth	202,661	756	42,644	43,400	252,255	89,418	21,179	362,851	1,279,023	182,883	1,461,906	1,824,757
Tenth	75,519	168	22,051	22,219	99,191	64,909	15,582	179,682	1,315,475	125,043	1,440,517	1,620,199
TOTALS	$3,946,600	$328,718	$518,047	$846,766	$4,961,782	$1,353,142	$315,476	$6,630,400	$12,397,702	$2,647,002	$15,044,705	$21,675,104
Top 5%	$20,951	$21	$9,076	$9,097	$30,305	$31,479	$6,605	$68,389	$686,433	$54,006	$740,439	$808,828
Top 1%	$934	$0	$779	$779	$1,719	$5,163	$986	$7,868	$132,091	$7,803	$139,894	$147,762

[1] Includes seasonal recreational residential (cabins)

[2] Includes taconite production tax

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Table 4-4 2011 Income Deciles - Effective Tax Rates

Income Decile	Income Range	Number of Households	Household Income	State Income Taxes: Individual Income Tax	State Income Taxes: Corporate Franchise Tax	State Sales Tax: Purchases by Individuals	State Sales Tax: Purchases by Businesses	State Sales Tax: Sales Tax Total	Property Tax Refund	State Property Tax	State Excise Taxes	Other State Taxes: Taxes on Individuals	Other State Taxes: Taxes on Businesses
First	$35,005 & Under	1,026,859	$19,064,477	0.4%	0.5%	2.5%	1.4%	3.9%	- 1.8%	0.3%	1.2%	1.7%	0.2%
Second	$35,006 - $53,483	436,139	19,065,186	2.9%	0.3%	1.8%	1.0%	2.8%	- 0.5%	0.2%	0.7%	1.2%	0.1%
Third	$53,484 - $72,133	305,629	19,065,036	3.5%	0.3%	1.6%	0.9%	2.5%	- 0.2%	0.2%	0.6%	1.0%	0.1%
Fourth	$72,134 - $91,043	235,395	19,070,014	4.1%	0.3%	1.6%	0.8%	2.4%	- 0.1%	0.2%	0.5%	0.9%	0.1%
Fifth	$91,044 - $113,259	188,426	19,064,144	4.4%	0.3%	1.5%	0.7%	2.2%	0.0%	0.2%	0.5%	0.9%	0.1%
Sixth	$113,260 - $144,456	150,169	19,074,968	4.6%	0.3%	1.4%	0.7%	2.1%	0.0%	0.2%	0.4%	0.8%	0.1%
Seventh	$144,457 - $201,166	113,389	19,063,304	4.8%	0.2%	1.2%	0.7%	1.9%	0.0%	0.2%	0.3%	0.7%	0.1%
Eighth	$201,167 - $346,507	75,094	19,048,974	5.1%	0.2%	1.1%	0.6%	1.7%	0.0%	0.2%	0.2%	0.6%	0.1%
Ninth	$346,508 - $951,731	36,334	19,068,520	5.3%	0.2%	0.9%	0.5%	1.4%	0.0%	0.1%	0.2%	0.4%	0.1%
Tenth	$951,732 & Over	8,123	19,059,468	6.1%	0.1%	0.6%	0.3%	0.9%	0.0%	0.1%	0.1%	0.1%	0.1%
TOTALS		2,575,557	$190,644,090	4.1%	0.3%	1.4%	0.8%	2.2%	- 0.3%	0.2%	0.5%	0.8%	0.1%
Top 5%	Over $2,633,206	1,442	$9,536,889	6.6%	0.1%	0.5%	0.3%	0.7%	0.0%	0.1%	0.1%	0.1%	0.0%
Top 1%	Over $27,177,998	30	$1,917,321	6.6%	0.1%	0.3%	0.2%	0.5%	0.0%	0.1%	0.0%	0.0%	0.0%

Income Decile	Residential Local Property Taxes: Homeowners Gross	Residential Local Property Taxes: Renters Gross	Residential Local Property Taxes: Owners of Rental Prop.	Residential Local Property Taxes: Total on Rental Prop.	Residential Local Property Taxes: Residential Total [1]	Nonresidential Local Property Taxes	Other Local Taxes
First	2.8%	0.9%	0.5%	1.4%	4.4%	1.4%	0.3%
Second	2.7%	0.5%	0.4%	0.8%	3.7%	1.0%	0.2%
Third	2.8%	0.2%	0.3%	0.5%	3.4%	0.9%	0.2%
Fourth	2.5%	0.1%	0.2%	0.3%	3.0%	0.6%	0.2%
Fifth	2.4%	0.0%	0.2%	0.3%	2.8%	0.6%	0.2%
Sixth	2.2%	0.0%	0.2%	0.2%	2.6%	0.7%	0.2%
Seventh	2.1%	0.0%	0.3%	0.3%	2.4%	0.6%	0.1%
Eighth	1.7%	0.0%	0.2%	0.3%	2.0%	0.6%	0.1%
Ninth	1.1%	0.0%	0.2%	0.2%	1.3%	0.5%	0.1%
Tenth	0.4%	0.0%	0.1%	0.1%	0.5%	0.3%	0.1%
TOTALS	2.1%	0.2%	0.3%	0.4%	2.6%	0.7%	0.2%
Top 5%	0.2%	0.0%	0.1%	0.1%	0.3%	0.3%	0.1%
Top 1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.3%	0.1%

Local Taxes Total	Total State Taxes: Total on Individuals	Total State Taxes: Total on Businesses	Total State Taxes: State Taxes Total	Total State and Local Taxes
6.0%	3.9%	2.5%	6.3%	12.4%
4.9%	6.0%	1.8%	7.7%	12.6%
4.5%	6.5%	1.6%	8.1%	12.6%
3.8%	7.0%	1.4%	8.4%	12.2%
3.5%	7.1%	1.3%	8.5%	12.0%
3.5%	7.1%	1.3%	8.3%	11.8%
3.1%	6.9%	1.2%	8.1%	11.3%
2.7%	7.0%	1.1%	8.1%	10.8%
1.9%	6.7%	1.0%	7.7%	9.6%
0.9%	6.9%	0.7%	7.6%	8.5%
3.5%	6.5%	1.4%	7.9%	11.4%
0.7%	7.2%	0.6%	7.8%	8.5%
0.4%	6.9%	0.4%	7.3%	7.7%

[1] Includes seasonal recreational residential (cabins).

Tables 4-2 and *4-4* showed effective tax rates by income decile. A comparison with the effective tax rates for population deciles reveals some differences. First, the effective tax rate for the first income decile (12.8 percent) was much lower than that for the first population decile (23.8 percent), again using 2006 data. The first *income* decile included almost four times as many households as the first *population* decile. As a result, the effective tax rate for the first income decile is roughly equal to the average effective tax rate for households in the first four population deciles.

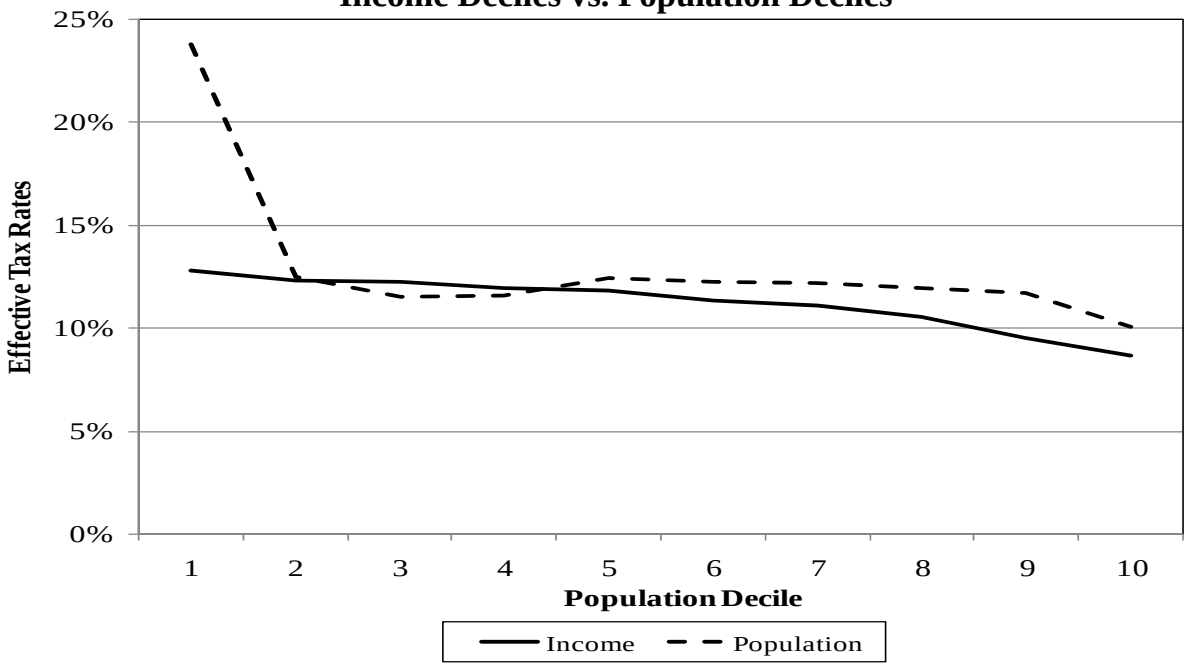
The pattern of effective tax rates also differs for the top deciles. The tenth income decile (with 5,996 households) had an effective tax rate of 8.7 percent. In contrast, the tenth population decile (with about 245,000 households) had an effective tax rate of 10 percent.

Figure 4-1 compares the pattern of effective tax rates by income decile to those by population decile.

- The first income decile includes roughly the same households as the first four population deciles. As a result, the line for income deciles hides the substantial variation among those first four population deciles.
- The top population decile includes roughly the same taxpayers as the top three and one-half income deciles. As a result, the line for population deciles hides the substantial variation among the top three income deciles.

The use of income deciles provides more detailed information about the burden on higher income households, but less information about the 57.7 percent of households who are combined in the first two income deciles.

Figure 4-1
State and Local Effective Tax Rates for 2006
Income Deciles vs. Population Deciles



Section B
An Alternative Methodology: Three Versions of the Suits Index

The Suits indexes reported in this study were calculated using summary data for each of the ten population deciles. The calculations are based on (a) each decile's share of total income and (b) each decile's share of the total tax burden. Only ten observations (the ten deciles) are used in calculating this "population-decile" Suits index.

More recent editions of this study also reported "income-decile" Suits indexes. Income-decile Suits indexes are generally farther from zero than the corresponding population-decile Suits index. Use of the income-decile Suits makes regressive taxes appear to be more regressive and progressive taxes appear to be more progressive. The income-decile Suits index – like the population-decile one – is calculated using only ten observations.

In contrast, the "full-sample" Suits index first reported in the 2007 study uses each of the 102,521 sample records. It provides a more accurate measure of regressivity or progressivity. In almost every case, the full-sample Suits index for a particular tax is farther from zero than either the population-decile or income-decile Suits index. Using all sample records makes regressive taxes appear more regressive and progressive taxes appear more progressive.

For example, the full-sample Suits index for the income tax in 2006 is +0.211. This exceeds both the population-decile Suits index (+0.194) and the income-decile Suits index (+0.207). The full-sample Suits index shows the income tax to be more progressive. Similarly, the full sample Suits index shows the sales tax to be more regressive in 2006 (-0.204 compared to -0.184 and -0.200 for the population-decile and income-decile Suits indexes). For the tax system as a whole, the full-sample Suits (at -0.062) suggests greater regressivity than either the population or income decile Suits indexes (at -0.053 and -0.060).

The full-sample index is theoretically preferred, and computers can now quickly calculate an index based on every sample record. Nevertheless, the current study generally reports the population-decile Suits index. This makes it possible to compare this study's results with those of earlier years, which did not report the full-sample indexes.

The full-sample Suits index is reported on *Tables 2-1* and *3-1* (far-right column). For easy comparison, *Table 4-5* shows all three versions of the Suits index for each tax category.

Table 4-5

Suits Indexes: Population-Decile, Income-Decile, and Full-Sample (2006-2011)

Tax Type	2006 Suits Index			2011 Suits Index		
	Pop.-Decile	Inc.-Decile	Full-Sample	Pop.-Decile	Inc.-Decile	Full-Sample
State Taxes						
Taxes on Income and Estates						
Individual income tax	0.194	0.207	0.211	0.181	0.191	0.195
Corporation franchise tax [1]	-0.175	-0.192	-0.197	-0.153	-0.166	-0.170
Estate tax	0.226	0.281	0.277	0.248	0.214	0.248
Total Income and Estate Taxes	0.161	0.173	0.176	0.162	0.170	0.174
Taxes on Consumption						
Total sales tax	-0.184	-0.200	-0.204	-0.177	-0.191	-0.195
General sales/use tax	-0.193	-0.208	-0.213	-0.183	-0.197	-0.202
Sales tax on motor vehicles	-0.099	-0.119	-0.122	-0.107	-0.127	-0.129
Motor fuels excise taxes	-0.288	-0.312	-0.318	-0.281	-0.303	-0.308
Alcoholic beverage excise taxes	-0.134	-0.129	-0.132	-0.125	-0.120	-0.123
Cigarette and tobacco excise taxes	-0.568	-0.572	-0.586	-0.571	-0.573	-0.588
Insurance premiums taxes	-0.284	-0.306	-0.311	-0.272	-0.291	-0.295
Gambling taxes	-0.533	-0.543	-0.552	-0.522	-0.532	-0.541
MinnesotaCare taxes	-0.299	-0.329	-0.334	-0.286	-0.314	-0.320
Solid waste management taxes	-0.359	-0.372	-0.382	-0.343	-0.353	-0.363
Total Consumption Taxes	-0.226	-0.243	-0.248	-0.219	-0.234	-0.239
Taxes on Property						
State Property Tax	-0.154	-0.164	-0.169	-0.148	-0.156	-0.161
Residential recreational property	-0.257	-0.287	-0.293	-0.242	-0.269	-0.275
Commercial [2]	-0.152	-0.161	-0.166	-0.147	-0.154	-0.159
Industrial	0.019	0.045	0.045	0.022	0.048	0.049
Utility	-0.182	-0.198	-0.203	-0.171	-0.185	-0.189
Motor vehicle registration tax	-0.353	-0.372	-0.381	-0.304	-0.321	-0.329
Mortgage and deed taxes	-0.164	-0.192	-0.197	-0.159	-0.183	-0.189
Total Property Taxes	-0.245	-0.264	-0.270	-0.232	-0.247	-0.254
Property Tax Refunds						
Homeowners	0.712	0.708	0.720	0.766	0.757	0.771
Renters	0.898	0.871	0.903	0.916	0.883	0.919
Total Property Tax Refunds	0.788	0.775	0.795	0.823	0.805	0.827
Total State Taxes	0.002	0.000	-0.001	0.016	0.012	0.013
Local Taxes						
Property Taxes	-0.209	-0.233	-0.238	-0.202	-0.223	-0.228
General Property Tax	-0.209	-0.234	-0.239	-0.202	-0.224	-0.229
Homeowners (before PTR)	-0.178	-0.210	-0.214	-0.166	-0.196	-0.199
Residential recreational property	-0.257	-0.287	-0.293	-0.242	-0.269	-0.275
Commercial [2]	-0.152	-0.161	-0.166	-0.147	-0.154	-0.159
Industrial	0.019	0.045	0.045	0.022	0.048	0.049
Farm (other than residence) [3]	-0.331	-0.350	-0.359	-0.313	-0.325	-0.336
Rental Housing (before PTR)	-0.391	-0.398	-0.407	-0.384	-0.389	-0.398
Utility	-0.182	-0.198	-0.203	-0.171	-0.185	-0.189
Mining Production Taxes (taconite)	0.212	0.275	0.279	0.229	0.295	0.301
Taxes on consumption						
Local Sales Taxes	-0.193	-0.208	-0.213	-0.183	-0.197	-0.202
Local Gross Earnings Taxes	-0.182	-0.198	-0.203	-0.171	-0.185	-0.189
Total Local Taxes	-0.208	-0.232	-0.237	-0.201	-0.222	-0.227
Total State and Local Taxes	-0.053	-0.060	-0.062	-0.051	-0.059	-0.061

[1] Includes taconite/iron ore occupation tax.
[2] Includes resorts and railroads.
[3] Includes Timber.

Section C
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 is arguably 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 elsewhere 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 for non-business taxes is shown in *Tables 4-6* and *4-7*, and *Figure 4-2*. For all households combined, the federal offset would reduce the effective tax rate from 11.2 percent to 10 percent of income. There are small changes 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 percent to 8.2 percent. The income tax (after offset) is less progressive, with a population-decile Suits index falling from +0.194 to +0.151. The adjusted tax burden for all taxes combined is noticeably more regressive, with the population-decile Suits index falling from -0.053 to -0.095.

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.

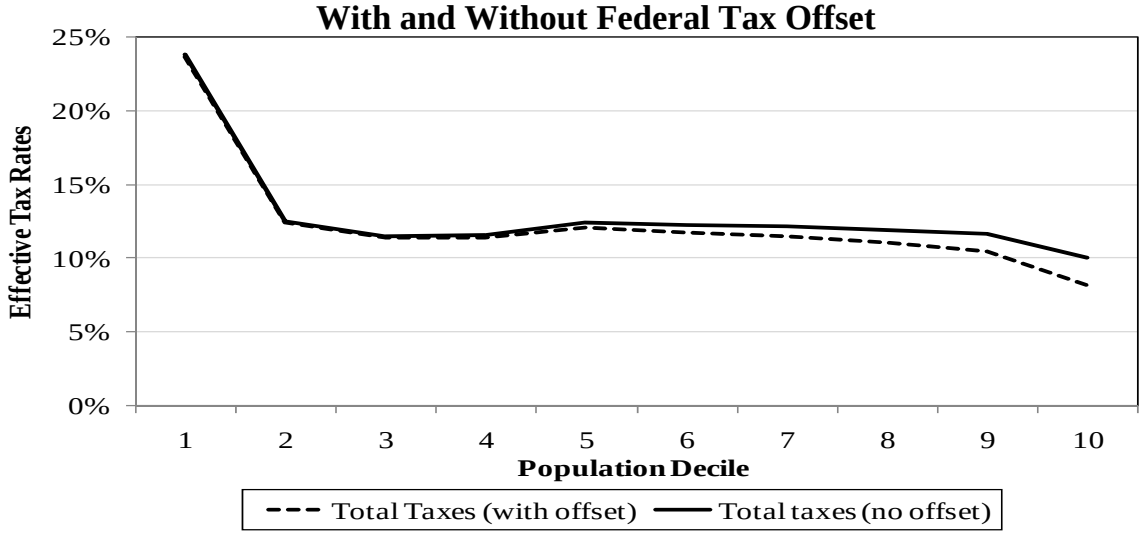
Table 4-6
Impact of Federal Tax Offset on Effective State and Local Tax Rates by Population Decile
(Minnesota Residents, 2006)

Population Decile	Household Income	Effective Tax Rate		
		No Federal Tax Offset	Change Due to Federal Tax Offset	Adjusted for Federal Tax Offset
First	$ 9,782 & Under	23.8%	0.1%	23.7%
Second	9,783 - $ 16,056	12.5%	0.1%	12.4%
Third	16,057 - 23,186	11.5%	0.1%	11.4%
Fourth	23,187 - 30,951	11.6%	0.2%	11.4%
Fifth	30,952 - 40,060	12.4%	0.4%	12.0%
Sixth	40,061 - 51,501	12.2%	0.5%	11.7%
Seventh	51,502 - 66,615	12.2%	0.7%	11.5%
Eighth	66,616 - 86,673	11.9%	0.8%	11.1%
Ninth	86,674 - 123,937	11.7%	1.2%	10.5%
Tenth	$ 123,938 & Over	10.0%	1.9%	8.2%
Total		11.2%	1.2%	10.0%
Top 5%	$ 175,704 & Over	9.7%	2.0%	7.7%
Top 1%	$ 447,889 & Over	8.9%	2.1%	6.9%

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

	Without Offset	With Offset
Income Tax	+0.194	+0.151
All Taxes	-0.053	-0.095

Figure 4-2
Effective Tax Rates for 2006
With and Without Federal Tax Offset



Section D
The Impact of Refundable Income Tax Credits and Property Tax Refunds

The tax burden results presented elsewhere in this report include the impact of refundable tax credits and the property tax refund. The Working Family Credit, Dependent Care Credit, and K-12 Credit are considered "negative taxes." Because these negative taxes are included, the average income tax rate in the first two population deciles is negative. Similarly, the property tax refunds for homeowners and renters are treated as "negative property taxes," offsetting the burden of the gross property tax on homes and rental housing.

Most of these payments are intended to make the tax system more progressive than it otherwise would be. To evaluate their effectiveness, it is useful to compare the current system to the tax system that would exist in their absence. *Table 4-8* shows the magnitudes of those payments in 2006. That table also shows the population-decile Suits index for each of the major categories of payments.

Table 4-8
Population-Decile Suits Index for Refundable Credits and Property Tax Refund Payments in 2006

Payments	Amount ($ Thousands)	Population-Decile Suits Index
Income Tax Credits		
Working Family Credit	$ 147,242	+0.897
Dependent Care Credit	13,696	+0.887
K-12 Education Credit	15,074	+0.845
Subtotal	$ 176,012	+0.892
Property Tax Refund		
Homeowners	$ 217,990	+0.712
Renters	150,608	+0.898
Subtotal	$ 368,598	+0.788
Total	$ 544,610	+0.822

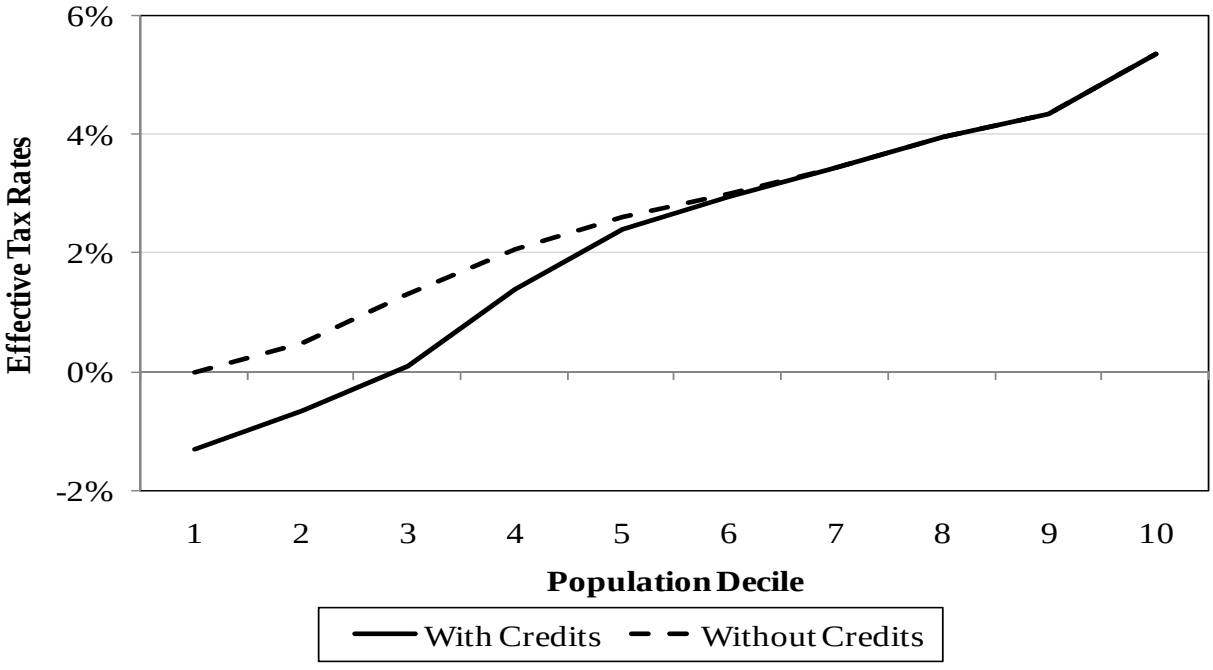
Total dollars of property tax refunds and refundable credits increased by 12.7 percent between 2004 and 2006, growing more slowly than total tax collections (which rose by 14.4 percent). The refundable income tax credits increased by 7 percent; property tax refunds rose by 16 percent. Most of the property tax refund increase went to homeowners (up 25 percent) as a result of law changes that expanded eligibility and increased refunds.

Table 4-9 and *Figure 4-3* show the impact of the refundable income tax credits on effective income tax rates by population decile in 2006. Without those credits, effective tax rates would be noticeably higher in each of the first five deciles. For example, the effective income tax rate in the second decile would rise from -0.7 percent to +0.4 percent. The refundable credits make the income tax more progressive. In their absence, the population-decile Suits index for the income tax would be +0.164 rather than the +0.194.

Table 4-9
Impact of Refundable Income Tax Credit on Effective Income Tax Rates

Population Decile	Household Income	Effective Tax Rates (Income Tax)		
		With Credits	Change If No Credits	Without Credits
First	$ 9,782 & Under	-1.3%	+1.3%	0.0%
Second	9,783 - $ 16,056	-0.7%	+1.1%	0.5%
Third	16,057 - 23,186	0.1%	+1.2%	1.3%
Fourth	23,187 - 30,951	1.4%	+0.7%	2.1%
Fifth	30,952 - 40,060	2.4%	+0.2%	2.6%
Sixth	40,061 - 51,501	3.0%	0.0%	3.0%
Seventh	51,502 - 66,615	3.5%	0.0%	3.5%
Eighth	66,616 - 86,673	4.0%	0.0%	4.0%
Ninth	86,674 - 123,937	4.4%	0.0%	4.4%
Tenth	$ 123,938 & Over	5.4%	0.0%	5.4%
Total		4.1%	+0.1%	4.2%

Figure 4-3
Effective Income Tax Rates by Population Decile With and Without Refundable Credits



In the absence of property tax refunds, residential property taxes would be more regressive than the sales tax, with a population-decile Suits index of -0.210. As shown in *Figure 4-4* and the last column of *Table 4-10*, effective tax rates would be 3.6 percent in the second decile and fall to 1.3 percent in the tenth decile. Property tax refunds reduce effective tax rates in the first eight deciles. With the PTR, effective tax rates rise from 1.6 percent in the second decile to 2.7 percent in the seventh decile before falling to 2.3 percent in the ninth decile and 1.3 percent in the tenth. Net residential property taxes (after PTR) are still regressive (with a population-decile Suits index of -0.144), but the burden as a percent of income is relatively constant over a wide range of incomes.

Table 4-10
Residential Property Taxes Before and After Property Tax Refunds for 2006
(Homesteads and Rental Housing)

Population Decile	Household Income	Effective Tax Rates (Property Tax)		
		With PTR	Change If No PTR	Without PTR
First	$ 9,782 & Under	4.2%	+2.9%	7.0%
Second	9,783 - $ 16,056	1.6%	+1.9%	3.6%
Third	16,057 - 23,186	2.1%	+1.4%	3.5%
Fourth	23,187 - 30,951	2.3%	+1.0%	3.2%
Fifth	30,952 - 40,060	2.6%	+0.6%	3.2%
Sixth	40,061 - 51,501	2.6%	+0.4%	3.0%
Seventh	51,502 - 66,615	2.7%	+0.2%	2.9%
Eighth	66,616 - 86,673	2.4%	+0.1%	2.5%
Ninth	86,674 - 123,937	2.3%	0.0%	2.3%
Tenth	$ 123,938 & Over	1.3%	0.0%	1.3%
Total		2.0%	+0.2%	2.2%

Figure 4-4
Residential Property Taxes
Effective Tax Rates Before and After Property Tax Refunds

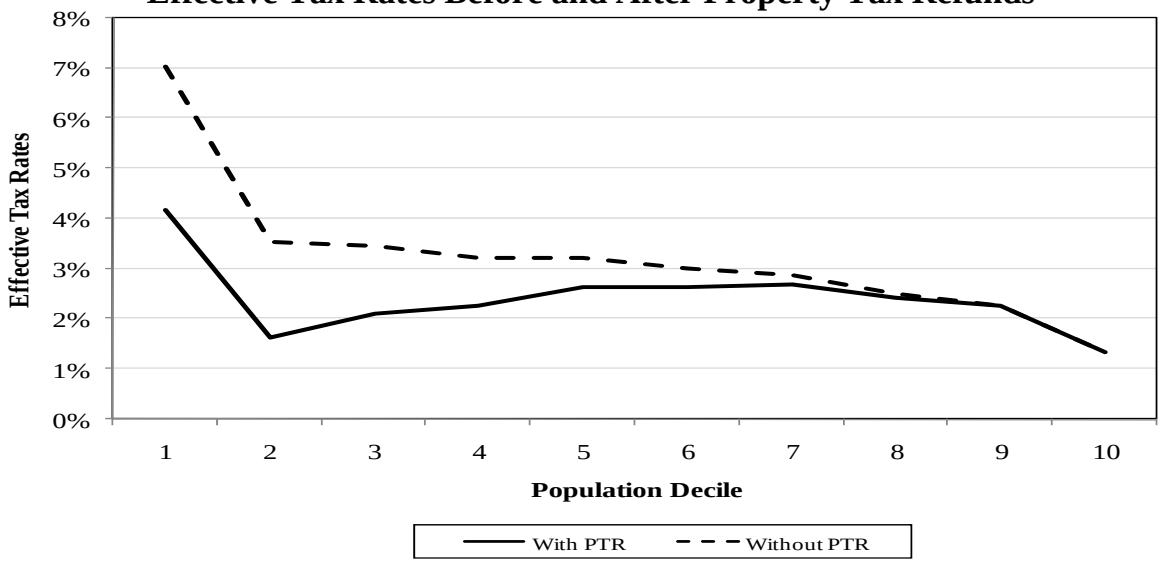
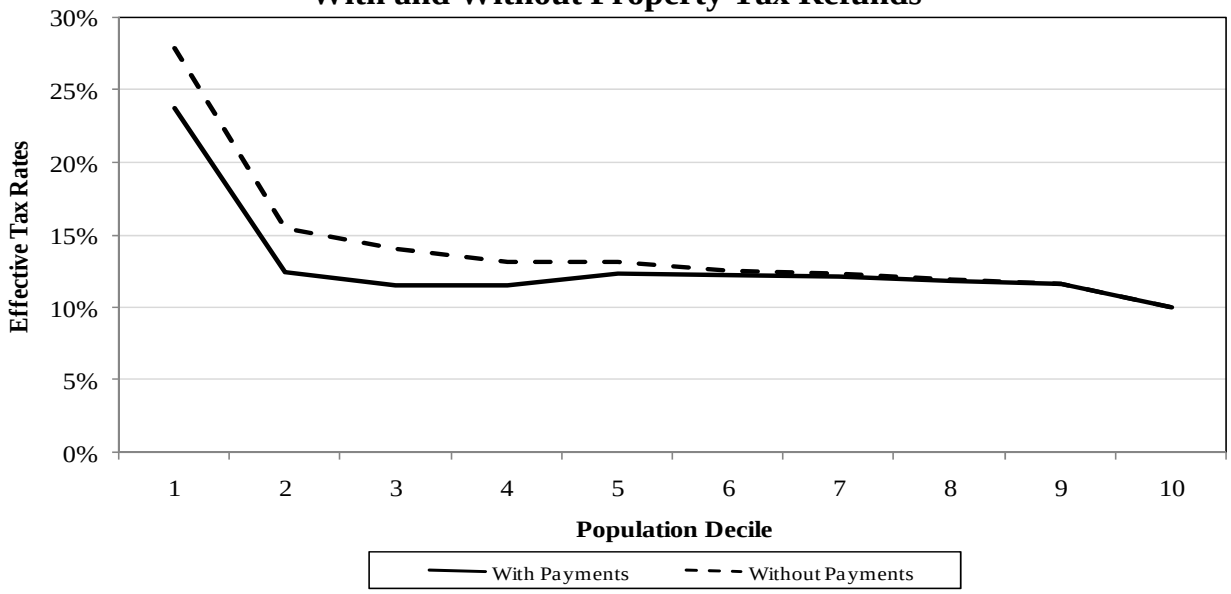


Table 4-11 and *Figure 4-5* show the combined impact of both the income tax credits and property tax refunds on the overall effective tax rates by population decile. Without the credits or property tax refunds, effective tax rates would be higher in the first eight deciles. These payments make the overall tax system less regressive. In their absence, the population-decile Suits index for all taxes would be -0.075 rather than -0.053.

Table 4-11
Combined Impact of Property Tax Refunds and Refundable Income Tax Credits on Effective State and Local Tax Rates

Population Decile	Household Income	Effective Tax Rates (All Taxes)		
		With PTR & Credits	Change If No PTR or Credits	Without PTR or Credits
First	$ 9,782 & Under	23.8%	+4.2%	27.9%
Second	9,783 - $ 16,056	12.5%	+3.1%	15.5%
Third	16,057 - 23,186	11.5%	+2.6%	14.1%
Fourth	23,187 - 30,951	11.6%	+1.6%	13.2%
Fifth	30,952 - 40,060	12.4%	+0.8%	13.2%
Sixth	40,061 - 51,501	12.2%	+0.4%	12.6%
Seventh	51,502 - 66,615	12.2%	+0.2%	12.4%
Eighth	66,616 - 86,673	11.9%	+0.1%	12.0%
Ninth	86,674 - 123,937	11.7%	0.0%	11.7%
Tenth	$ 123,938 & Over	10.0%	0.0%	10.0%
Total		11.2%	+0.3%	11.6%

Figure 4-5
Effective State and Local Tax Rates by Population Decile With and Without Property Tax Refunds



Section E
Incidence of the Health Impact Fee (2006)

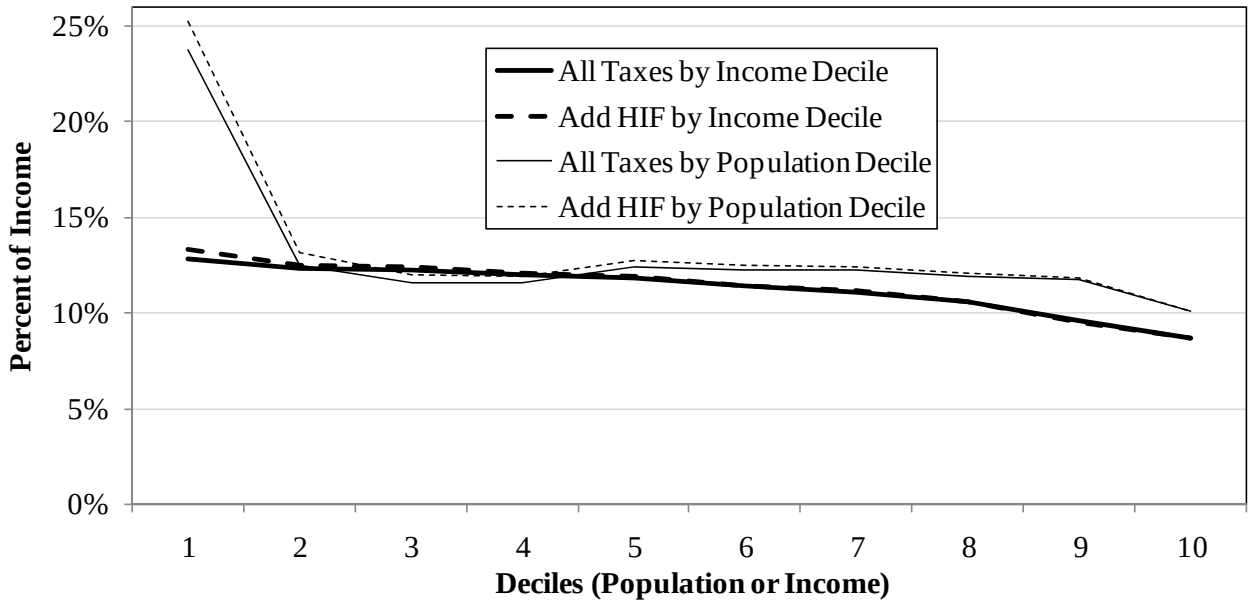
This study does not include fees. As a result, the 2006 numbers do not include the $225 million in revenue from the Health Impact Fee (HIF) on cigarettes and other tobacco products. For informational purposes, the incidence of the HIF is shown in *Table 4-12* and *Figure 4-6*. If the HIF were included, the Suits index would fall from -0.053 to -0.059.

Table 4-12
Incidence of the Health Impact Fee by Population Decile
(Minnesota Residents, 2006)

Population Decile	Burden as Percent of Income		
	All Taxes	Incidence of HIF	If HIF Were Included
First	23.8%	1.4%	25.2%
Second	12.5%	0.7%	13.2%
Third	11.5%	0.5%	12.0%
Fourth	11.6%	0.3%	11.9%
Fifth	12.4%	0.3%	12.7%
Sixth	12.2%	0.2%	12.4%
Seventh	12.2%	0.2%	12.3%
Eight	11.9%	0.1%	12.0%
Ninth	11.7%	0.1%	11.8%
Tenth	10.0%	0.0%	10.1%
Total	11.2%	0.1%	11.4%
Top 5%	9.7%	0.0%	9.7%
Top 1%	8.9%	0.0%	8.9%
Pop.-Decile Suits	-0.053	-0.586	-0.059

Income Decile	Burden as Percent of Income		
	All Taxes	Incidence of HIF	If HIF Were Included
First	12.8%	0.5%	13.3%
Second	12.3%	0.2%	12.5%
Third	12.2%	0.2%	12.4%
Fourth	11.9%	0.1%	12.1%
Fifth	11.8%	0.1%	11.9%
Sixth	11.4%	0.1%	11.4%
Seventh	11.1%	0.0%	11.1%
Eight	10.6%	0.0%	10.6%
Ninth	9.5%	0.0%	9.5%
Tenth	8.7%	0.0%	8.7%
Total	11.2%	0.1%	11.4%
Top 5%	8.5%	0.0%	8.5%
Top 1%	7.4%	0.0%	7.4%
Inc.-Decile Suits	-0.060	-0.572	-0.066

Figure 4-6
Burden as a Percent of Income
All Taxes vs. If Health Impact Fee Included



Section F
Estimating the Incidence of a Change in Business Taxes

The incidence of proposed changes in business taxes has, on occasion, been mistakenly assumed to be identical to the incidence reported in the Tax Incidence Study. This is a mistake. The incidence results reported here cannot be applied to proposals for business tax changes.

The Tax Incidence Study estimates the burden of business taxes under the assumption that all states levy their existing taxes at the same time. Under that assumption, the ultimate burden of business taxes depends on how Minnesota's taxes compare to the taxes in other states. A tax on capital (other than land) is divided into three parts:

- The "average national tax rate on all capital."
- The "sector differential", defined as any portion of the tax that reflects higher national tax rates for a particular business sector.
- The "Minnesota differential", defined as any excess of Minnesota's tax over the average national level of tax levied on this sector.

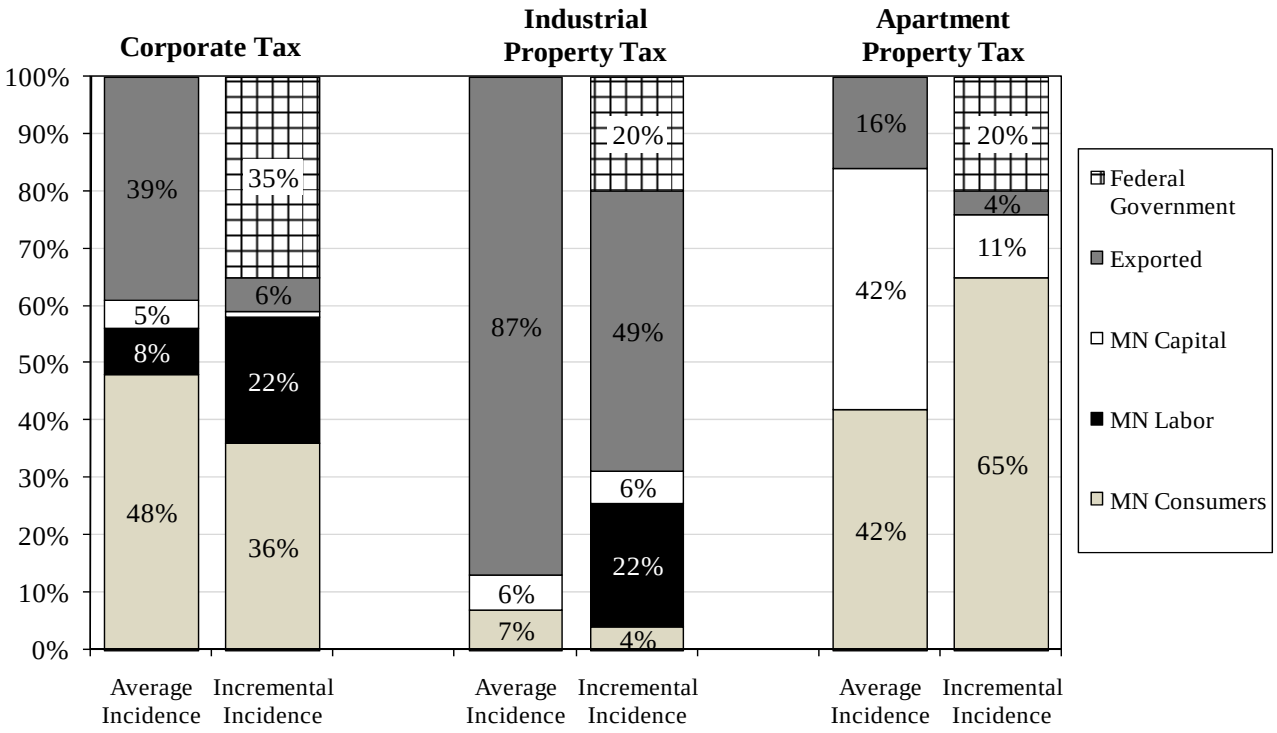
The portion of Minnesota's tax representing the national average tax on capital has a different incidence than the "Minnesota differential." The tax burden reported in this study is the "average" incidence of a tax that is partly a tax levied at average national rates and partly a tax in excess of what is typical in other states. (A more detailed explanation of the modeling of business tax incidence is found in *Appendix B*.)

The burden of *existing* business taxes (the "average" incidence reported in this study) can be much different from the incidence of a *change* in tax ("incremental incidence"). If Minnesota changes its tax alone – with no changes in other states – then *all* of that tax change should be considered a change in the Minnesota differential.

Compared to the "average" incidence reported in this study, the burden of an *increase* in a business tax is less likely to fall on capital and more likely to fall on labor and consumers. Similarly, a *cut* in business taxes is more likely to benefit labor and consumers and less likely to benefit capital owners than is suggested by the results reported in this study. The ability to export the tax burden to residents of other states is also less than is suggested by the results for "average incidence" reported here. Moreover, the incidence of change in tax – unlike existing taxes – should take the federal tax offset into account. (See *Section C* of this chapter for a discussion of the federal tax offset.)

Three examples are provided in *Figure 4-7* to illustrate the potential differences. The figure contrasts the average incidence reported in this study with the incremental incidence of a change in the corporate tax, industrial property taxes, or property taxes levied on apartments.[28] These results should be considered rough approximations, provided for illustration only. In calculating the federal tax offset, the federal corporate tax rate is assumed to be 35 percent for those paying Minnesota corporate tax, while the federal tax rate for manufacturing and rental housing is assumed to be 20 percent.

Figure 4-7
Average vs. Incremental Incidence



[28] Apartments are only a portion of the rental housing category shown on *Table B-2*, so the average-incidence results differ somewhat.

Section G
Tax Incidence in Other States

Minnesota is the only state that completes a comprehensive tax incidence study on a regular basis. This makes it difficult to know how to put the Minnesota results in context. Given the questions raised about how Minnesota compares to other states, this section summarizes the results of a 50-state study of state and local tax incidence. That study, entitled *Who Pays? A Distributional Analysis of Tax Systems in All 50 States* (2nd Edition), was published by the Institute on Taxation and Economic Policy (ITEP) in January 2003.[29] It uses a methodology that is relatively close to what is used in this study.

The ITEP study is of high quality, but its results should be used with caution for several reasons.

- The population is limited to non-senior households.
- The results are for tax year 2002.
- Because all 50 states are included, there is obviously a less detailed analysis of each individual state's tax structure in Minnesota's studies.
- The assumptions about business tax incidence are different (though the results for Minnesota are close).
- The results include only 7 population groups rather than either population deciles or income deciles:
    - Bottom 20 percent
    - Second 20 percent
    - Third 20 percent
    - Fourth 20 percent
    - Next 15 percent
    - Next 4 percent
    - Top 1 percent

Given these differences, it would be misleading to compare the "7-point" Suits indexes for 2002 based on the ITEP study with those reported in the current edition of the Tax Incidence Study for 2006 and 2011. The ITEP Study's "7-point" Suits index for Minnesota in 2002 (-0.017) is almost identical to what was reported for that year in the 2005 edition of the Minnesota Tax Incidence Study (-0.018). The income distributional changes that increased Minnesota's regressivity between 2002 and 2006 have likely had a similar effect in other states over the same period. So a comparison of the 2006 Suits index with "7-point" Suits indexes for other states in 2002 would be misleading.

[29] Available at: http://www.itepnet.org/whopays.htm. The "7-point" Suits indexes were calculated by Jeff Van Wychen.

Table 4-13 lists the 7-point Suits indexes for each state in 2002 (for non-senior households), based on the ITEP study. The variation across states is striking. The tax systems of five states were progressive (with Suits indexes greater than zero, and another was proportional (with a Suits index equal to zero). In contrast, twelve states had Suits indexes below -0.100, and five of those were below -0.200. The 7-point Suits based on the average of effective tax rates for the seven population groups in all states was -0.066.

Minnesota (at -0.017) was among the less regressive states. This would be expected for several reasons:

- Minnesota is more reliant on the income tax than most states. Minnesota's income tax share of state and local taxes is exceeded in only seven other states. The seven most regressive state tax systems, as measured by ITEP's 7-point Suits index, are seven of the eight states with no broad-based income tax. (The exception is Alaska.)
- Minnesota's income tax is one of the most progressive.[30] Of the ten most regressive states, only three have an income tax, and all are flat-rate taxes.
- Minnesota also has among the most generous refundable income tax credits for low-income households, along with one of the most generous income-conditioned property tax credits for homeowners and renters. As seen in *Section D* of this chapter, these credits significantly reduce the regressivity of Minnesota's overall tax system.

Table 4-13 also shows the average overall effective tax rate in 2002 as estimated by ITEP for non-senior households. Minnesota's effective tax rate (at 10.3 percent) was slightly above the U.S. average reported by ITEP (at 10.0 percent). The correlation between the average effective tax rate and the Suits index (+0.07) is low, suggesting little relationship between the two.

[30] Minnesota Taxpayers Association, *Comparison on Individual Income Tax Burdens by State* (2003).

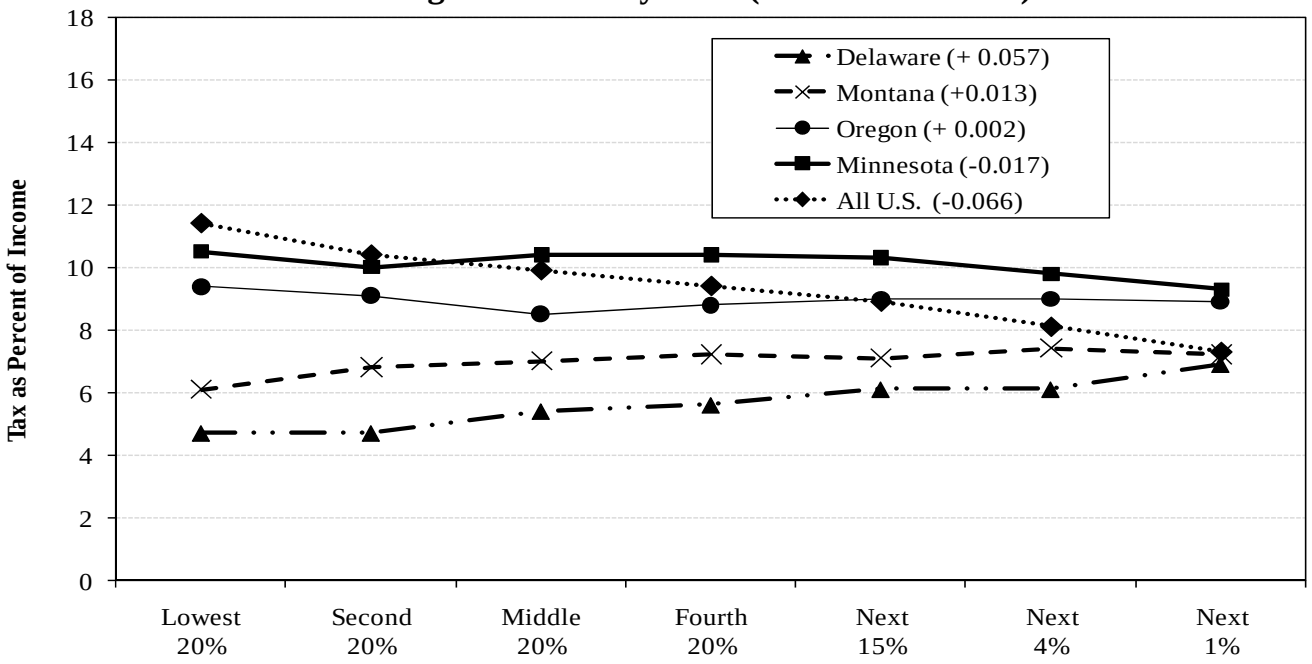
Table 4-13
ITEP "7-Point" Suits Index by State
Non-Senior Households in 2002

Listed Alphabetically		
State	7-Point Suits Index	Average Effective Tax Rate
Alabama	-0.131	9.2%
Alaska	-0.035	3.5%
Arizona	-0.097	9.9%
Arkansas	-0.050	10.2%
California	0.014	10.0%
Colorado	-0.084	9.0%
Connecticut	-0.098	10.2%
Delaware	0.057	5.3%
Florida	-0.222	10.0%
Georgia	-0.071	10.6%
Hawaii	-0.075	11.0%
Idaho	-0.012	9.4%
Illinois	-0.120	10.6%
Indiana	-0.089	10.0%
Iowa	-0.049	10.3%
Kansas	-0.050	10.5%
Kentucky	-0.041	9.9%
Louisiana	-0.102	9.5%
Maine	0.001	10.4%
Maryland	-0.035	9.3%
Massachusetts	-0.054	9.1%
Michigan	-0.093	11.3%
Minnesota	**-0.017**	**10.3%**
Mississippi	-0.074	9.7%
Missouri	-0.043	9.5%
Montana	0.013	6.9%
Nebraska	-0.009	9.8%
Nevada	-0.215	6.5%
New Hampshire	-0.144	5.9%
New Jersey	-0.036	10.4%
New Mexico	-0.047	10.5%
New York	-0.053	11.9%
North Carolina	-0.028	10.1%
North Dakota	-0.074	8.8%
Ohio	-0.017	10.6%
Oklahoma	-0.064	10.9%
Oregon	0.002	9.0%
Pennsylvania	-0.117	9.2%
Rhode Island	-0.047	11.0%
South Carolina	-0.013	8.5%
South Dakota	-0.200	8.2%
Tennessee	-0.196	8.8%
Texas	-0.174	8.5%
Utah	-0.075	10.9%
Vermont	0.000	9.6%
Virginia	-0.035	8.5%
Washington	-0.249	11.7%
West Virginia	-0.022	9.5%
Wisconsin	-0.050	11.2%
Wyoming	-0.212	5.5%
All U.S.	**-0.066**	**10.0%**

Ranked from Most Progressive to Most Regressive			
State Suits Rank	State	7-Point Suits Index	Average Effective Tax Rate
1	Delaware	0.057	5.3%
2	California	0.014	10.0%
3	Montana	0.013	6.9%
4	Oregon	0.002	9.0%
5	Maine	0.001	10.4%
6	Vermont	0.000	9.6%
7	Nebraska	-0.009	9.8%
8	Idaho	-0.012	9.4%
9	South Carolina	-0.013	8.5%
10	Ohio	-0.017	10.6%
11	**Minnesota**	**-0.017**	**10.3%**
12	West Virginia	-0.022	9.5%
13	North Carolina	-0.028	10.1%
14	Maryland	-0.035	9.3%
15	Virginia	-0.035	8.5%
16	Alaska	-0.035	3.5%
17	New Jersey	-0.036	10.4%
18	Kentucky	-0.041	9.9%
19	Missouri	-0.043	9.5%
20	Rhode Island	-0.047	11.0%
21	New Mexico	-0.047	10.5%
22	Iowa	-0.049	10.3%
23	Kansas	-0.050	10.5%
24	Wisconsin	-0.050	11.2%
25	Arkansas	-0.050	10.2%
26	New York	-0.053	11.9%
27	Massachusetts	-0.054	9.1%
28	Oklahoma	-0.064	10.9%
	All U.S.	**-0.066**	**10.0%**
29	Georgia	-0.071	10.6%
30	North Dakota	-0.074	8.8%
31	Mississippi	-0.074	9.7%
32	Utah	-0.075	10.9%
33	Hawaii	-0.075	11.0%
34	Colorado	-0.084	9.0%
35	Indiana	-0.089	10.0%
36	Michigan	-0.093	11.3%
37	Arizona	-0.097	9.9%
38	Connecticut	-0.098	10.2%
39	Louisiana	-0.102	9.5%
40	Pennsylvania	-0.117	9.2%
41	Illinois	-0.120	10.6%
42	Alabama	-0.131	9.2%
43	New Hampshire	-0.144	5.9%
44	Texas	-0.174	8.5%
45	Tennessee	-0.196	8.8%
46	South Dakota	-0.200	8.2%
47	Wyoming	-0.212	5.5%
48	Nevada	-0.215	6.5%
49	Florida	-0.222	10.0%
50	Washington	-0.249	11.7%

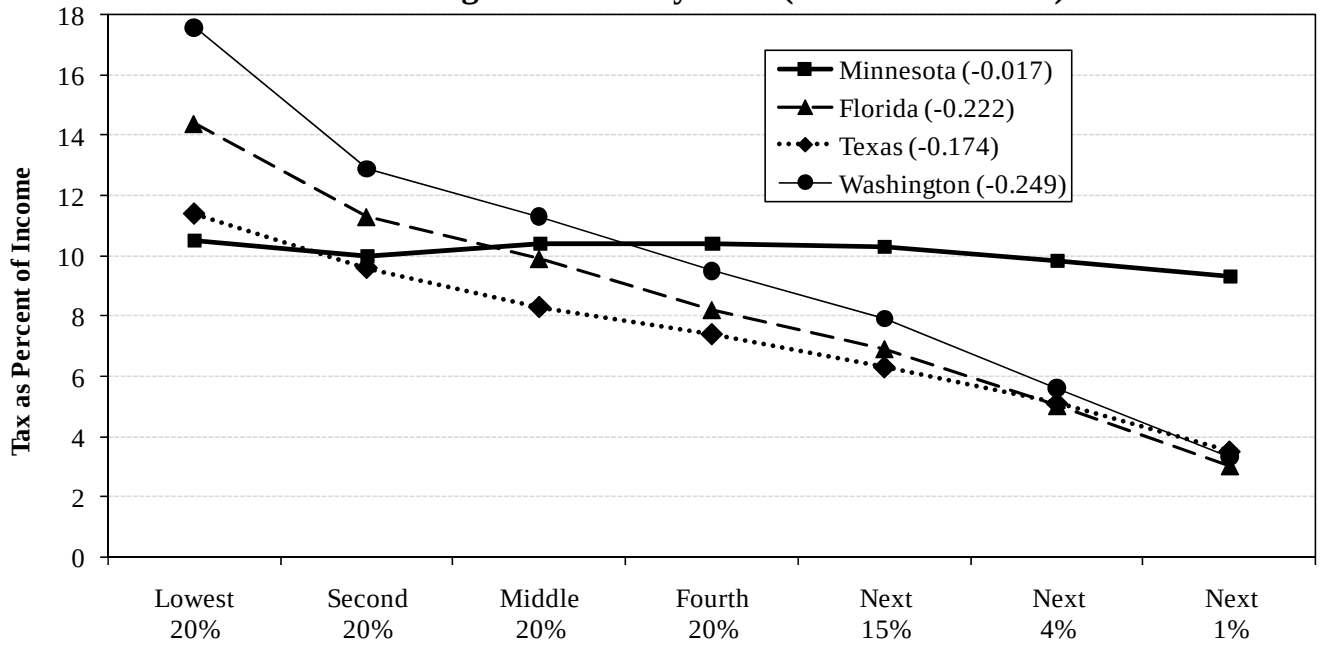
Figures 4-8, *4-9*, and *4-10* illustrate the variation in patterns among the states more visually. *Figure 4-8* compares Minnesota and the national average and three of the states with progressive tax systems. *Figure 4-9* shows three states with more regressive tax structures. *Figure 4-10* compares Minnesota with its neighboring states.

Figure 4-8
ITEP Study Results for Minnesota and Three States With Progressive Tax Systems (2002 Non-Seniors)



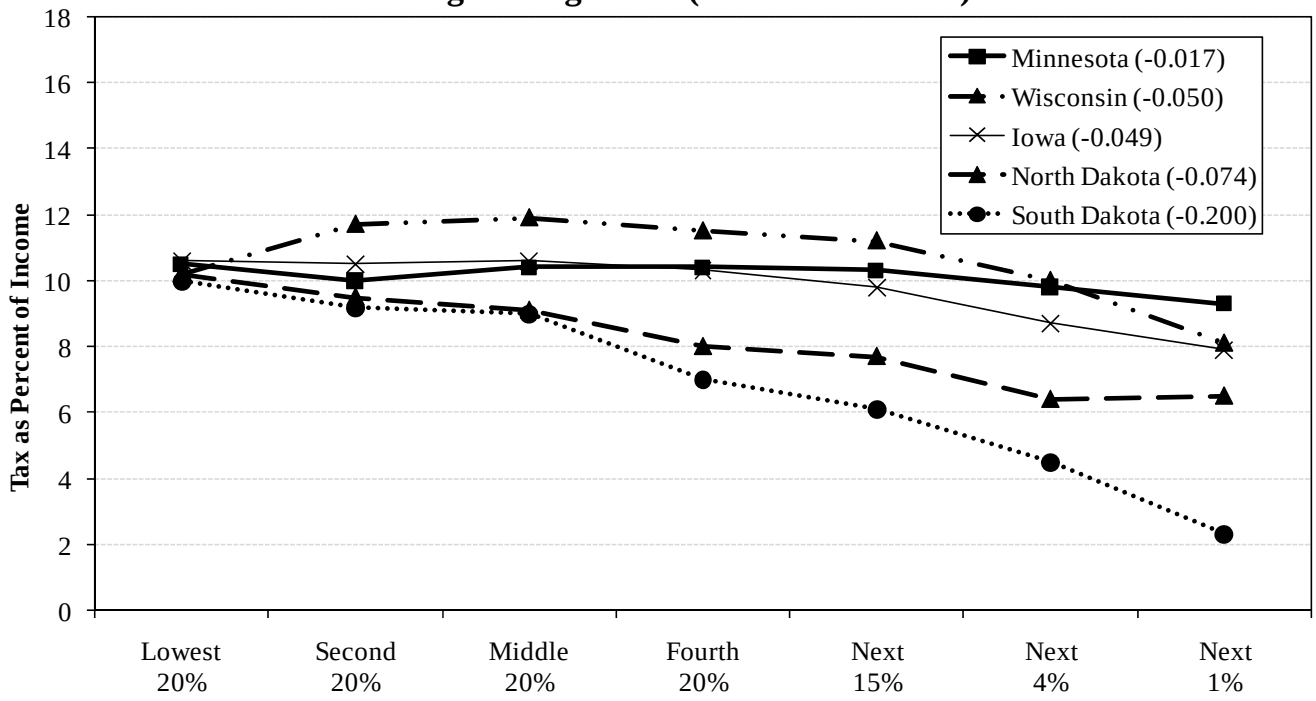
Source: Institute for Taxation & Economic Policy

Figure 4-9
ITEP Study Results for Minnesota and Three States With More Regressive Tax Systems (2002 Non-Seniors)



Source: Institute for Taxation & Economic Policy

Figure 4-10
ITEP Study Results for Minnesota and Neighboring States (2002 Non-Seniors)



Source: Institute for Taxation & Economic Policy

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Chapter 5: Demographic Variation

Previous chapters show how effective tax rates vary by income when all households are considered together, regardless of household size, marital status, or age. This implicitly assumes that a single person with $50,000 of income is the same as a family of six with the same income. This chapter provides more detail by type of household, allowing comparisons of tax across similar households. For example, *Table 5-1* shows average tax burdens for married couples with children at different levels of income. This allows the reader to identify the average tax burden for representative households – a married couple with children and income of $100,000 or a non-senior single-person household with income of $40,000.

Household Types by Population Decile

The demographic makeup of individual deciles varies greatly, as shown in *Figure 5-1*. In each of the bottom two deciles, over 70 percent of the households are single-person households; only 22 percent include children. In contrast, in the top two deciles only 11 percent of all households are single-person households, and over 50 percent include children.

Figure 5-1 also shows that senior households (married and single) are distributed unevenly across deciles. Seniors account for about one-quarter of all households in deciles 2 through 4. In contrast, seniors comprise only 15 percent of all households in the top decile – and almost 90 percent of those top-decile seniors are married. Single seniors far outnumber senior couples in the first five deciles; in the top deciles, though, the number of senior couples far exceeds the number of single seniors.

In the first five deciles, most households with children are single-parent households. The proportion of all households with children that include two parents increases steadily with income. Almost 90 percent of all households in the top two deciles are married couples (with or without children).

Figure 5-1
Family Type by Population Decile

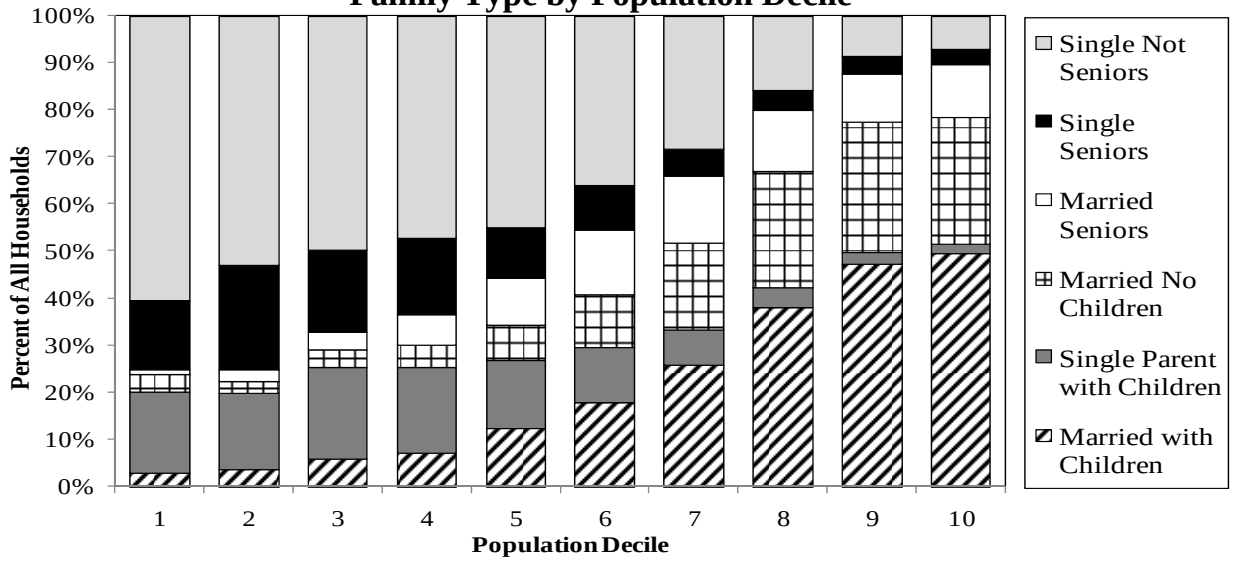
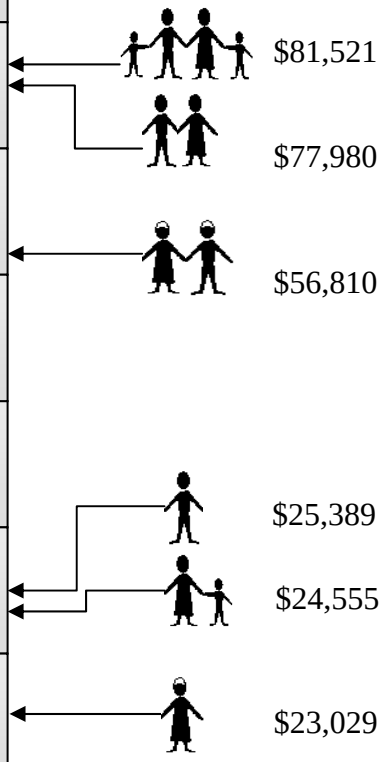


Figure 5-2 illustrates the great differences in median incomes for each of the six family types. In 2006, the median income for a single-parent family was $24,555, so the typical single-parent family was in the fourth population decile. The median income for a married couple with children was $81,521 (in the eighth decile). The median income for senior couples ($56,810) puts them in the seventh decile. In contrast, the median single senior (at $23,029) is in the third decile.

Figure 5-2
Median Income by Household Type (2006)

Pop.	Household Income
10	$123,938 & Over
9	123,937 – 86,674
8	86,673 – 66,616
7	66,615 – 51,502
6	51,501 – 40,061
5	40,060 – 30,952
4	30,951 – 23,187
3	23,186 – 16,057
2	16,056 – 9,783
1	9,782 & Under



Average Tax Burdens by Household Type

Tables 5-1 through *5-5* each show how average tax burdens and demographic characteristics vary with income for a particular type of household. *Figure 5-1* is limited to Minnesota's 515,500 married couples with children. The couples are divided into ten groups, each with 51,550 couples, ordered from lowest income to highest income.

For example, consider the third decile of married couples with children (the shaded column on *Table 5-1*). These households have incomes between $46,156 (the maximum income for the second decile) and $59,778 (the maximum income for the third decile). This is the third decile, so twenty percent of married couples with children have lower incomes; 70 percent of such families have higher incomes. For those in the third decile, average income is $53,292, and 99 percent have earned income (averaging $48,847). Almost all are homeowners (85 percent when farm homesteads are included), with homes valued an average of $170,776. Twelve percent are renters (paying an average of $850 per month), and 3 percent are neither owners nor renters (perhaps living with parents).

These married couples with children pay state and local taxes equal to 13 percent of their income (an average of $6,942 of tax). This includes $1,372 in residential property tax (net of PTR), $1,339 of income tax, $1,083 in state sales tax, $365 in excise taxes (motor fuels, cigarettes, and alcohol), $911 in other types of taxes levied on individuals, and $1,872 in business taxes.

Similar information is provided for other household types.

When the population is limited to a single household type, the variation of effective tax rates with income is easier to interpret. For married couples with children (*Table 5-1*), the effective tax rate falls steadily from 14.6 percent of income for the poorest 10 percent to 10 percent for the richest 10 percent. The population-decile Suits index is -0.058 – very close to the all-household Suits index.

Table 5-6 shows the population-decile Suits index for each of the five household types considered separately. The tax is most regressive for married couples with no children (at -0.087). It is progressive for single parents (Suits index of +0.039). The population-decile Suits index for other household types is almost identical to that for all households combined.

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Table 5-1

Household Characteristics and Average Tax Burden Amounts by Population Decile
Married Couples with Children

Each Decile Contains 51,550 Married Couples with Children

HOUSEHOLD CHARACTERISTICS	Population Decile										
	One	Two	Three	Four	Five	Six	Seven	Eight	Nine	Ten	Total
Number of Households	51,550	51,550	51,550	51,550	51,550	51,550	51,550	51,550	51,550	51,550	515,505
Average number of children	2.2	2.2	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.1	2.1
Average Household Income	$19,843	$39,590	$53,292	$65,493	$75,911	$87,817	$101,524	$121,099	$157,841	$442,198	$116,460
Maximum Household Income	$32,300	$46,156	$59,778	$70,765	$81,521	$93,880	$110,211	$135,354	$188,246		
Percent with Earned Income	86%	98%	99%	100%	99%	100%	100%	100%	100%	98%	98%
Average Earned income	$24,075	$37,802	$48,847	$59,514	$69,844	$79,988	$91,597	$106,473	$127,682	$263,417	$91,650
Housing Status											
Homeowners	49%	70%	80%	87%	92%	93%	96%	96%	96%	98%	86%
Renters	37%	20%	12%	6%	5%	4%	1%	1%	0%	0%	9%
Farmers	8%	7%	7%	6%	3%	3%	3%	3%	4%	1%	4%
Other	7%	4%	1%	1%	0%	0%	0%	0%	0%	0%	1%
Average Taxable Market Value	$148,549	$145,090	$152,859	$168,675	$185,484	$189,062	$222,374	$244,183	$291,849	$415,389	$223,022
Average Monthly Rent	$399	$700	$850	$885	$973	$1,072	$1,084	$1,137	$1,140	$1,244	$652
AVERAGE TAX BURDENS											
Local Property Tax											
All Households											
Total Tax	$1,048	$1,373	$1,552	$1,730	$1,923	$2,014	$2,346	$2,627	$3,310	$4,903	$2,283
-Property Tax Refund	-$376	-$261	-$180	-$110	-$85	-$34	-$19	-$3	-$11	-$9	-$109
Tax After PTR	$672	$1,113	$1,372	$1,620	$1,838	$1,980	$2,327	$2,624	$3,299	$4,893	$2,174
Renters Only											
Total Tax On Rental Unit	$746	$1,209	$1,426	$1,471	$1,614	$1,782	$1,798	$1,887	$1,891	$2,064	$1,131
Renters Total Tax on Unit	$258	$418	$493	$509	$558	$616	$622	$653	$654	$714	$391
-Property Tax Refund	-$389	-$277	-$82	-$8	$0	$0	$0	$0	$0	$0	-$242
Tax After PTR	-$131	$141	$411	$500	$558	$616	$622	$653	$654	$714	$150
Homeowners Only											
Total Tax on Home	$1,604	$1,606	$1,630	$1,742	$1,898	$1,969	$2,254	$2,520	$3,151	$4,676	$2,375
-Property Tax Refund	-$416	-$269	-$196	-$118	-$90	-$35	-$19	-$3	-$11	-$9	-$98
Homeowners Tax after PTR	$1,189	$1,338	$1,435	$1,624	$1,808	$1,934	$2,235	$2,516	$3,139	$4,667	$2,277
State Income Tax	-$768	$417	$1,339	$2,041	$2,681	$3,455	$4,184	$5,297	$7,413	$26,669	$5,273
State Sales Tax	$631	$890	$1,083	$1,242	$1,377	$1,523	$1,683	$1,835	$2,056	$3,274	$1,559
State Excise Taxes	$296	$339	$365	$385	$400	$417	$430	$427	$426	$556	$404
Other Taxes	$623	$797	$911	$1,007	$1,066	$1,178	$1,264	$1,348	$1,500	$2,322	$1,202
Business Taxes [1]	$1,453	$1,854	$1,872	$1,875	$1,928	$2,095	$2,318	$2,539	$3,459	$6,453	$2,585
Total State and Local Tax Burden	$2,906	$5,409	$6,942	$8,170	$9,291	$10,648	$12,206	$14,069	$18,154	$44,168	$13,196
Effective Tax Rate for all Taxes	14.6%	13.7%	13.0%	12.5%	12.2%	12.1%	12.0%	11.6%	11.5%	10.0%	11.3%

[1] For these tables only, Business Taxes does not include the share of Rental Property Taxes borne by the renter.

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Table 5-2

Household Characteristics and Average Tax Burden Amounts by Population Decile
Non-Senior Married Couples without Children

Each Decile Contains 32,129 Non-Senior Married Couples without Children

HOUSEHOLD CHARACTERISTICS	Population Decile										Total
	One	Two	Three	Four	Five	Six	Seven	Eight	Nine	Ten	
Number of Households	32,129	32,129	32,129	32,129	32,129	32,129	32,129	32,129	32,129	32,129	321,285
Average Household Income	$15,747	$37,363	$51,054	$61,901	$72,581	$83,199	$95,925	$113,167	$146,093	$440,755	$111,780
Maximum Household Income	$28,310	$44,707	$56,721	$67,532	$77,980	$88,724	$103,748	$126,396	$176,718		
Percent with Earned Income	63%	91%	93%	97%	96%	99%	99%	98%	98%	97%	93%
Average Earned income	$19,687	$32,395	$44,911	$53,040	$63,769	$70,128	$78,505	$93,426	$110,601	$213,080	$80,686
Housing Status											
Homeowners	45%	65%	82%	86%	86%	91%	94%	95%	96%	96%	84%
Renters	26%	22%	10%	9%	8%	5%	2%	3%	1%	0%	9%
Farmers	13%	9%	7%	5%	5%	5%	4%	2%	3%	4%	6%
Other	16%	3%	2%	0%	1%	0%	0%	0%	0%	0%	2%
Average Taxable Market Value	$161,027	$150,711	$157,377	$144,887	$160,589	$167,413	$193,559	$205,965	$255,844	$357,256	$199,745
Average Monthly Rent	$356	$728	$852	$900	$931	$1,078	$1,085	$1,136	$1,108	$1,256	$715
AVERAGE TAX BURDENS											
Local Property Tax											
All Households											
Total Tax	$1,023	$1,189	$1,542	$1,482	$1,629	$1,850	$2,037	$2,243	$2,748	$3,957	$1,970
-Property Tax Refund	-$224	-$172	-$116	-$62	-$33	-$15	-$8	-$5	-$9	-$15	-$66
Tax After PTR	$798	$1,017	$1,426	$1,419	$1,597	$1,835	$2,028	$2,238	$2,739	$3,942	$1,904
Renters Only											
Total Tax On Rental Unit	$654	$1,224	$1,419	$1,493	$1,546	$1,788	$1,798	$1,885	$1,836	$2,083	$1,211
Renters Total tax on Unit	$226	$423	$491	$516	$535	$618	$622	$652	$635	$720	$419
-Property Tax Refund	-$221	-$129	-$13	-$1	$0	$0	$0	$0	$0	$0	-$101
Tax After PTR	$5	$295	$478	$515	$535	$618	$622	$652	$635	$720	$317
Homeowners Only											
Total Tax on Home	$1,574	$1,394	$1,609	$1,509	$1,657	$1,818	$1,970	$2,178	$2,631	$3,777	$2,063
-Property Tax Refund	-$286	-$193	-$129	-$69	-$36	-$16	-$9	-$5	-$9	-$15	-$64
Homeowners Tax after PTR	$1,287	$1,201	$1,479	$1,440	$1,621	$1,802	$1,961	$2,172	$2,623	$3,763	$1,999
State Income Tax	$92	$814	$1,584	$2,290	$2,984	$3,655	$4,338	$5,342	$7,148	$24,258	$5,251
State Sales Tax	$710	$953	$1,110	$1,222	$1,325	$1,421	$1,532	$1,701	$2,035	$4,368	$1,638
State Excise Taxes	$308	$340	$355	$366	$377	$386	$397	$387	$369	$391	$368
Other Taxes	$651	$819	$961	$995	$1,078	$1,126	$1,223	$1,275	$1,359	$2,118	$1,161
Business Taxes [1]	$1,360	$1,745	$1,588	$1,654	$1,781	$1,777	$2,073	$2,297	$2,976	$7,282	$2,453
Total State and Local Tax Burden	$3,920	$5,689	$7,024	$7,947	$9,141	$10,201	$11,592	$13,241	$16,626	$42,360	$12,774
Effective Tax Rate for all Taxes	24.9%	15.2%	13.8%	12.8%	12.6%	12.3%	12.1%	11.7%	11.4%	9.6%	11.4%

[1]For these tables only, Business Taxes does not include the share of Rental Property Taxes borne by the renter.

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Table 5-3

Household Characteristics and Average Tax Burden Amounts by Population Decile
Non-Senior Single-Person Households

Each Decile Contains 85,971 Non-Senior Single-Person Households

HOUSEHOLD CHARACTERISTICS	Population Decile										Total
	One	Two	Three	Four	Five	Six	Seven	Eight	Nine	Ten	
Number of Households	85,971	85,971	85,971	85,971	85,971	85,971	85,971	85,971	85,971	85,971	859,713
Average Household Income	$3,966	$8,999	$12,835	$17,307	$22,412	$28,148	$34,438	$42,422	$54,837	$130,272	$35,564
Maximum Household Income	$7,321	$10,802	$15,091	$19,658	$25,389	$31,023	$38,035	$47,634	$64,068		
Percent with Earned Income	62%	55%	70%	76%	89%	94%	95%	95%	95%	93%	82%
Average Earned Income	$5,336	$8,167	$11,143	$15,855	$20,688	$26,154	$32,080	$38,792	$48,320	$80,609	$31,417
Housing Status											
Homeowners	14%	11%	12%	18%	25%	32%	41%	49%	68%	81%	35%
Renters	42%	54%	55%	55%	54%	55%	48%	41%	28%	16%	45%
Farmers	2%	0%	1%	1%	1%	1%	1%	2%	2%	2%	1%
Other	41%	34%	32%	26%	20%	13%	10%	8%	3%	1%	19%
Average Taxable Market Value	$140,562	$116,606	$107,954	$108,612	$115,577	$116,005	$126,955	$129,234	$144,267	$199,773	$144,024
Average Monthly Rent	$93	$198	$282	$364	$471	$589	$709	$788	$865	$994	$477
AVERAGE TAX BURDENS											
Local Property Tax											
All Households											
Total Tax	$318	$223	$272	$379	$502	$647	$823	$988	$1,413	$2,100	$766
-Property Tax Refund	-$162	-$173	-$187	-$197	-$185	-$160	-$106	-$98	-$65	-$28	-$136
Tax After PTR	$156	$50	$84	$182	$317	$487	$717	$890	$1,348	$2,072	$630
Renters Only											
Total Tax On Rental Unit	$301	$421	$548	$656	$817	$1,002	$1,189	$1,313	$1,438	$1,645	$843
Renters Total Tax on Unit	$104	$145	$189	$227	$283	$347	$411	$454	$497	$569	$291
-Property Tax Refund	-$237	-$261	-$258	-$254	-$231	-$156	-$89	-$33	-$5	$0	-$177
Tax After PTR	-$133	-$115	-$69	-$27	$51	$190	$322	$421	$492	$569	$114
Homeowners Only											
Total Tax on Home	$1,591	$1,181	$1,204	$1,242	$1,286	$1,322	$1,399	$1,489	$1,750	$2,307	$1,657
-Property Tax Refund	-$381	-$275	-$347	-$295	-$233	-$227	-$150	-$166	-$91	-$34	-$156
Homeowners Tax after PTR	$1,210	$906	$858	$947	$1,052	$1,095	$1,249	$1,323	$1,658	$2,273	$1,501
State Income Tax	-$18	$2	$116	$327	$625	$958	$1,326	$1,813	$2,459	$6,640	$1,425
State Sales Tax	$265	$333	$396	$460	$527	$597	$669	$754	$888	$1,886	$677
State Excise Taxes	$144	$161	$177	$192	$207	$220	$233	$248	$252	$274	$211
Other Taxes	$248	$256	$285	$333	$369	$422	$476	$518	$608	$902	$442
Business Taxes [1]	$516	$482	$616	$656	$763	$896	$876	$1,056	$1,142	$2,466	$947
Total State and Local Tax Burden	$1,312	$1,284	$1,674	$2,151	$2,807	$3,579	$4,296	$5,278	$6,697	$14,239	$4,332
Effective Tax Rate for all Taxes	33.1%	14.3%	13.0%	12.4%	12.5%	12.7%	12.5%	12.4%	12.2%	10.9%	12.2%

[1]For these tables only, Business Taxes does not include the share of Rental Property Taxes borne by the renter.

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Table 5-4

Household Characteristics and Average Tax Burden Amounts by Population Decile
Senior Households (Single or Married)

Each Decile Contains 47,663 Senior Households

HOUSEHOLD CHARACTERISTICS	Population Decile										Total
	One	Two	Three	Four	Five	Six	Seven	Eight	Nine	Ten	
Number of Households	47,663	47,663	47,663	47,663	47,663	47,663	47,663	47,663	47,663	47,663	476,626
Percent that are married	7%	10%	17%	25%	42%	55%	66%	71%	74%	78%	44%
Average Household Income	$7,939	$13,174	$18,462	$25,057	$32,329	$40,675	$50,478	$64,471	$88,013	$274,735	$61,534
Maximum Household Income	$10,719	$15,566	$21,786	$28,232	$36,470	$44,860	$56,729	$73,358	$108,488		
Percent with Earned Income	7%	5%	12%	20%	27%	34%	37%	39%	44%	55%	28%
Average earned income	$6,573	$3,832	$5,791	$8,479	$10,721	$12,392	$17,384	$21,840	$30,129	$79,299	$29,368
Housing Status											
Homeowners	28%	42%	55%	62%	68%	71%	76%	84%	84%	88%	66%
Renters	40%	37%	30%	22%	20%	16%	15%	8%	8%	5%	20%
Farmers	7%	6%	6%	9%	9%	9%	8%	7%	8%	7%	8%
Other	25%	14%	8%	7%	3%	3%	1%	1%	0%	0%	6%
Average Taxable Market Value	$114,322	$119,823	$126,345	$151,324	$148,886	$158,654	$183,118	$195,776	$214,592	$293,953	$181,413
Average Monthly Rent	$172	$270	$393	$527	$697	$811	$894	$905	$1,074	$1,177	$509
AVERAGE TAX BURDENS											
Local Property Tax											
All Households											
Total Tax	$452	$666	$875	$1,196	$1,322	$1,453	$1,690	$1,929	$2,117	$3,105	$1,481
-Property Tax Refund	-$195	-$314	-$336	-$383	-$343	-$258	-$207	-$123	-$33	-$31	-$222
Tax After PTR	$257	$352	$539	$813	$979	$1,194	$1,483	$1,806	$2,084	$3,074	$1,258
Renters Only											
Total Tax On Rental Unit	$361	$532	$797	$981	$1,320	$1,418	$1,570	$1,506	$1,764	$1,934	$937
Renters Total tax on Unit	$125	$184	$276	$339	$457	$490	$543	$521	$610	$669	$324
-Property Tax Refund	-$273	-$353	-$488	-$546	-$489	-$305	-$148	-$38	$0	$0	-$338
Tax After PTR	-$148	-$169	-$212	-$207	-$33	$185	$395	$483	$610	$669	-$14
Homeowners Only											
Total Tax on Home	$1,090	$1,165	$1,219	$1,482	$1,510	$1,612	$1,820	$1,973	$2,136	$3,082	$1,826
-Property Tax Refund	-$244	-$377	-$307	-$368	-$320	-$259	-$220	-$132	-$35	-$33	-$210
Homeowners Tax after PTR	$846	$789	$912	$1,114	$1,190	$1,353	$1,600	$1,841	$2,101	$3,049	$1,616
State Income Tax	-$2	$0	$0	$69	$214	$504	$978	$1,974	$3,498	$12,851	$2,009
State Sales Tax	$257	$349	$451	$574	$702	$824	$954	$1,133	$1,445	$3,510	$1,020
State Excise Taxes	$81	$98	$117	$138	$157	$173	$191	$209	$230	$318	$171
Other Taxes	$330	$380	$468	$491	$585	$614	$678	$746	$846	$1,365	$650
Business Taxes [1]	$408	$548	$621	$797	$980	$1,232	$1,303	$1,555	$2,047	$4,715	$1,421
Total State and Local Tax Burden	$1,332	$1,727	$2,196	$2,882	$3,617	$4,541	$5,587	$7,423	$10,149	$25,833	$6,529
Effective Tax Rate for all Taxes	16.8%	13.1%	11.9%	11.5%	11.2%	11.2%	11.1%	11.5%	11.5%	9.4%	10.6%

[1]For these tables only, Business Taxes does not include the share of Rental Property Taxes borne by the renter.

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Table 5-5

Household Characteristics and Average Tax Burden Amounts by Population Decile
Single-Parent Households

Each Decile Contains 27,574 Single-Parent Households

HOUSEHOLD CHARACTERISTICS	Population Decile										
	One	Two	Three	Four	Five	Six	Seven	Eight	Nine	Ten	Total
Number of Households	27,574	27,574	27,574	27,574	27,574	27,574	27,574	27,574	27,574	27,574	275,743
Average Number of Children	1.5	1.6	1.6	1.6	1.5	1.7	1.5	1.6	1.4	1.4	1.6
Average Household Income	$4,174	$9,643	$13,913	$18,299	$22,476	$27,017	$32,360	$39,644	$50,914	$114,792	$33,323
Maximum Household Income	$7,209	$11,880	$16,106	$20,505	$24,555	$29,466	$35,426	$44,488	$59,919		
Percent with Earned Income	64%	78%	87%	92%	94%	96%	97%	97%	97%	97%	90%
Average Earned income	$4,690	$8,507	$12,482	$16,771	$21,282	$25,138	$30,121	$36,819	$44,955	$81,965	$29,827
Housing Status											
Homeowners	18%	18%	20%	24%	31%	39%	54%	59%	74%	86%	42%
Renters	67%	69%	63%	61%	53%	47%	40%	37%	21%	10%	47%
Farmers	1%	1%	0%	0%	1%	1%	2%	0%	2%	2%	1%
Other	14%	13%	17%	14%	16%	13%	4%	4%	3%	1%	10%
Average Taxable Market Value	$136,452	$116,674	$97,032	$119,287	$114,375	$102,972	$129,156	$136,601	$171,644	$222,077	$150,737
Average Monthly Rent	$95	$183	$262	$357	$446	$493	$642	$730	$846	$1,002	$395
AVERAGE TAX BURDENS											
Local Property Tax											
All Households											
Total Tax	$376	$335	$375	$531	$604	$683	$1,031	$1,154	$1,651	$2,430	$917
-Property Tax Refund	-$150	-$254	-$300	-$321	-$280	-$330	-$321	-$267	-$179	-$70	-$247
Tax After PTR	$226	$81	$75	$210	$324	$354	$710	$887	$1,472	$2,361	$670
Renters Only											
Total Tax On Rental Unit	$225	$386	$539	$641	$780	$869	$1,111	$1,247	$1,411	$1,628	$714
Renters Total tax on Unit	$78	$134	$186	$222	$270	$301	$384	$431	$488	$563	$247
-Property Tax Refund	-$147	-$263	-$357	-$322	-$305	-$392	-$412	-$229	-$74	$0	-$281
Tax After PTR	-$70	-$129	-$171	-$100	-$35	-$91	-$27	$203	$414	$563	-$34
Homeowners Only											
Total Tax on Home	$1,595	$1,245	$1,155	$1,500	$1,387	$1,262	$1,482	$1,575	$1,935	$2,550	$1,745
-Property Tax Refund	-$268	-$399	-$368	-$494	-$381	-$365	-$280	-$307	-$216	-$77	-$267
Homeowners Tax after PTR	$1,327	$846	$787	$1,006	$1,005	$897	$1,202	$1,267	$1,719	$2,473	$1,477
State Income Tax	-$252	-$604	-$750	-$807	-$581	-$189	$389	$1,064	$1,705	$5,622	$560
State Sales Tax	$330	$389	$457	$518	$570	$624	$683	$758	$867	$1,311	$651
State Excise Taxes	$165	$206	$211	$218	$224	$231	$239	$250	$266	$277	$229
Other Taxes	$297	$314	$349	$405	$498	$514	$625	$696	$868	$1,591	$616
Business Taxes[1]	$515	$604	$630	$788	$815	$899	$938	$976	$1,192	$2,052	$941
Total State and Local Tax Burden	$1,280	$990	$972	$1,332	$1,851	$2,432	$3,585	$4,632	$6,370	$13,214	$3,666
Effective Tax Rate for all Taxes	30.7%	10.3%	7.0%	7.3%	8.2%	9.0%	11.1%	11.7%	12.5%	11.5%	11.0%

[1]For these tables only, Business Taxes does not include the share of Rental Property Taxes borne by the renter.

Table 5-6
Population-Decile Suits Index
Calculated Separately for Each Household Type

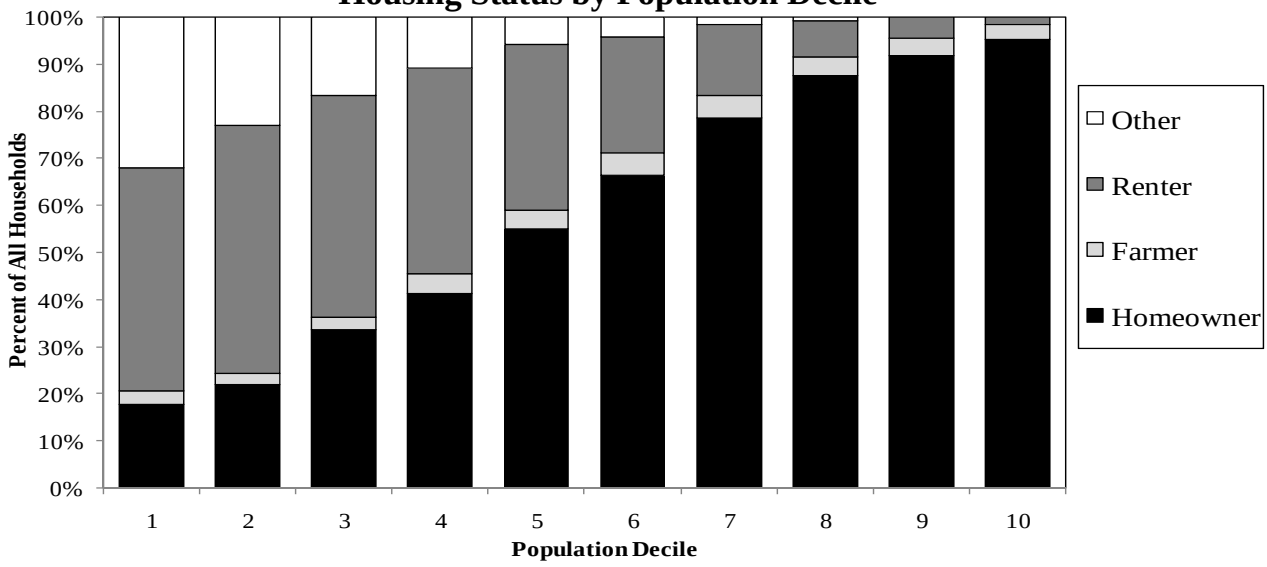
Household Type	Population-Decile Suits Index
Married With Children	-0.057
Married No Children (Non-Senior)	-0.087
Single-Person Household (Non-Senior)	-0.054
Seniors (Single or Married)	-0.055
Single Parents	+0.039
All Family Types	-0.053

Housing Status by Population Decile

Figure 5-3 shows how housing status varied with income. As expected, home ownership rates (including farmers) rose steadily with income, from 21 percent in the first decile to 98 percent in the tenth decile. For all households, 63 percent were homeowners. Renter households outnumbered homeowners in each of the first three deciles; the top three deciles contained 21 homeowner households for every renter household. Farm homesteads were spread fairly evenly among all deciles.[31]

Figure 5-3 also shows that a significant proportion of the households in the first five deciles were classified as neither homeowners nor renters. This "other" category is the result of this study's definition of a household. While the Census defines a household to include all individuals living in a particular housing unit, this study (like other tax incidence studies) defines a household as a taxpayer, a taxpayer's spouse, and all others claimed as dependents for income tax purposes.

Figure 5-3
Housing Status by Population Decile



[31] In this study, farm households are defined as those living on farm homestead property, so every farmer owns a home. This definition excludes active farmers who farm only rented land or do not live on a farm homestead. The home ownership rates cited in this chapter include both farm and non-farm homesteads.

In this study, a secondary household living with a primary household is assumed to pay no property tax. For example, an older child living with parents (but not claimed as dependents) would generally be classified as neither renter nor homeowner. Other examples would include elderly parents living with their children or an unrelated single person living with a homeowner. In such cases, the entire property tax burden was assigned to the homeowner; the second household is assumed to pay no property tax.[32] Although the second incidence household might be considered to have paid part of the homeowner property tax, it is not possible to link the two households using available information (nor would it be clear how to split the tax between them).

Most of the non-renter/non-owner households were single persons in the lower income deciles, reflecting the characteristics of such persons in the Census data. Those living in group quarters (including nursing homes) were also included in this category. None of those living in group quarters would have been considered a separate household by the Census.

Incidence Households Compared to Census Households

By extrapolating from the incidence database, the tax incidence study estimates a total of 2,448,872 Minnesota households in 2006, with a median income of $ 40,060 . In contrast, the U.S. Census reports a total of 2,042,297 Minnesota households in 2006, with a median income of $54,023. Census households average 2.46 persons, while the incidence study households average 2.04 persons. This section explains the differences between the numbers presented in this study and those reported by the Census.

The Census defines a household to include all persons who live together in a housing unit. The precise Census definition is:

> A household includes all the persons who occupy a housing unit . . . in which the occupants live and eat separately from any other persons in the building and which has direct access from the outside of the building or through a common hall. The occupants may be a single family, one person living alone, two or more families living together, or any other group of related or unrelated persons who share living arrangements.

In contrast, the incidence study defines a household as an actual or potential income tax filer and all dependents, even if not living under the same roof.

There are three basic reasons why Census and incidence households differ. First, some Census households are not counted as incidence study households. For example, a full-time college student living in an apartment and claimed as a deduction on a parent's tax return is a Census household but would be combined with the parents in the incidence study. Second, Census households often contain two or more incidence households. For

[32] If a home is owned jointly, the property tax is split equally among all owners.

example, three single persons sharing an apartment would be counted as one Census household but might be three incidence households. Third, individuals living in "group quarters" are not part of any Census household, but some are defined as a household in the incidence study. Examples include a financially independent college student living in a college dorm, or a nursing home resident not claimed as a dependent on someone else's tax return. As a result, the incidence study reports 20 percent more households than the Census, and the median household income in the incidence study is only 74 percent of that reported by the Census.

In summary, the incidence study's population is consistent with the Census.[33] The total number of individuals included in U.S. Census households exceeds the number in the Incidence Study households by only 55,000. This difference is primarily due to this study's exclusion of part-year residents. The lower median income reported in this study occurs largely because the same total income is spread over a larger number of households. The incidence definition of a household is more appropriate than the Census definition when describing the distribution of the tax burden.

[33] More details about the cross-walk between Census data and the data used in tax incidence studies can be found in the 1999 Tax Incidence Study, pp. 19-21.

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Appendix A
The Incidence Study Database

The 2006 incidence study database includes detailed information on income and taxes for a stratified random sample of 102,521 Minnesota households. This sample is then "blown up" to represent 2.45 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 constructed from a number of different sources. First, data was taken from state and federal income tax returns filed in Minnesota. Then, data was added from property tax refund returns. More information concerning homestead property taxes was obtained from data provided by Minnesota counties to the Department of Revenue. Additional income and data came from several state agencies. Information obtained from the American Community Survey of the United States Bureau of the Census was used to estimate annual rent expenditures for renter households. Finally, estimates of household spending patterns were derived using several years of Consumer Expenditure Survey data from the United States Department of Labor.

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.

Definition of Income

The definition of income should be as consistent as possible with the public's perception of economic well-being. Households with equal incomes should be viewed as being equally well off, and those with higher incomes should be considered consistently better off than those in lower income groups. This argues for a comprehensive definition of income. An incidence study using too narrow a definition of income would overstate the ratio of taxes to income; it might also give a distorted picture of the regressivity or progressivity of the tax system.

Comprehensive income in this study includes only monetary sources of income. Capital gains and pension benefits are included when realized, not as they accrue, and no adjustment is made for inflation or for the impact of family size on ability-to-pay.

Components of Household Income

Table A-1 summarizes the measure of household income used in this study. Minnesota households are divided into three groups.

- Income tax filers (87.6 percent of all households and 97.2 percent of all income)
- Property Tax Refund filers who file no income tax return (3.9 percent of all filers and 1.0 percent of all income)
- Nonfilers (8.2 percent of all households and 1.8 percent of all income)

Federal Gross Income (FGI) reported on federal income tax returns accounts for 86.4 percent of total income. Nontaxable interest and retirement income reported on tax returns adds another 8.1 percent.

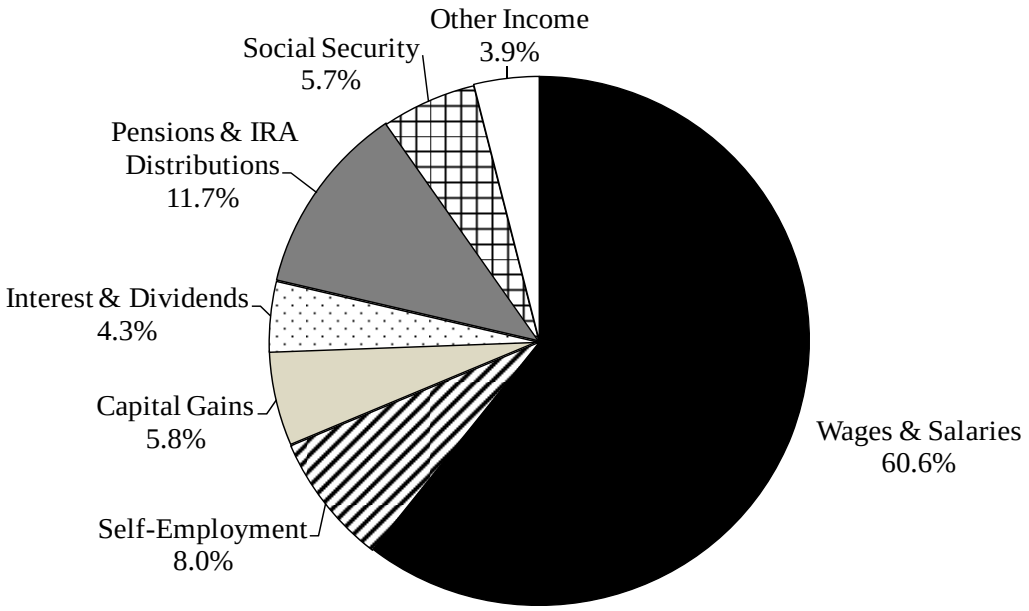
Table A-1
Components of Total Household Income ($ Millions)

Group	Source of Income	Amount
File income tax 2,152,200 households	Wages	$ 98,850
	Taxable interest & dividends	5,831
	Business income (Schedules C, E, and F)	13,097
	Capital gains & other gains	9,462
	Taxable IRA distributions	2,498
	Taxable pension & annuity income	7,706
	Taxable unemployment benefits	525
	Taxable social security benefits	2,743
	Other taxable income	1,159
	Federal Gross Income (FGI)	**$ 141,871**
	Adjustments to FGI	
	Taxable refunds of state income taxes	-472
	Half of Self-employment tax	-375
	Self-employed health insurance deduction	-458
	Penalty on early withdrawal of savings	-5
	Alimony paid	-149
	Nontaxable interest	1,003
	Nontaxable IRA distributions	768
	Nontaxable pension & annuity income	7,420
	Nontaxable social security income	4,106
	Other nontaxable income	5,429
	Public assistance cash payments	207
	Workers' compensation	199
	Total Household Income	**$ 159,544**
File Property Tax Refund (but not income tax) 95,600 households	Wages	$ 108
	Interest & dividends	47
	Unemployment benefits	2
	Pension income	183
	Social security income	932
	Public assistance cash payments	158
	Workers' compensation	6
	Other income	135
	Total Household Income	**$ 1,571**
Nonfilers 201,000 households	Wages	$ 439
	Interest & dividends	96
	Unemployment benefits	28
	Pension income	580
	Social security income	1,532
	Public assistance cash payments	115
	Workers' compensation	40
	Other income	174
	Total Household Income	**$ 3,004**
Total Population 2,448,800 households	**Total Household Income[1]**	**$ 164,119**

[1]Household income differs what is shown in *Table 2-2* because it includes negative income.

Figure A-1 shows the shares of income by type of income. Wages account for 60.6 percent of all income, and income from sole proprietors, farmers, pass-though entities, and rents accounts for another 8 percent. Capital income in the form of interest, dividends, and capital gains combines for 10.1 percent. Retirement income totals 17.4 percent.

Figure A-1
Shares of Total Income



Income Not Included in Incidence Study Income

Minnesota money income excludes many forms of income that would be included in the broadest income measure. It excludes all non-monetary forms of income (food stamps, housing subsidies, Medicare and Medicaid benefits, employer-provided fringe benefits, and imputed rent for homeowners). It includes capital gains and pension income only when realized, not when accrued. No adjustment is made for depreciation deductions in excess of economic depreciation, nor is a deduction made for the portion of interest income that represents inflation.

Minnesota money income also excludes some forms of cash income. Two particular omissions should be noted. First, due to data limitations, only a portion of wage and salary and other income could be added to other sources of income, such as public assistance and social security benefits, for taxpayers who file neither an income tax nor a property tax refund return. This results in an understatement of money income and an overstatement of tax burdens for the lowest income groups. Second, veterans' benefits are excluded (except for those reported on property tax refund returns).

Comparison to Personal Income

A commonly used measure of income is the personal income statistic produced by the U.S. Department of Commerce, Bureau of Economic Analysis. That statistic differs from the definition used in this study in a number of ways. The most important components of personal income that are not included here are employer contributions for employee pension and insurance funds and the investment income of life insurance carriers and pension plans. It should also be noted that personal income does not include some significant items that are included in FAGI and hence in this study. These include capital gains, taxable pensions, and the employee share of social security and Medicare taxes.

Accounting Period

Income received in a single year can be a misleading measure of economic well-being. Individual households may have unusually high or low income in a particular year due to business losses, unemployment, or the sale of capital assets. Because of such transitory income, a snapshot of the income distribution in a single year shows more income inequality than would a time exposure over several years. In addition, income varies over a household's life cycle. For these reasons, annual income may not be an accurate measure of a household's more permanent economic well-being.

In spite of these shortcomings, there are two strong reasons why this study uses annual rather than permanent income. First, an adequate record of the income of individual households over a longer period is rarely available. Consequently, state incidence studies have always used an annual accounting period. Second, an annual perspective may be preferred because taxes are paid out of a household's current income, not out of what might be earned in the future. If the purpose of an incidence study is to make policy decisions regarding current ability to pay taxes, then it is reasonable to argue that the appropriate measure should be based on annual rather than permanent income.

Definition of a Household

This study combines dependents who file their own income tax return with taxpayers claiming them as dependents to form a single household. The most common situation is a student working part-time and claimed as a dependent on the parent's tax return. If not combined into a single household, these part-time workers would be treated as separate, low-income individuals in the study, with misleading results.

Some income information for nonfilers was initially reported separately for each member of a family (e.g., spouses having separate social security payment records). When possible, available state agency files containing name and address information were used to combine such individuals into household units. This adjustment provides a more accurate picture of such households.

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Appendix B
The 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.
   - 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, MinnesotaCare taxes, and taxes on gambling. For purposes of this study, these are considered taxes on households even though they are paid by businesses. The term "business taxes" in this study does not include these taxes.

2. Incidence of Taxes on Business

   Most taxes on business property, business purchases, and corporate income are partially shifted to consumers and workers. 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. 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 last two full years prior to death. All returns filed between 2002 and 2007 were included in estimating how the tax varied with income.

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 1994 survey by the Minnesota Lottery[34] provided substantial information about how gambling varies by income level. That information was supplemented by data from a Wisconsin Lottery Tracking Study and from the Consumer Expenditure Survey.

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 two 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. In this study, for the first time, the actual tax paid by sample households was found by matching sample households to the motor vehicle registration files.

[34] Minnesota State Lottery (1994). *Gambling in Minnesota.* St. Cloud University Survey Research, February.

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 2006, the burden of the mortgage registration tax was distributed over all mortgage holders (in proportion to mortgage interest paid in 2006); 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 *Chapter 4, Section C.)*

Taxes on Business

Introduction

This study includes $7.2 billion in business taxes in 2006, 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.

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, Minnesota capital, Minnesota 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 B-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 B-1*), 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.

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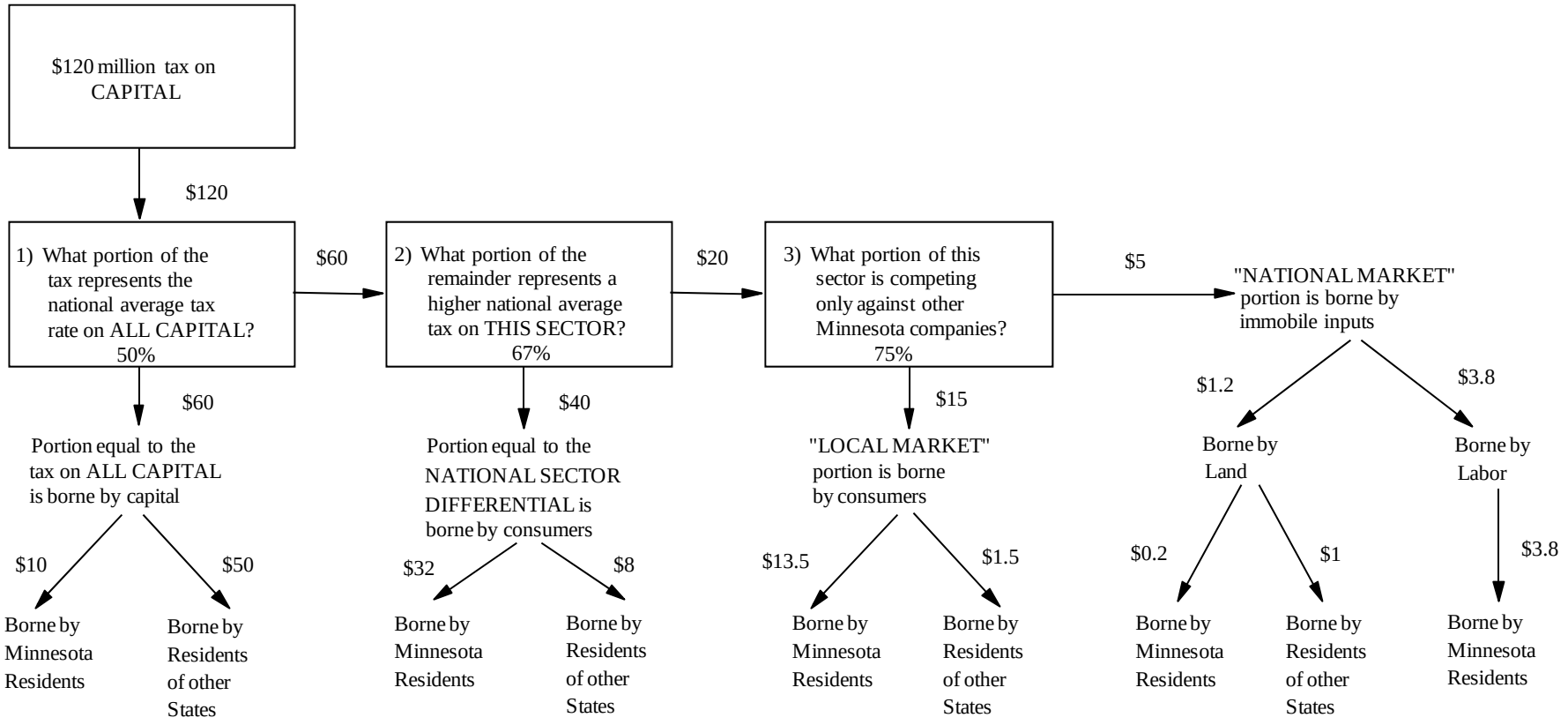
Figure B-1

Incidence of a Hypothetical $120 Million Tax on Capital



Summary of Tax Incidence
($ Millions)

Taxpayer Category	Total	Minnesota Residents	Residents of Other States
Capital*	$61.2	$10.2	$51.0
Consumers	55.0	45.5	9.5
Labor	3.8	3.8	0.0
Total	$120.0	$59.5	$60.5

*Capital includes land.

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 B-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.

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 B-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 *Chapter 4, Section C*.

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 B-1* summarizes the allocators used in this final step.

Table B-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
Adjusted Farm Property Tax	Farmers using their own land.
Farm Rents	Farmers leasing their land.

Burden on Consumers. Taxes shifted forward to consumers in higher prices were allocated 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. Renters are the consumers of rental housing, so the proportion of the total rental property tax shifted forward to renters in higher rents is estimated using the same methodology used for other business taxes. That portion of total taxes on rental housing is distributed across renter households in proportion to each household's annual rent. For renter households receiving a property tax refund, annual rent is known. For others, rent is estimated based on the most recent information from the U.S. Census.

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 homestead property taxes, 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, plus three-quarters of income reported by sole proprietors and farmers.

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 B-2*.

Table B-2
Distribution of Business Tax Burden by Taxpayer Category (2006)

	Percent Borne by Minnesota Taxpayers			Percent
	Capital	Labor	Consumers	Exported
State Taxes				
Corporation Franchise Tax	5%	8%	48%	39%
Sales and Excise Taxes				
General Sales and Use Tax	6%	0%	58%	35%
Motor Vehicle Sales Tax	34%	1%	4%	62%
Motor Fuels Excise Taxes	0%	0%	49%	51%
Mortgage and Deed Taxes	57%	0%	8%	35%
Gross Earnings Taxes				
Insurance Premiums Taxes	11%	0%	38%	51%
In lieu of property taxes				
Motor Vehicle Registration Tax	20%	8%	27%	45%
Solid Waste Management Taxes	0%	0%	86%	14%
State Property Tax				
Commercial	17%	2%	32%	49%
Industrial	7%	0%	6%	87%
Utility	2%	4%	53%	41%
Local Taxes				
Property Taxes (Pay 2006)				
General Property Tax				
Commercial	17%	2%	32%	49%
Industrial	7%	0%	6%	87%
Farm (other than residence)	97%	0%	0%	3%
Rental Housing	55%	0%	35%	11%
Utility	2%	4%	53%	41%
Mining Production Taxes (taconite)	9%	1%	0%	90%
Local Sales Taxes	6%	0%	58%	35%
Local Gross Earnings Taxes	2%	4%	53%	41%

Incremental vs. "Average" Incidence

The analysis in this study assumes that markets are in equilibrium, with economic factors fully adjusted to tax rates here and in other states. Analyzing the effect of a tax change poses a different problem.

The incidence of a *change* in business taxes would be different from those presented in this study. Compared to the results in this study, economic theory suggests that the long-run incidence impact of a change in Minnesota business taxes would tend to fall:

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

In addition, the incidence of a change in Minnesota tax should include the impact of the federal tax offset. (See *Chapter 4, Section C.*)

Illustrations of the magnitude of these differences are presented in *Chapter 4, Section F*.

The logic of business tax incidence described in this Appendix divides a business tax on capital 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.*

The incidence of each of the three portions of the tax will generally be different. For example, the first part might be borne entirely by capital (in lower returns), the second entirely by Minnesota consumers (in higher prices), and the third primarily by Minnesota labor (in reduced wages). The "average" incidence, as presented in this study, would be a mixture of all three. In contrast, a change in the tax would change only the third portion –the *Minnesota differential*. As a result, the "incremental incidence" of a change in tax can be very different from the "average incidence" of an existing tax. This study only reports the latter. Great care should be taken in applying the results reported here to a proposed change in a tax on business.

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Appendix C
Tax Incidence by Type of Tax (2006)

The tables in *Appendix C* provide more detail about the incidence of each of the taxes included in this study. For each tax, the following information is provided:

Top Table

- The total dollars of tax paid by Minnesota households, by non-resident households, and by business. The sum of these three parts equals the total tax collected in 2006. The business portion is based on this study's definition of business taxes. (See pages 8-10 of this study.)
- The total dollars of tax burden that fall on Minnesota residents – after shifting of any business portion of the tax. This equals the sum of (a) the tax imposed on Minnesota households and (b) any portion of the tax imposed on business that is borne by Minnesota residents.
- The total dollars of tax burden "exported" to nonresident households. This equals the sum of (a) the tax imposed on non-resident households and (b) any portion of the tax imposed on business that is shifted to nonresidents.
- The share of the total burden on Minnesota residents that is imposed directly on Minnesota households and the shares that represent business tax that is shifted to Minnesota consumers (in higher prices), shifted to Minnesota labor (in lower wages or benefits), or borne by Minnesota capital (as owners of businesses).

Chart

- The effective tax rate for this particular tax, by population decile – using the scale on the right-hand side of the chart.
- The effective tax rate for all Minnesota state and local taxes combined, by population decile – using the scale on the left-hand side of the chart.
- The average effective tax rate for this particular tax (and for all Minnesota state and local taxes combined).

Bottom Table

- Effective tax rates by population decile, and more detail for the top decile (divided into its first 5%, next 4%, and top 1%).
- The population-decile Suits index for this particular tax (and for all Minnesota state and local taxes combined).

Appendix C Tables

State Taxes

Income and Estate Taxes

Consumption Taxes

Property Taxes

Local Taxes

Appendix C Tables (cont.)

State and Local Property Taxes by Type of Property

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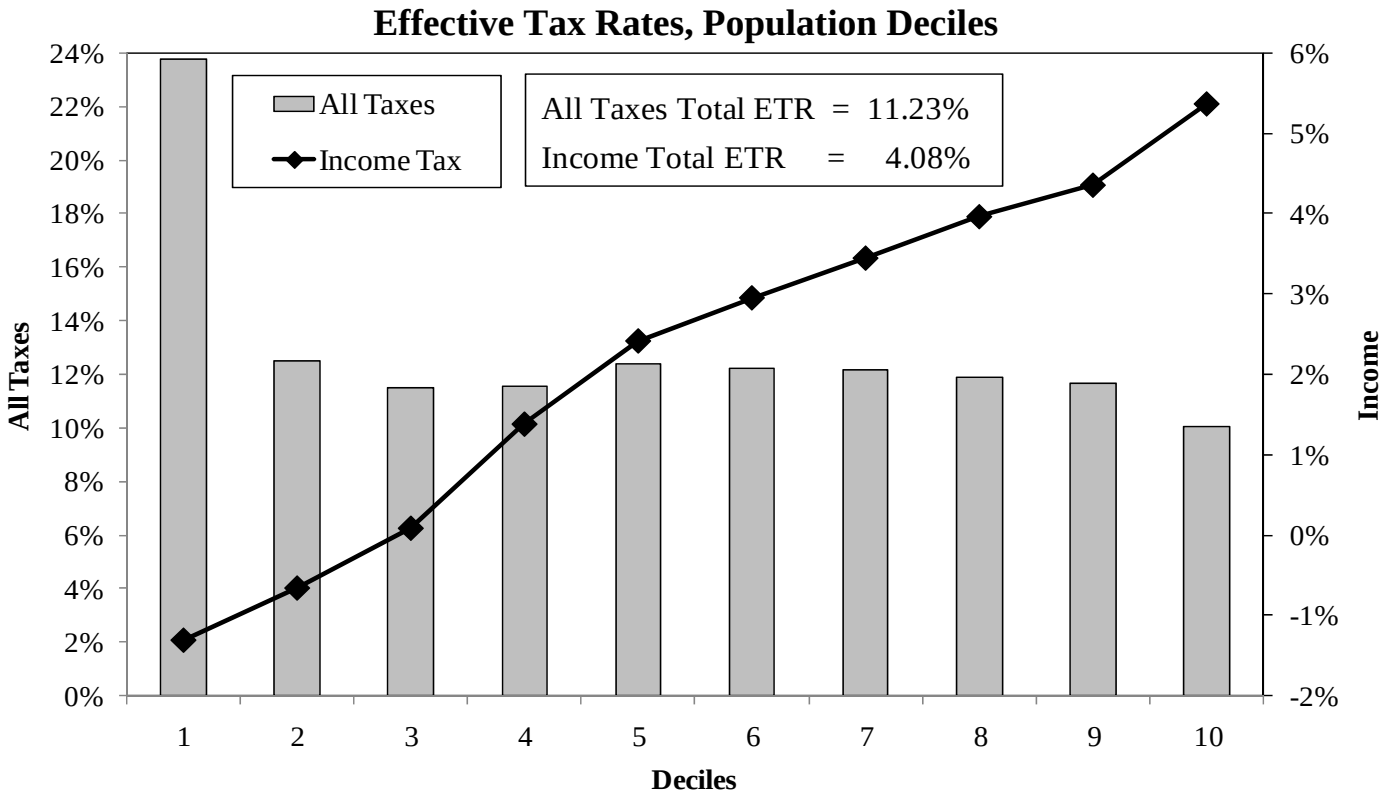
2006 Incidence Estimate for
Individual Income Tax

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After Shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$7,047	$6,742	$305	$0	$6,742	$305

* Shifting allocations: Direct = 100%, Consumers = 0%, Labor = 0%, Capital = 0%



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Income	-1.30%	-0.65%	0.09%	1.38%	2.42%	2.96%	3.45%	3.97%	4.36%	5.37%	4.65%	5.16%	6.00%	0.194

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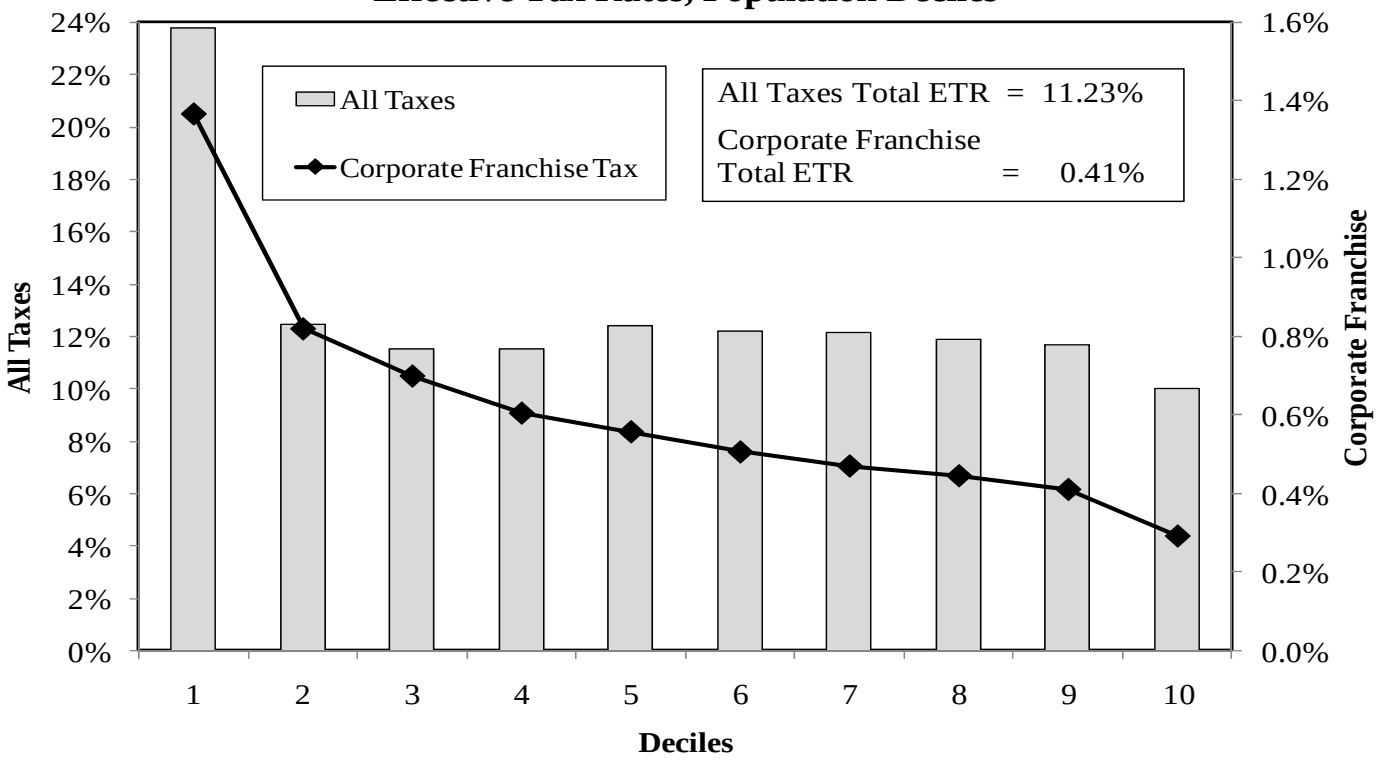
2006 Incidence Estimate for Corporate Franchise Tax[1]

Tax Collection Amounts 2006 ($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$1,123	$0	$0	$1,123	$684	$439

* Shifting allocations: Direct = 0%, Consumers = 79%, Labor = 14%, Capital = 7%

Effective Tax Rates, Population Deciles



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Corporate Franchise	1.36%	0.82%	0.70%	0.60%	0.56%	0.50%	0.47%	0.44%	0.41%	0.29%	0.38%	0.33%	0.20%	-0.175

[1]Includes the Corporate Franchise Tax ($1,116 million) and the Mining Occupation Tax ($7 million).

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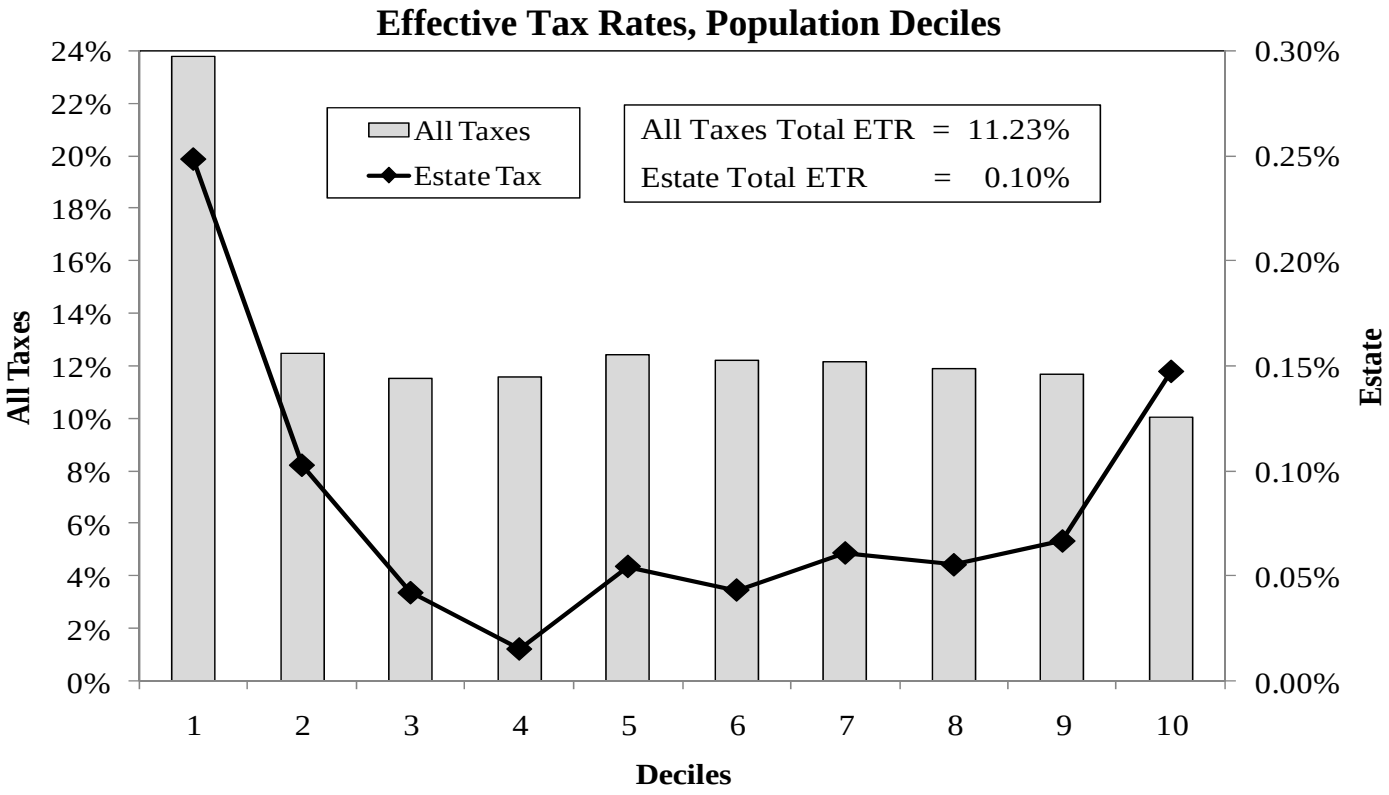
2006 Incidence Estimate for
Estate Tax

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$160	$160	$0	$0	$160	$0

* Shifting allocations: Direct = 100%, Consumers = 0%, Labor = 0%, Capital = 0%



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Estate	0.25%	0.10%	0.04%	0.02%	0.05%	0.04%	0.06%	0.06%	0.07%	0.15%	0.10%	0.13%	0.19%	0.226

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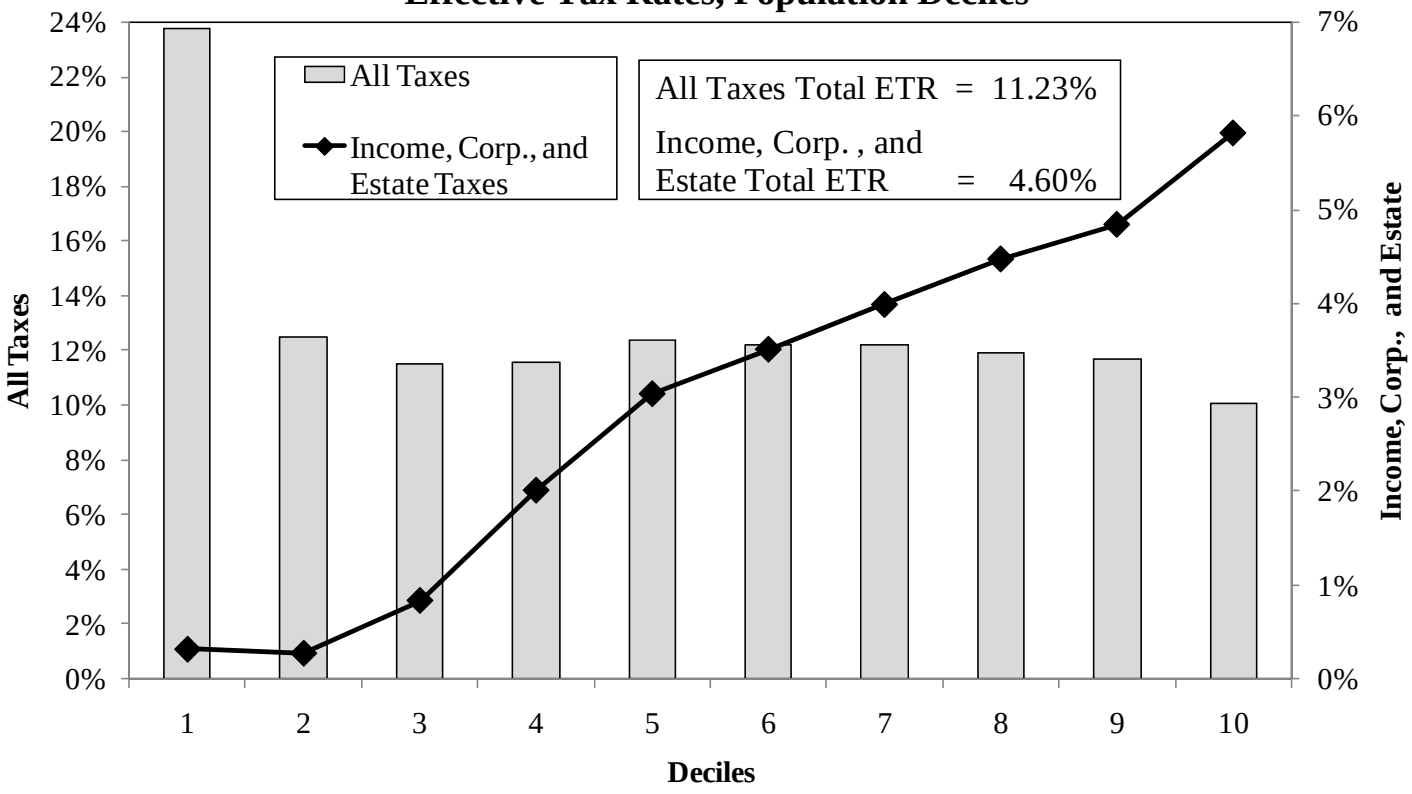
2006 Incidence Estimate for
Total Income, Corporate, and Estate Taxes

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota	Exported
$8,330	$6,902	$305	$1,123	$7,586	$744

Effective Tax Rates, Population Deciles



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Income, Corp., & Estate	0.31%	0.27%	0.83%	2.00%	3.03%	3.50%	3.98%	4.47%	4.83%	5.81%	5.12%	5.62%	6.40%	0.161

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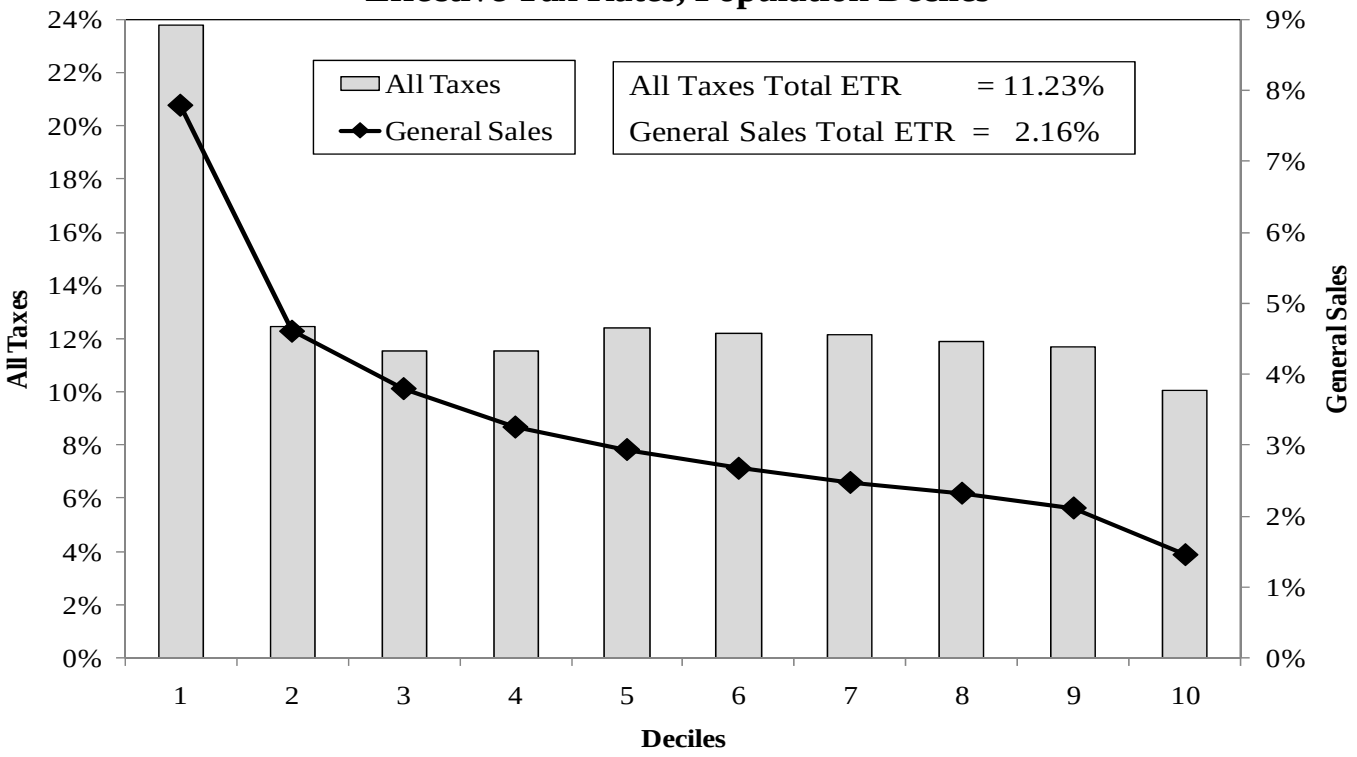
2006 Incidence Estimate for
General Sales and Use Tax

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$4,467	$2,273	$189	$2,005	$3,569	$898

* Shifting allocations: Direct = 64%, Consumers = 33%, Labor = 0%, Capital = 3%

Effective Tax Rates, Population Deciles



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
General Sales	7.79%	4.61%	3.80%	3.26%	2.94%	2.68%	2.48%	2.33%	2.12%	1.46%	1.89%	1.62%	1.06%	-0.193

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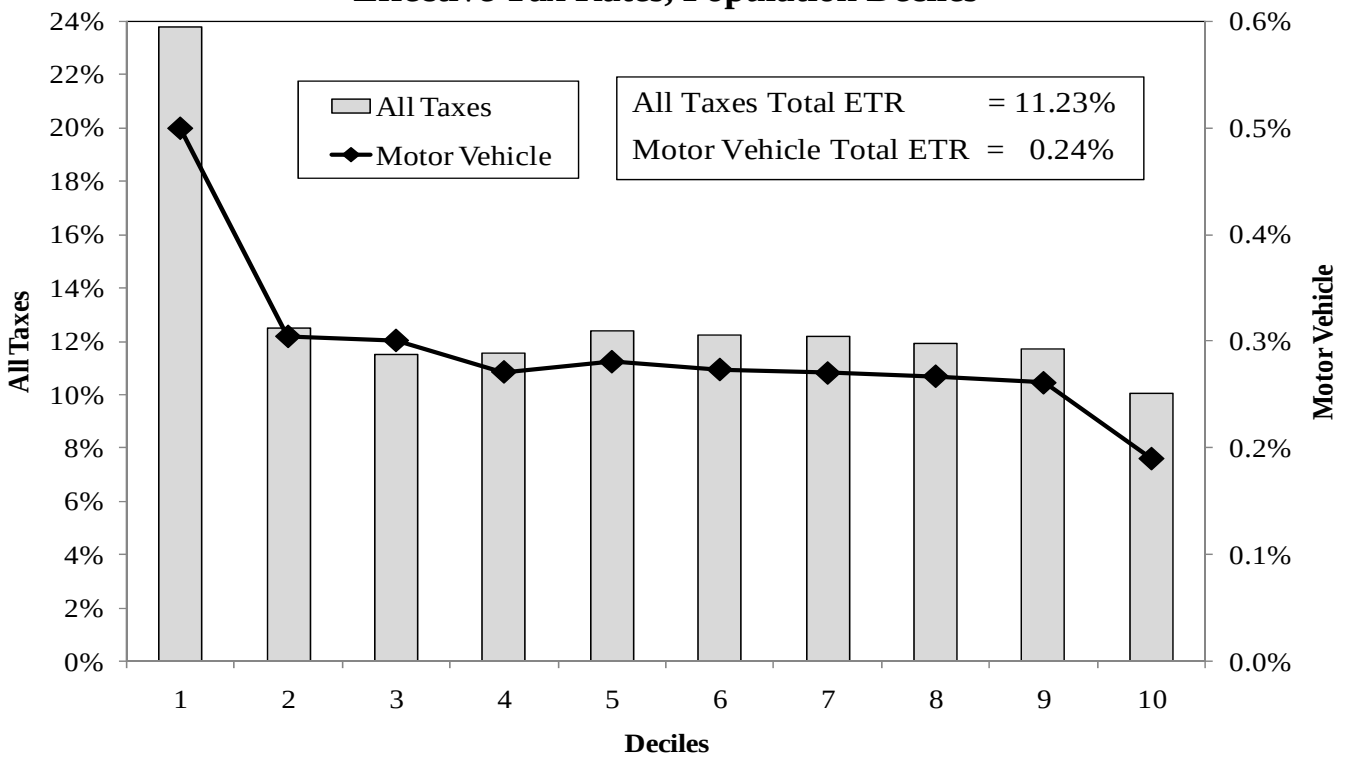
2006 Incidence Estimate for
Sales Tax on Motor Vehicles

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$535	$305	$0	$230	$393	$143

* Shifting allocations: Direct = 78%, Consumers = 2%, Labor = 1%, Capital = 20%

Effective Tax Rates, Population Deciles



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Motor Vehicle	0.50%	0.30%	0.30%	0.27%	0.28%	0.27%	0.27%	0.27%	0.26%	0.19%	0.24%	0.21%	0.14%	-0.099

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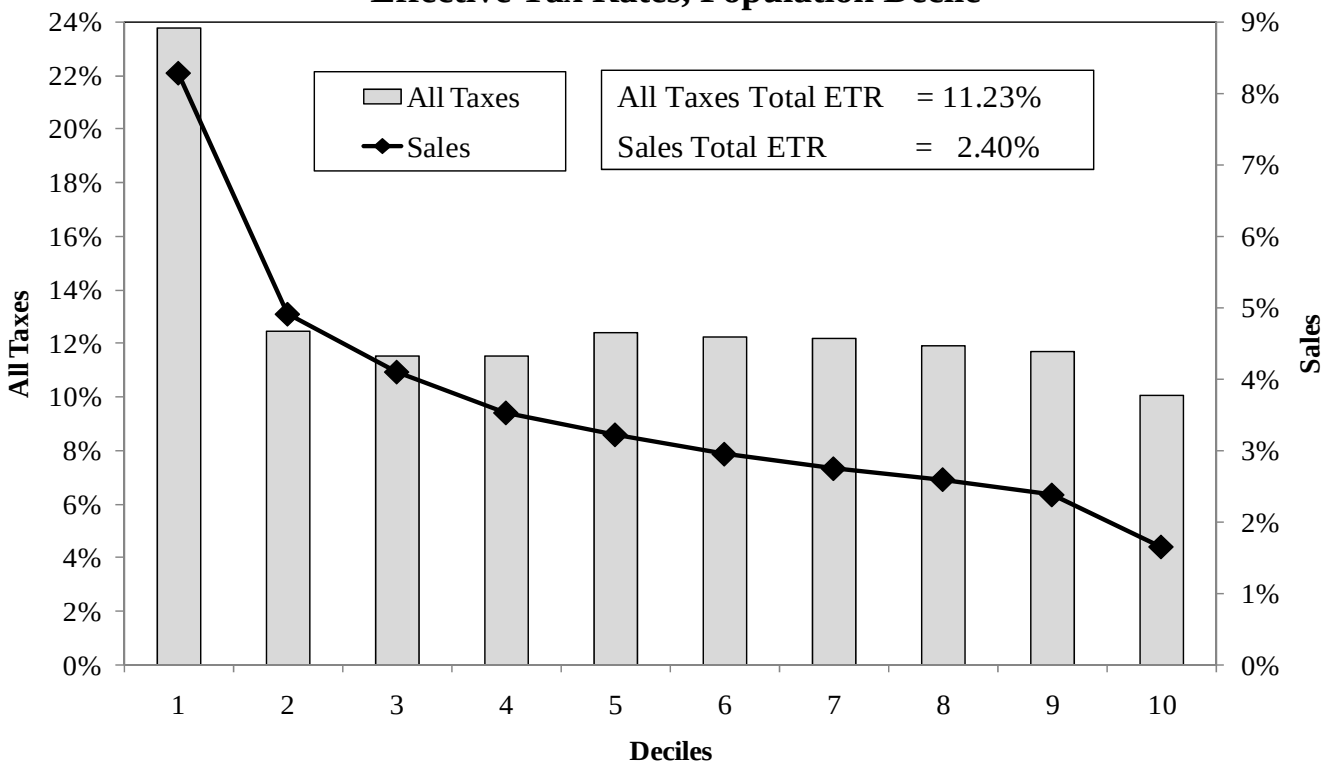
2006 Incidence Estimate for
Total State Sales Taxes

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota	Exported
$5,002	$2,578	$189	$2,235	$3,962	$1,040

Effective Tax Rates, Population Decile



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Sales	8.29%	4.91%	4.10%	3.53%	3.22%	2.95%	2.75%	2.59%	2.38%	1.65%	2.12%	1.83%	1.19%	-0.184

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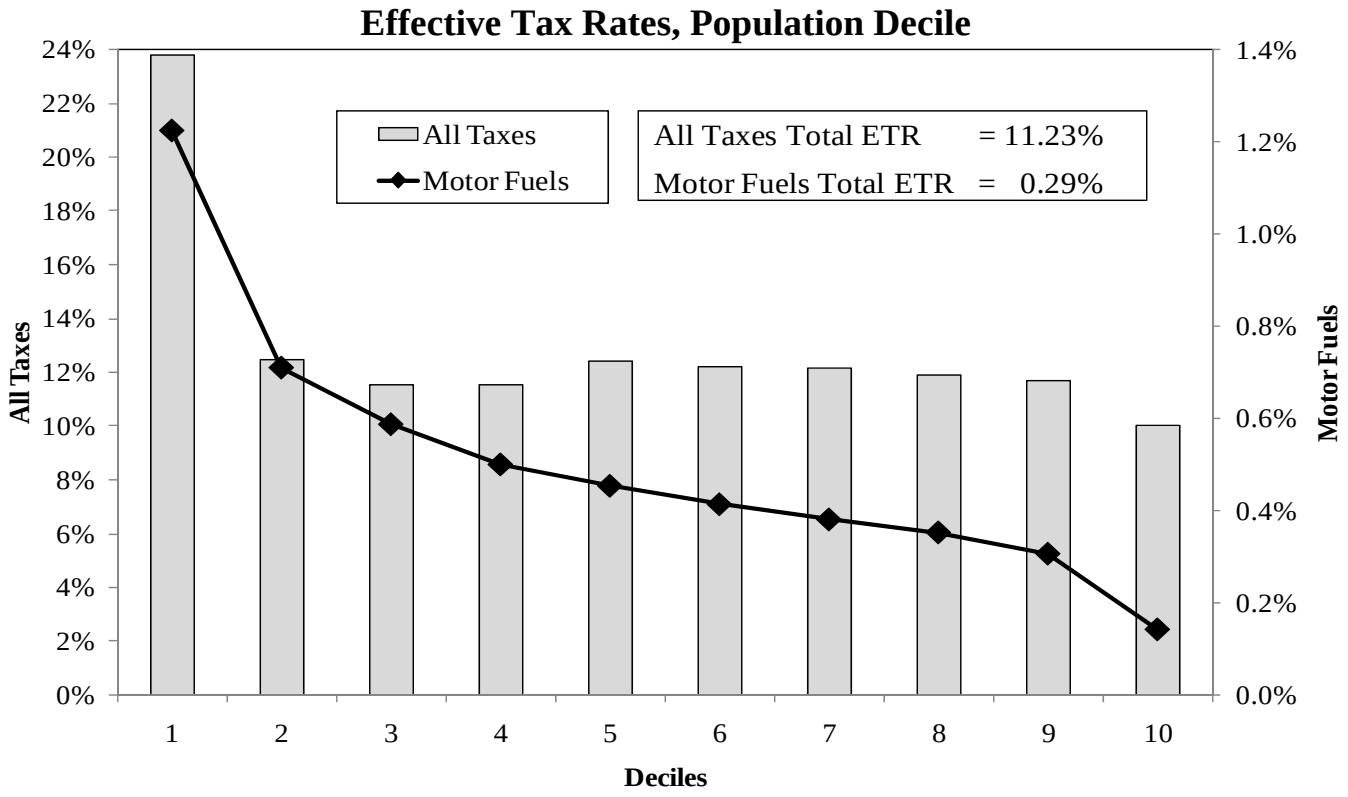
2006 Incidence Estimate for
Motor Fuels Excise Taxes

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$649	$361	$33	$256	$486	$163

* Shifting allocations: Direct = 74%, Consumers = 26%, Labor = 0%, Capital = 0%



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Motor Fuels	1.23%	0.71%	0.59%	0.50%	0.45%	0.41%	0.38%	0.35%	0.31%	0.14%	0.24%	0.17%	0.06%	-0.288

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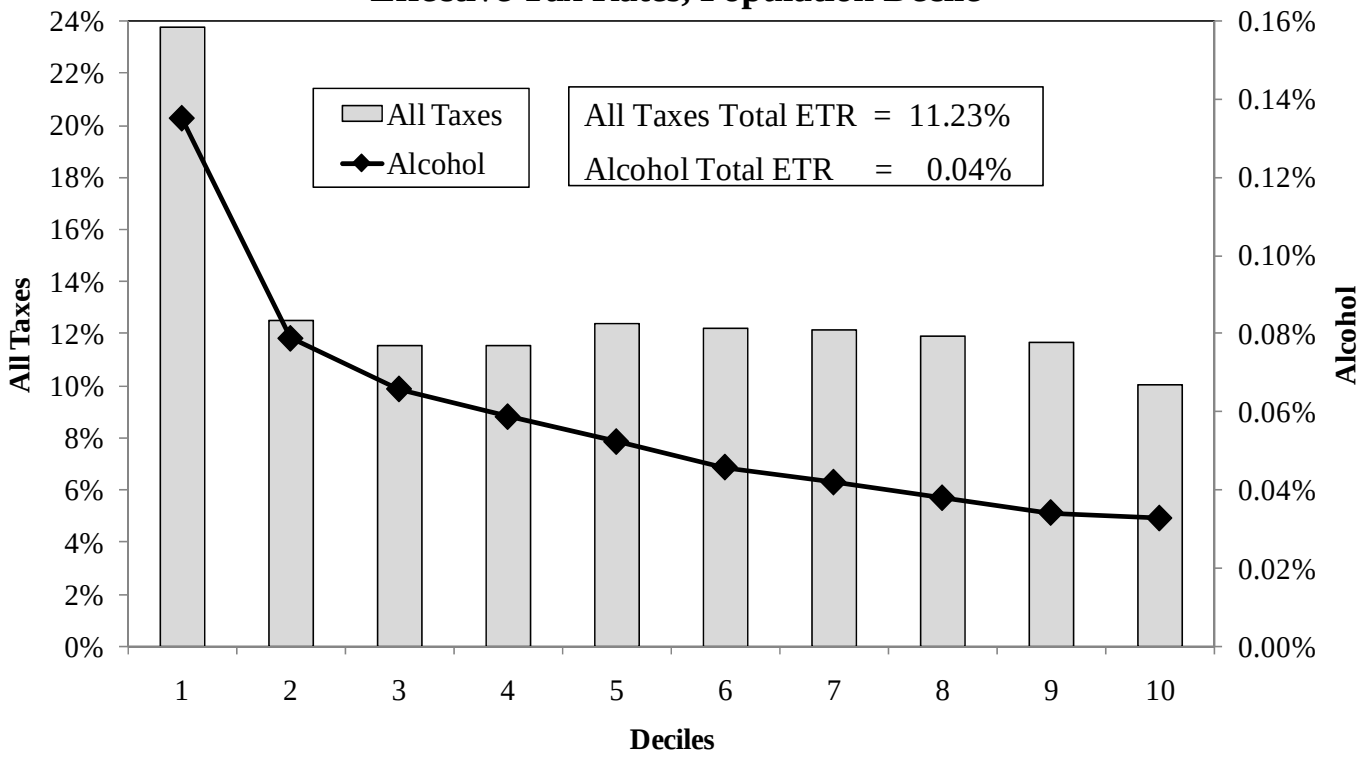
2006 Incidence Estimate for
Alcoholic Beverage Excise Taxes

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$72	$66	$6	$0	$66	$6

* Shifting allocations: Direct = 100%, Consumers = 0%, Labor = 0%, Capital = 0%

Effective Tax Rates, Population Decile



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Alcohol	0.13%	0.08%	0.07%	0.06%	0.05%	0.05%	0.04%	0.04%	0.03%	0.03%	0.03%	0.03%	0.03%	-0.134

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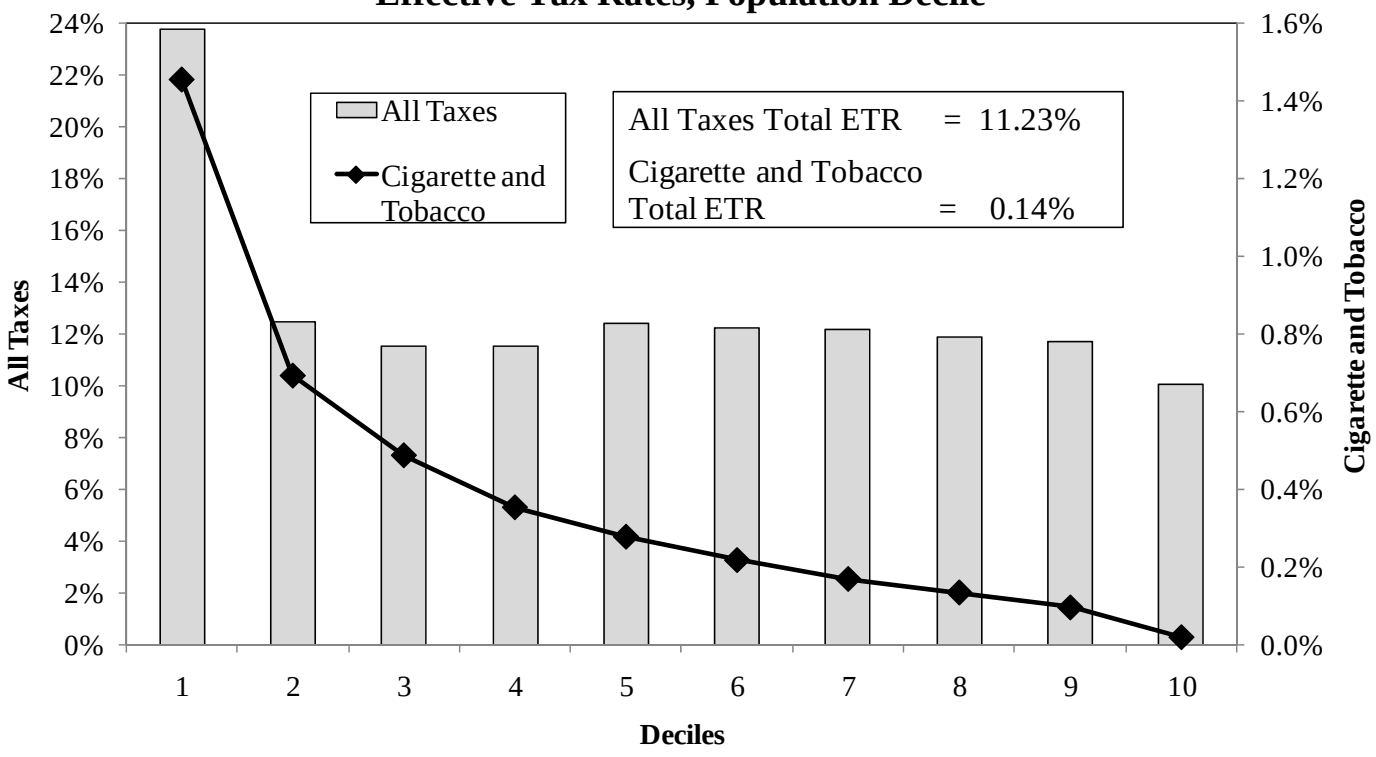
2006 Incidence Estimate for Cigarette and Tobacco Excise Taxes[1]

Tax Collection Amounts 2006 ($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$234	$225	$8	$0	$225	$8

* Shifting allocations: Direct = 100%, Consumers = 0%, Labor = 0%, Capital = 0%

Effective Tax Rates, Population Decile



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Cigatette and Tobacco	1.46%	0.69%	0.49%	0.35%	0.28%	0.22%	0.17%	0.13%	0.10%	0.02%	0.05%	0.02%	0.00%	-0.568

[1]Includes the Cigarette Tax ($215 million) and the Tobacco Products Tax ($19 million).

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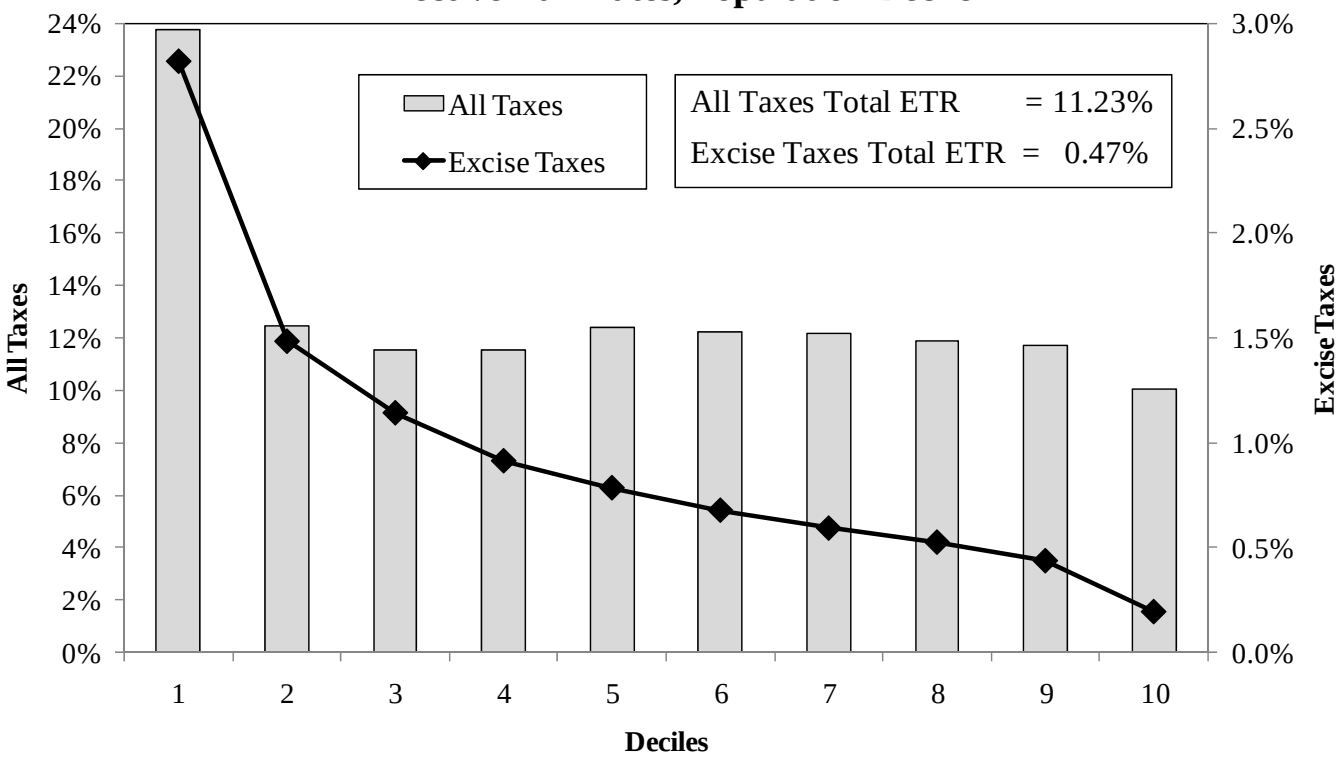
2006 Incidence Estimate for
Total Excise Taxes

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota	Exported
$955	$652	$47	$256	$778	$177

Effective Tax Rates, Population Decile



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Excise Taxes	2.82%	1.48%	1.14%	0.91%	0.78%	0.68%	0.59%	0.53%	0.44%	0.19%	0.32%	0.22%	0.10%	-0.356

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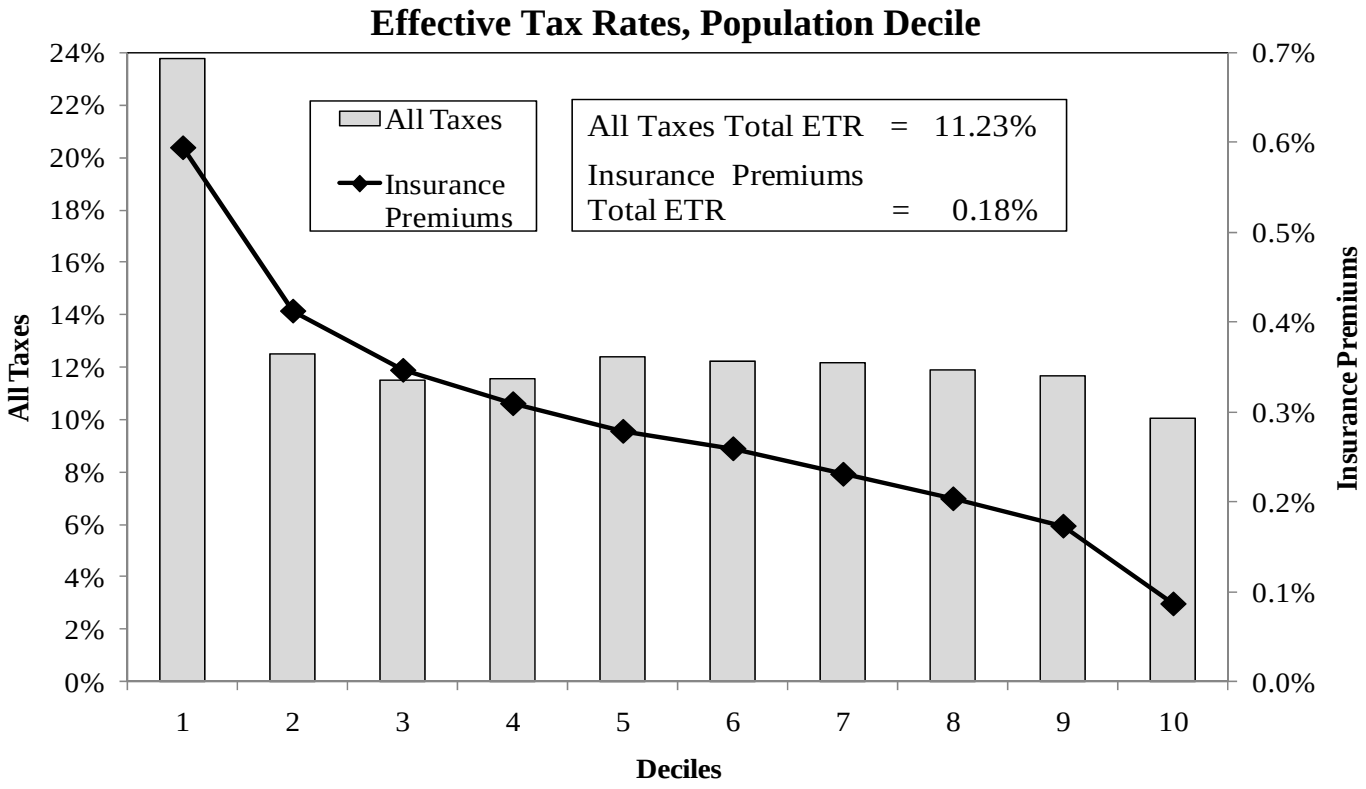
2006 Incidence Estimate for
Insurance Premiums Taxes

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$334	$246	$0	$87	$289	$44

* Shifting allocations: Direct = 85%, Consumers = 11%, Labor = 0%, Capital = 3%



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Insurance Premiums	0.60%	0.41%	0.35%	0.31%	0.28%	0.26%	0.23%	0.20%	0.17%	0.09%	0.14%	0.10%	0.04%	-0.284

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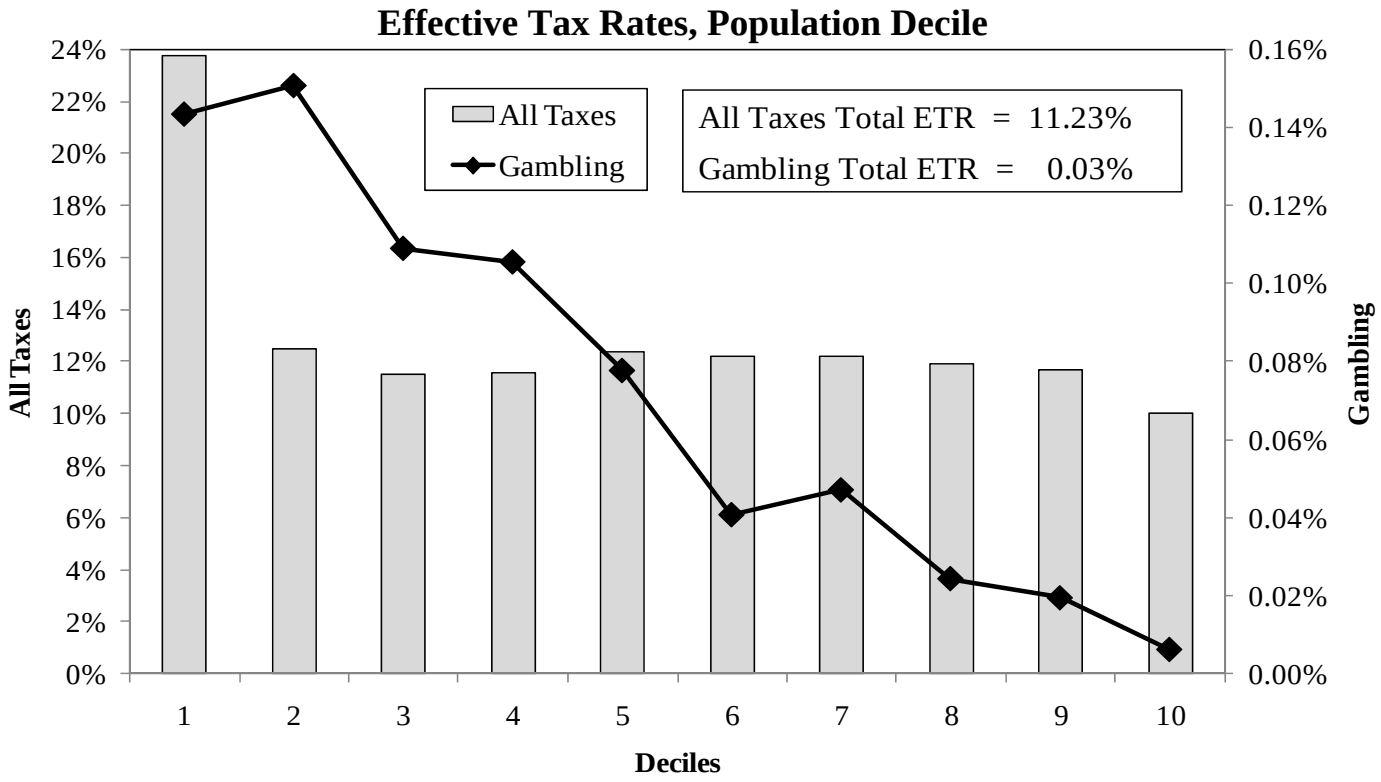
2006 Incidence Estimate for Gambling Taxes[1]

Tax Collection Amounts 2006 ($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$52	$51	$1	$0	$51	$1

* Shifting allocations: Direct = 100%, Consumers = 0%, Labor = 0%, Capital = 0%



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Gambling	0.14%	0.15%	0.11%	0.11%	0.08%	0.04%	0.05%	0.02%	0.02%	0.01%	0.01%	0.01%	0.00%	-0.533

[1]Gambling taxes include Lawful Gambling ($1.7 million), Pull Tabs ($23.4 million), Combined Receipts ($25.1 million), and Pari-mutual ($1.5 million).

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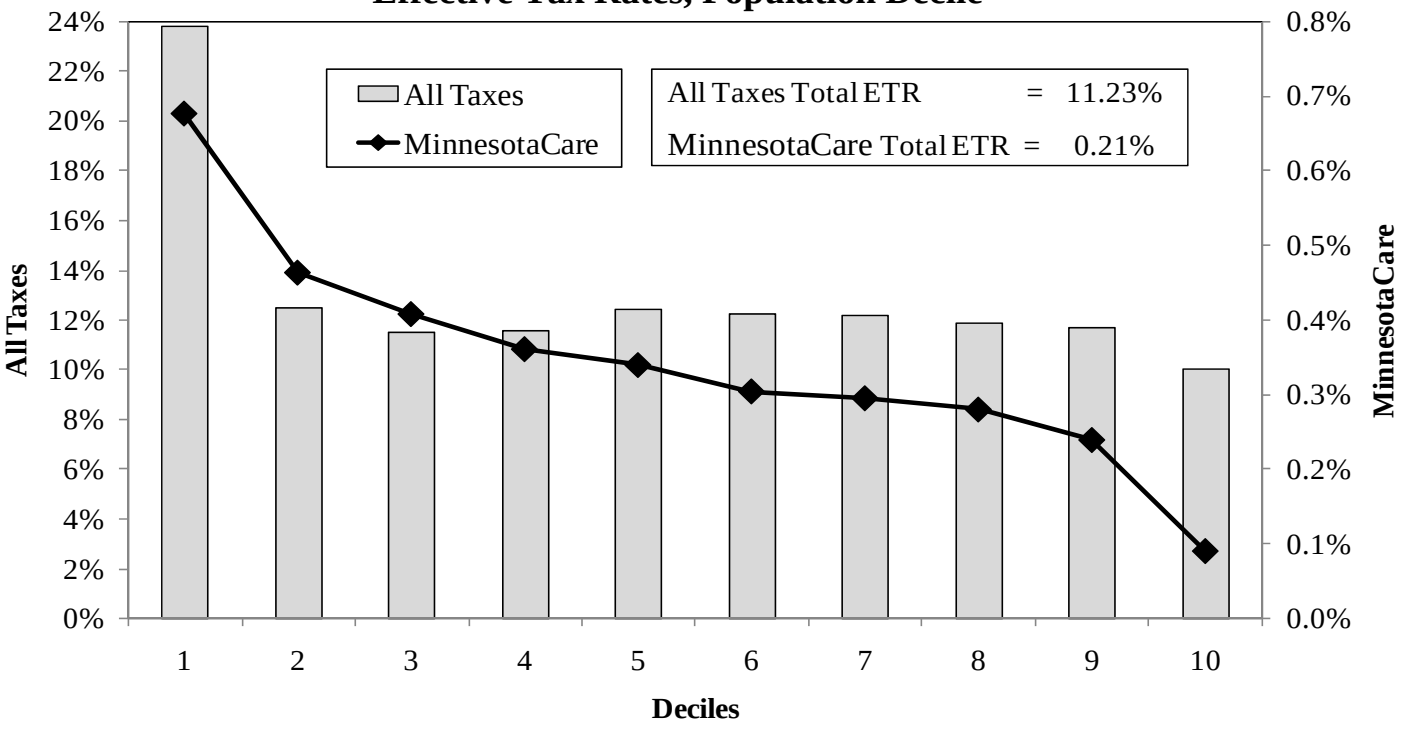
2006 Incidence Estimate for MinnesotaCare Taxes[1]

Tax Collection Amounts 2006 ($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$385	$350	$35	$0	$350	$35

* Shifting allocations: Direct = 100%, Consumers = 0%, Labor = 0%, Capital = 0%

Effective Tax Rates, Population Decile



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
MinnesotaCare	0.68%	0.46%	0.41%	0.36%	0.34%	0.30%	0.30%	0.28%	0.24%	0.09%	0.18%	0.10%	0.02%	-0.299

[1]Includes the Provider Tax ($175 million), the Hospitals Tax ($134 million), and the Drug Distributors Tax ($76 million).

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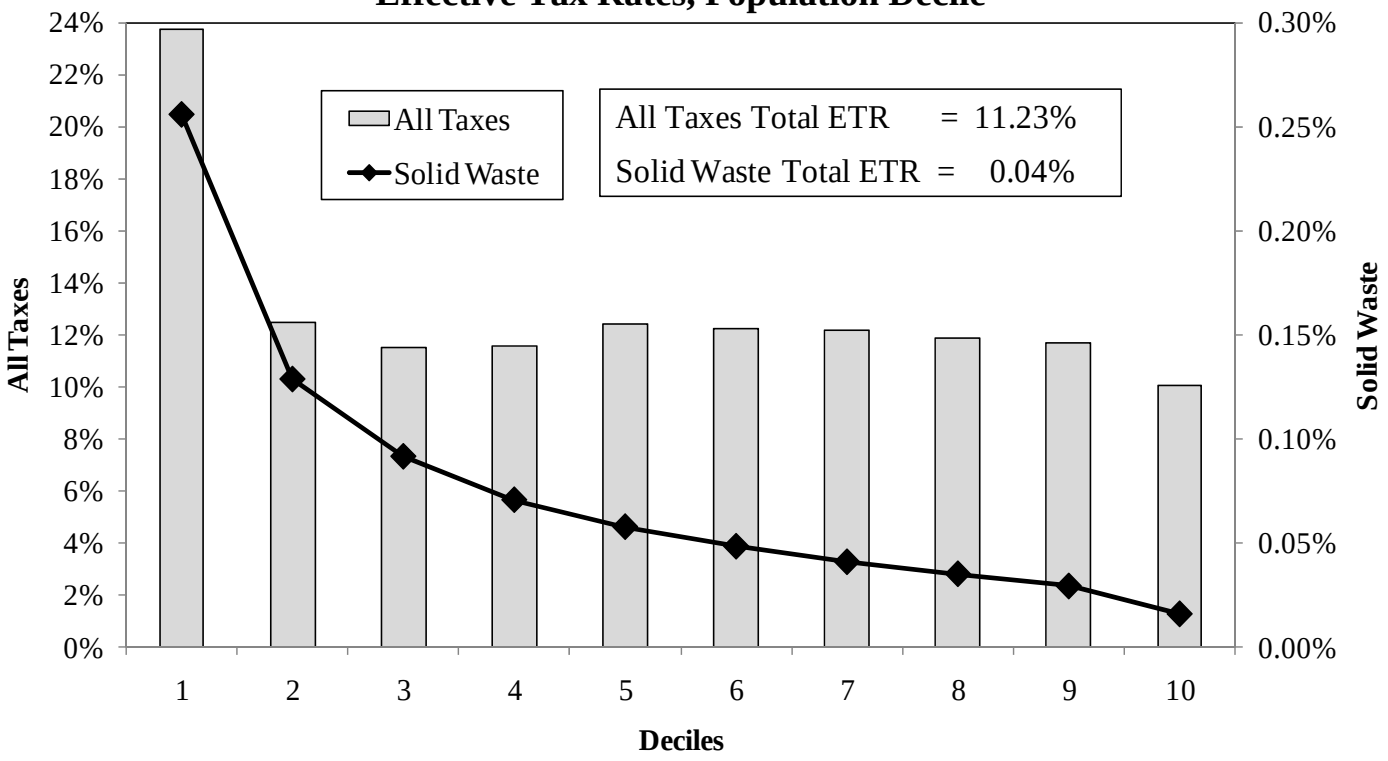
2006 Incidence Estimate for
Solid Waste Management Taxes

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$64	$28	$0	$36	$59	$5

* Shifting allocations: Direct = 47%, Consumers = 53%, Labor = 0%, Capital = 0%

Effective Tax Rates, Population Decile



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Solid Waste	0.26%	0.13%	0.09%	0.07%	0.06%	0.05%	0.04%	0.04%	0.03%	0.02%	0.02%	0.02%	0.01%	-0.359

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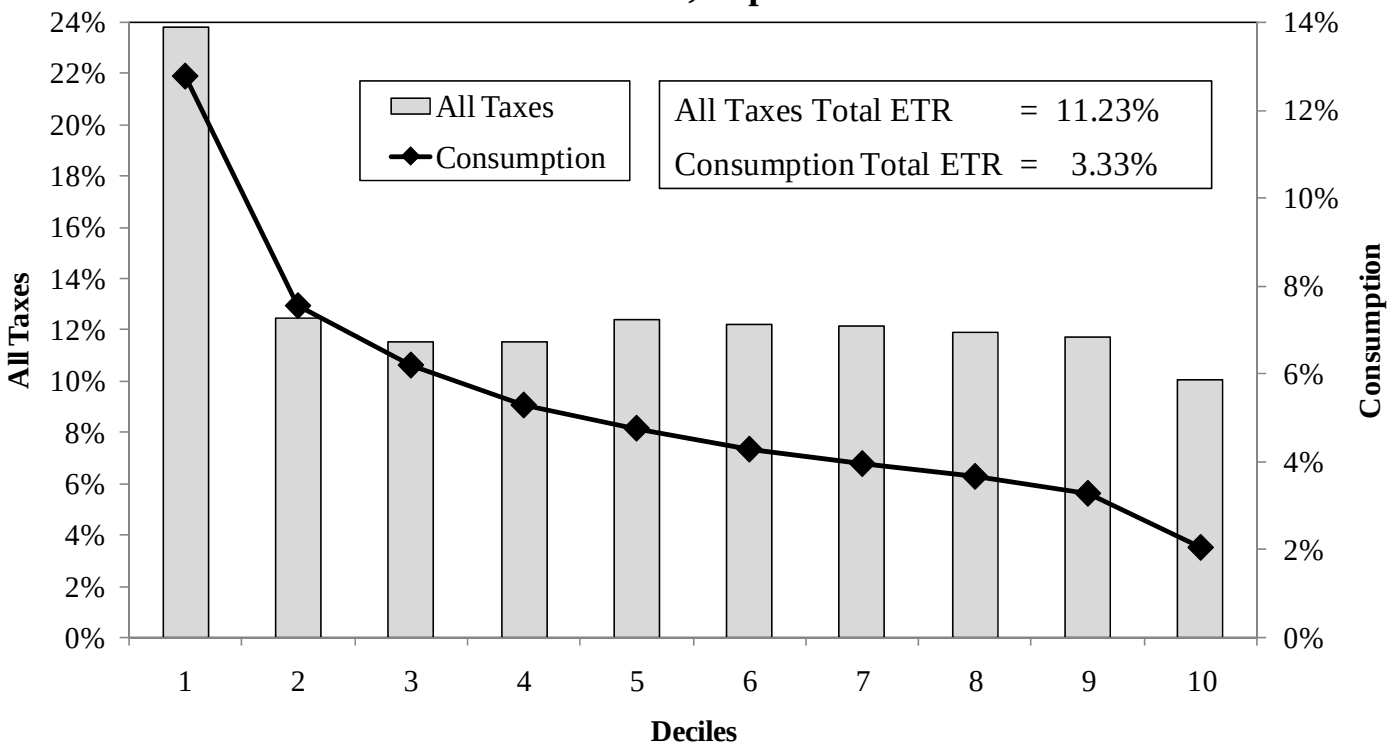
2006 Incidence Estimate for
Total Sate Consumption Taxes

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota	Exported
$6,791	$3,906	$271	$2,614	$5,489	$1,302

Effective Tax Rates, Population Decile



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Consumption	12.78%	7.55%	6.20%	5.29%	4.76%	4.28%	3.95%	3.66%	3.28%	2.04%	2.81%	2.27%	1.36%	-0.226

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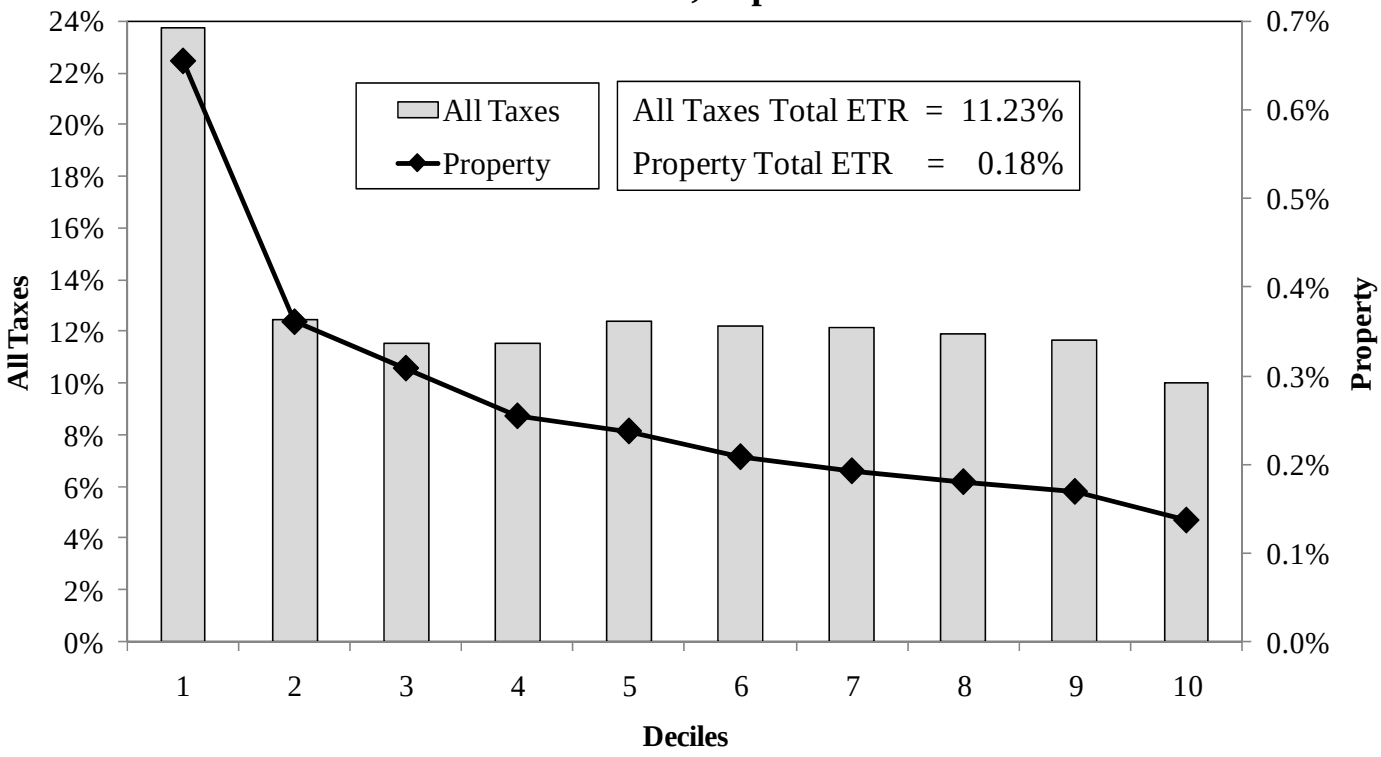
2006 Incidence Estimate for State Property Tax[1]

Tax Collection Amounts 2006 ($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota	Exported
$656	$25	$6	$624	$299	$357

Effective Tax Rates, Population Decile



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Property	0.66%	0.36%	0.31%	0.26%	0.24%	0.21%	0.19%	0.18%	0.17%	0.14%	0.16%	0.15%	0.11%	-0.154

[1]Includes taxes on Residential Recreational Property ($31 million), Commercial Property ($433 million), Industrial Property ($129 million), and Utility Property ($62 million).

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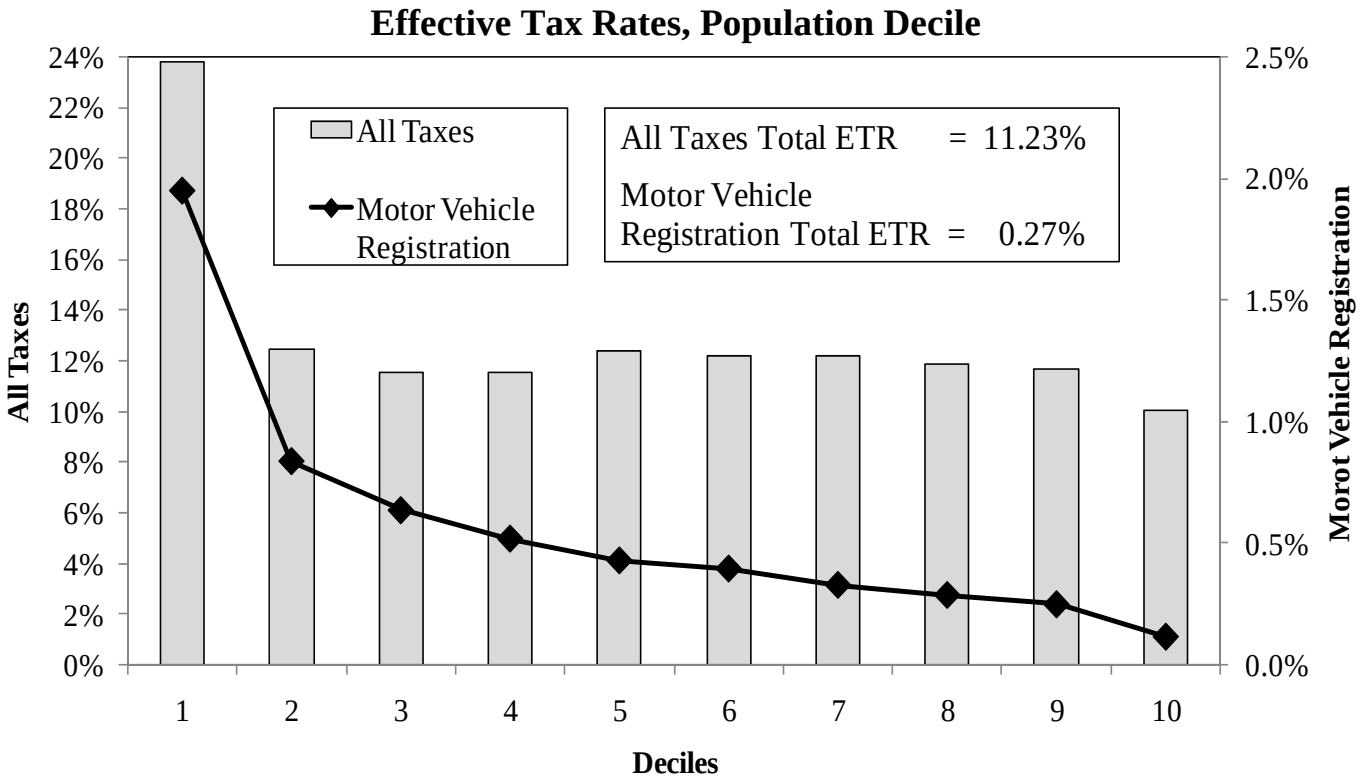
2006 Incidence Estimate for
Motor Vehicle Registration Tax

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$488	$400	$0	$88	$448	$39

* Shifting allocations: Direct = 89%, Consumers = 5%, Labor = 2%, Capital = 4%



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Motor Vehicle Registration	1.95%	0.84%	0.64%	0.52%	0.43%	0.40%	0.33%	0.29%	0.25%	0.12%	0.20%	0.14%	0.05%	-0.353

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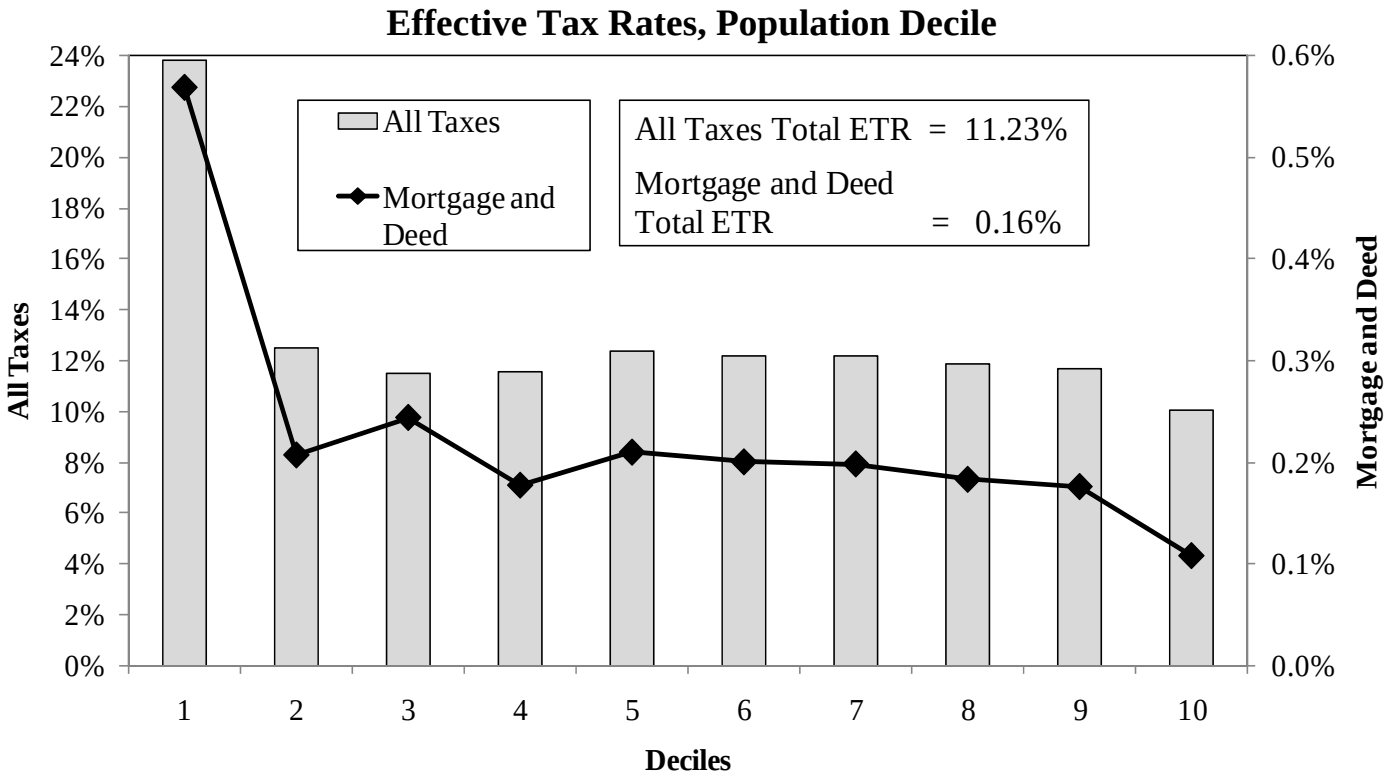
2006 Incidence Estimate for Mortgage and Deed Taxes[1]

Tax Collection Amounts 2006 ($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$295	$201	$0	$93	$262	$33

* Shifting allocations: Direct = 77%, Consumers = 3%, Labor = 0%, Capital = 20%



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Mortgage and Deed	0.57%	0.21%	0.24%	0.18%	0.21%	0.20%	0.20%	0.18%	0.18%	0.11%	0.16%	0.13%	0.05%	-0.164

[1]Includes Mortgage Registry Tax ($167 million) and Deed Transfer Tax ($128 million).

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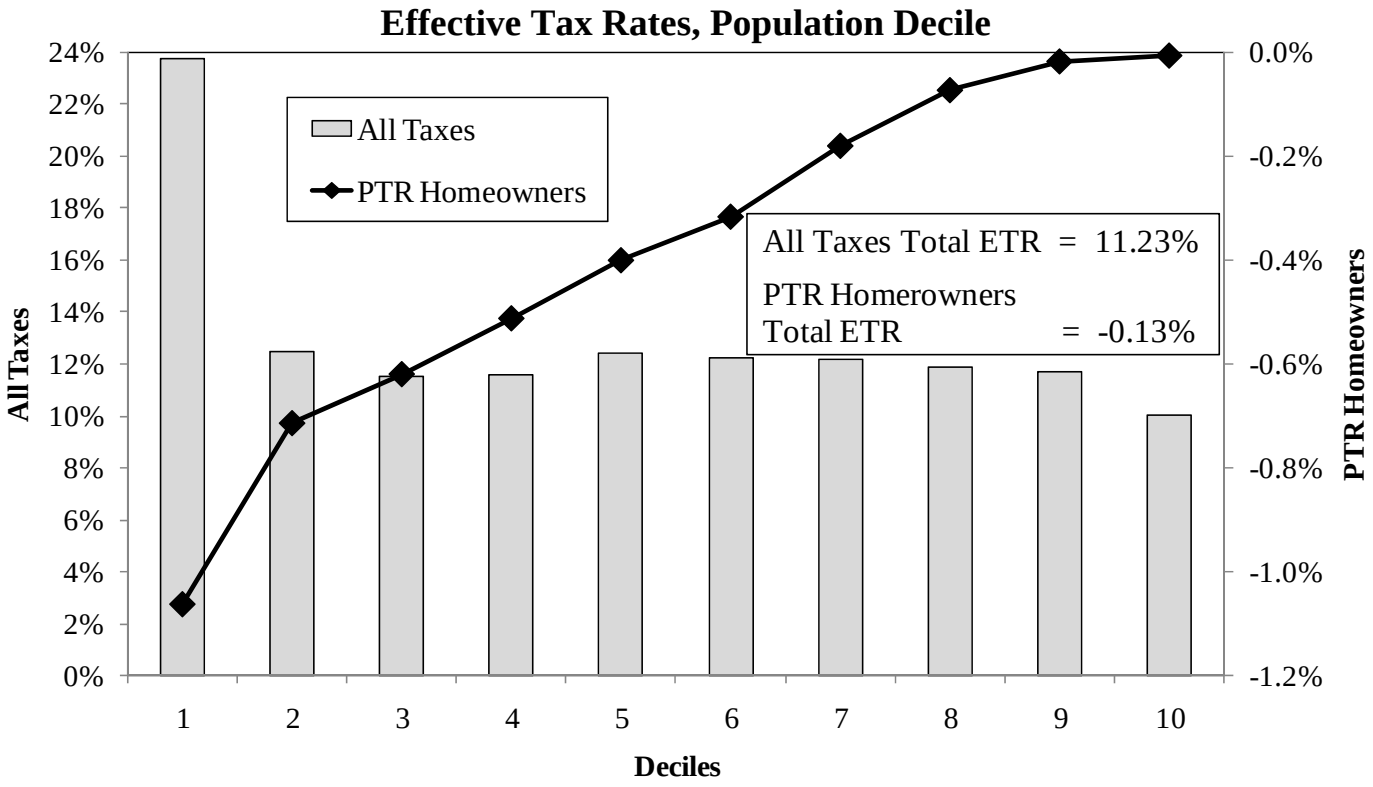
2006 Incidence Estimate for
Property Tax Refunds - Homeowners

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota	Exported
-$218	-$218	$0	$0	-$218	$0

* Shifting allocations: Direct = 100%, Consumers = 0%, Labor = 0%, Capital = 0%



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
PTR Homeowners	-1.06%	-0.71%	-0.62%	-0.51%	-0.40%	-0.32%	-0.18%	-0.07%	-0.02%	0.00%	-0.01%	-0.01%	0.00%	0.712

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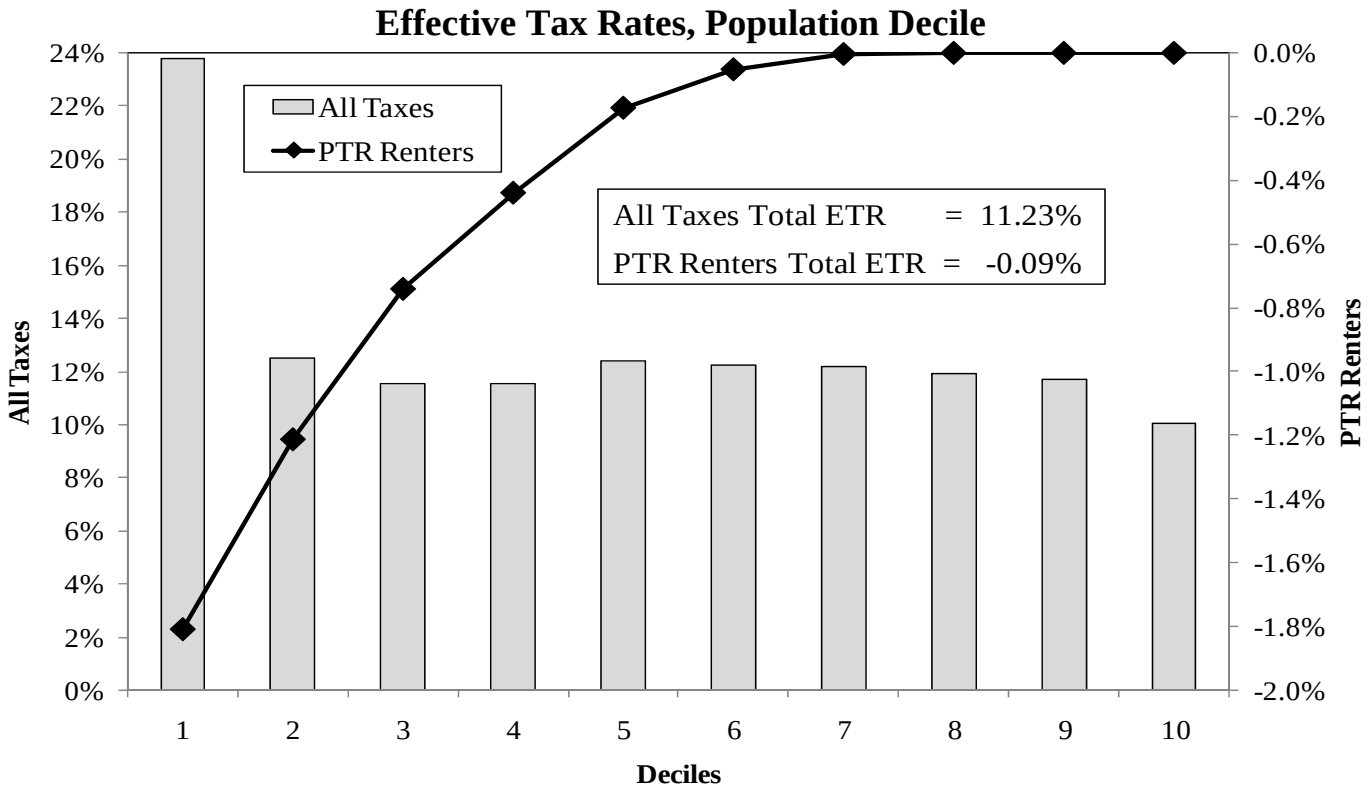
2006 Incidence Estimate for
Property Tax Refunds - Renters

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
-$151	-$151	$0	$0	-$151	$0

* Shifting allocations: Direct = 100%, Consumers = 0%, Labor = 0%, Capital = 0%



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
PTR Renters	-1.81%	-1.21%	-0.74%	-0.44%	-0.17%	-0.05%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.898

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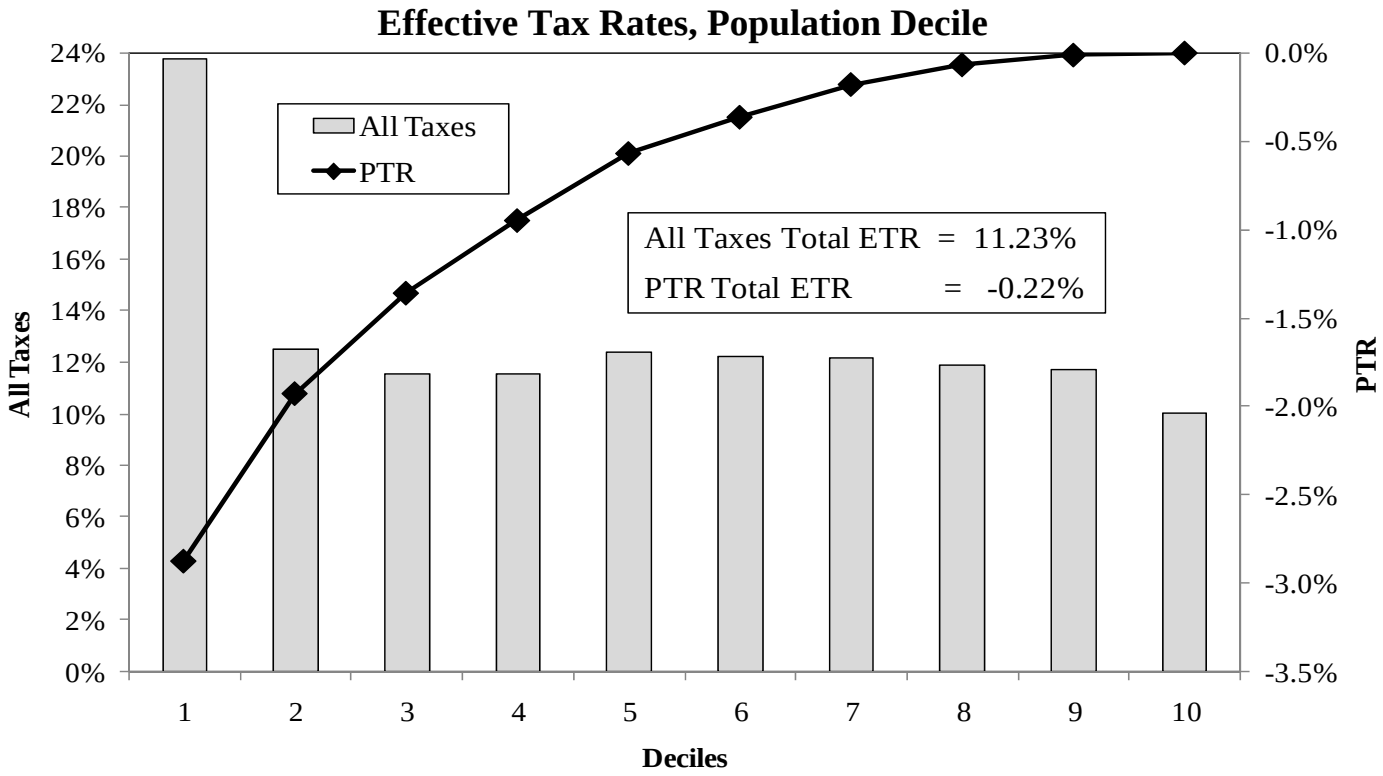
2006 Incidence Estimate for
Total Property Tax Refunds

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
-$369	-$369	$0	$0	-$369	$0

* Shifting allocations: Direct = 100%, Consumers = 0%, Labor = 0%, Capital = 0%



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
PTR	-2.87%	-1.93%	-1.36%	-0.95%	-0.57%	-0.37%	-0.18%	-0.07%	-0.02%	0.00%	-0.01%	-0.01%	0.00%	0.788

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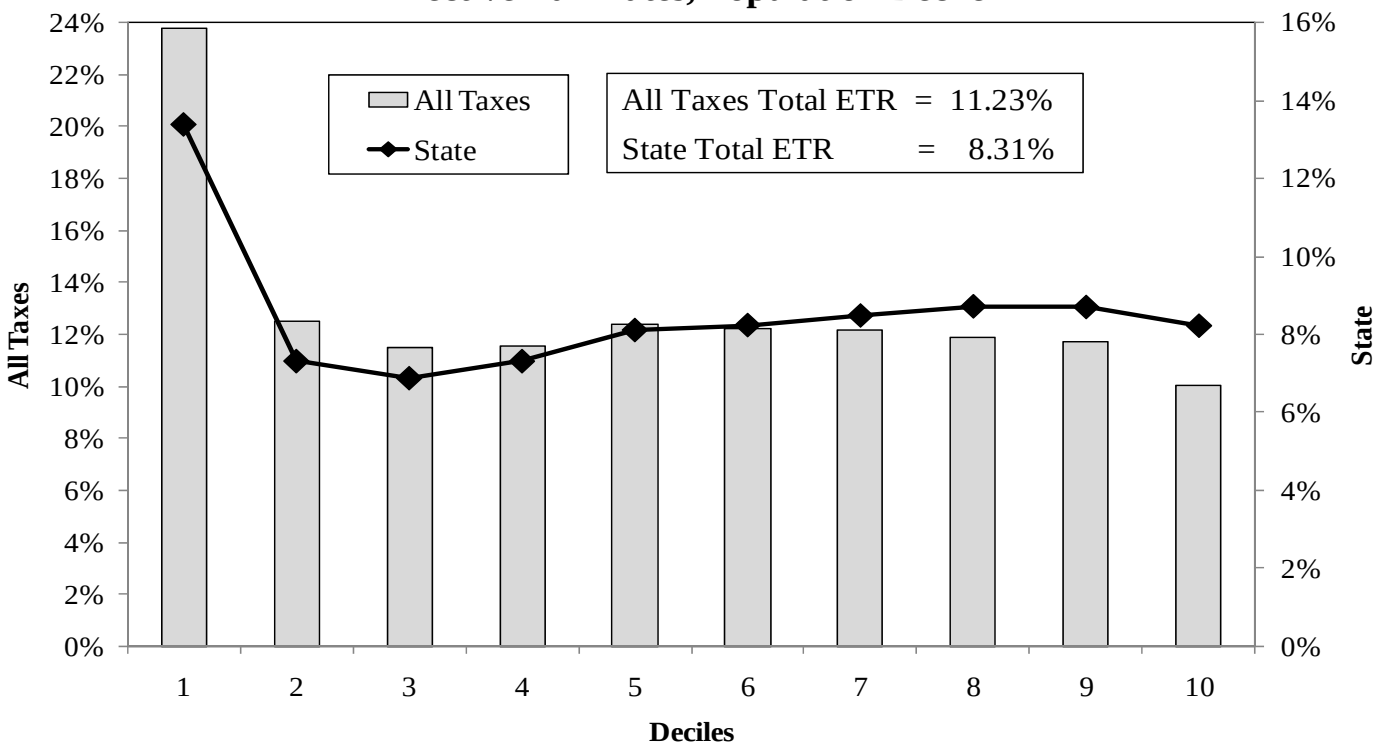
2006 Incidence Estimate for
Total State Taxes

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota	Exported
$16,191	$11,065	$582	$4,543	$13,715	$2,475

Effective Tax Rates, Population Decile



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
State	13.39%	7.30%	6.86%	7.30%	8.10%	8.23%	8.47%	8.71%	8.69%	8.21%	8.43%	8.32%	7.97%	0.002

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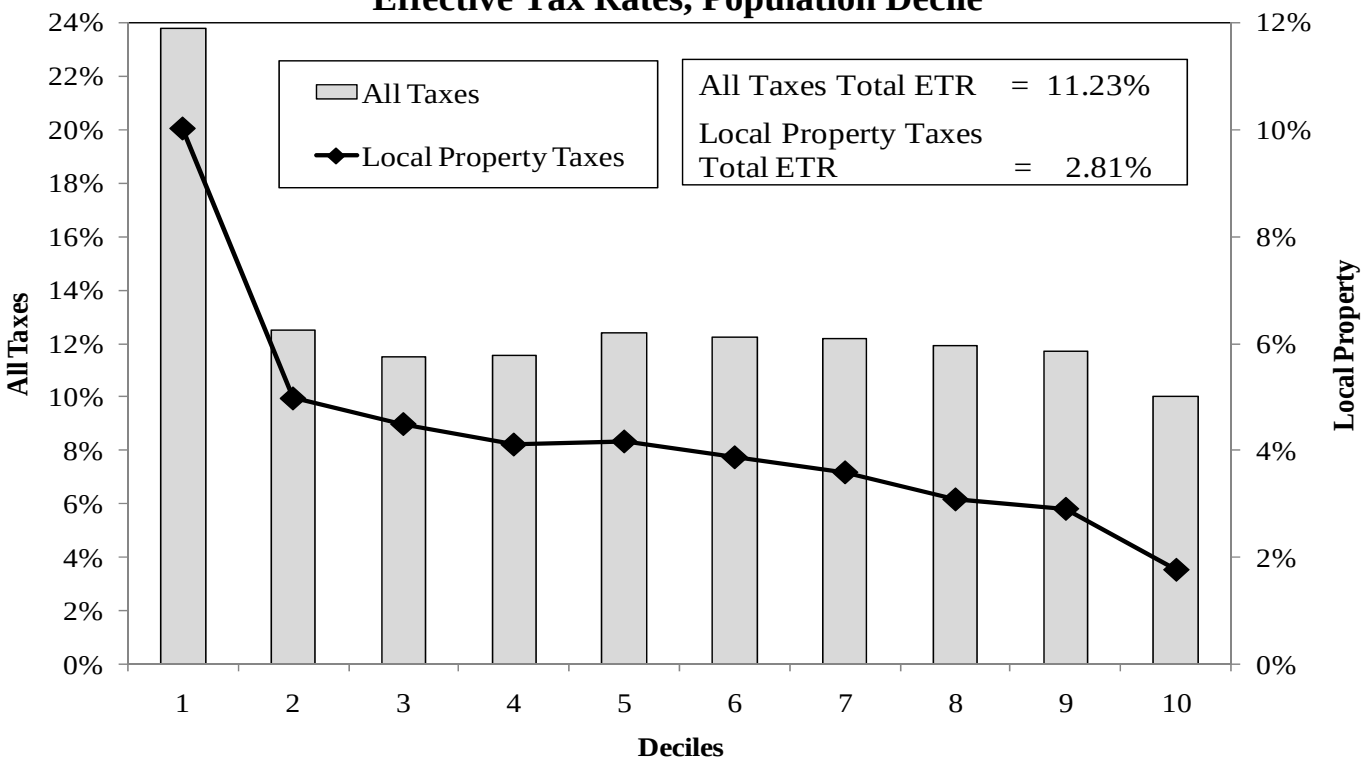
2006 Incidence Estimate for
Local Property Taxes

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota	Exported
$5,575	$3,164	$26	$2,386	$4,643	$933

Effective Tax Rates, Population Decile



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Local Property	10.02%	4.96%	4.48%	4.10%	4.16%	3.86%	3.58%	3.07%	2.90%	1.75%	2.58%	2.14%	0.90%	-0.209

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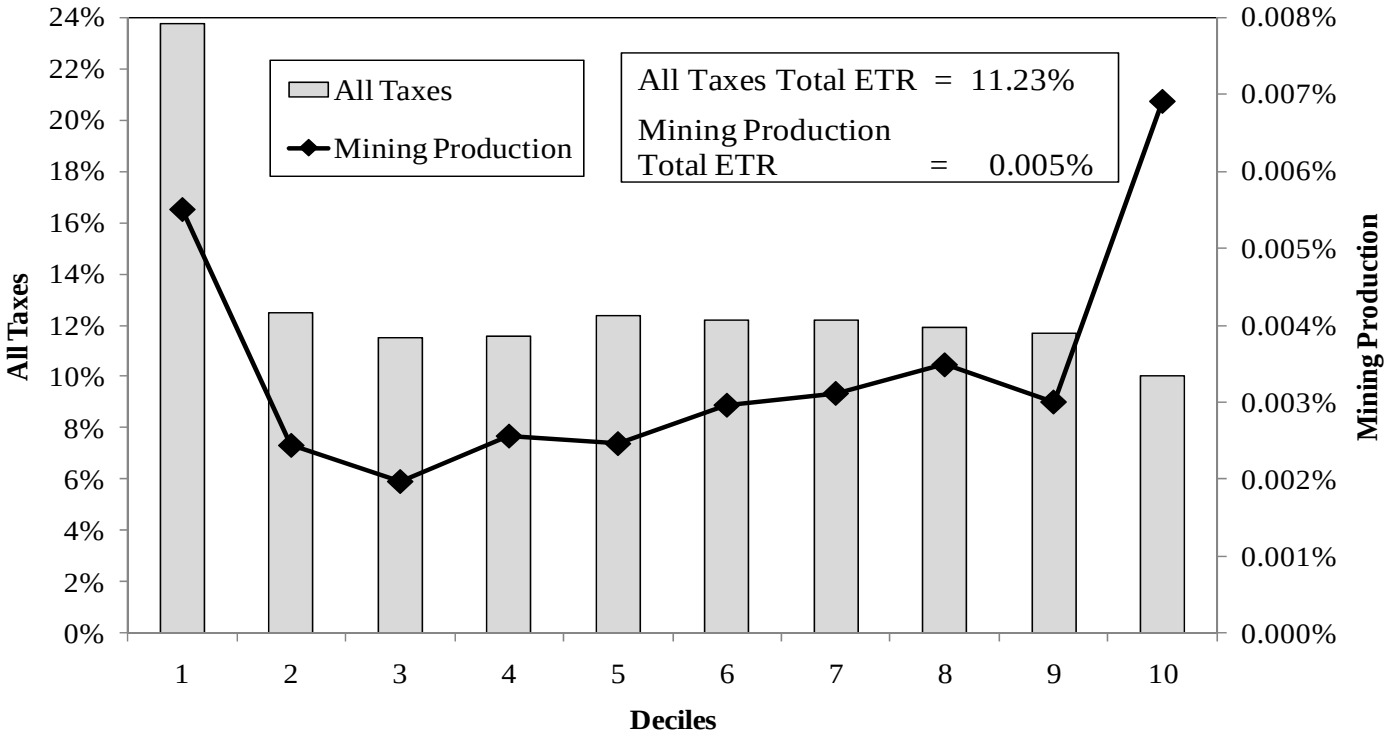
2006 Incidence Estimate for
Mining Production Taxes (Taconite)

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$79	$0	$0	$79	$8	$71

* Shifting allocations: Direct = 0%, Consumers = 0%, Labor = 7%, Capital = 93%

Effective Tax Rates, Population Decile



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Mining Production	0.005%	0.002%	0.002%	0.003%	0.002%	0.003%	0.003%	0.003%	0.003%	0.007%	0.004%	0.005%	0.01%	0.212

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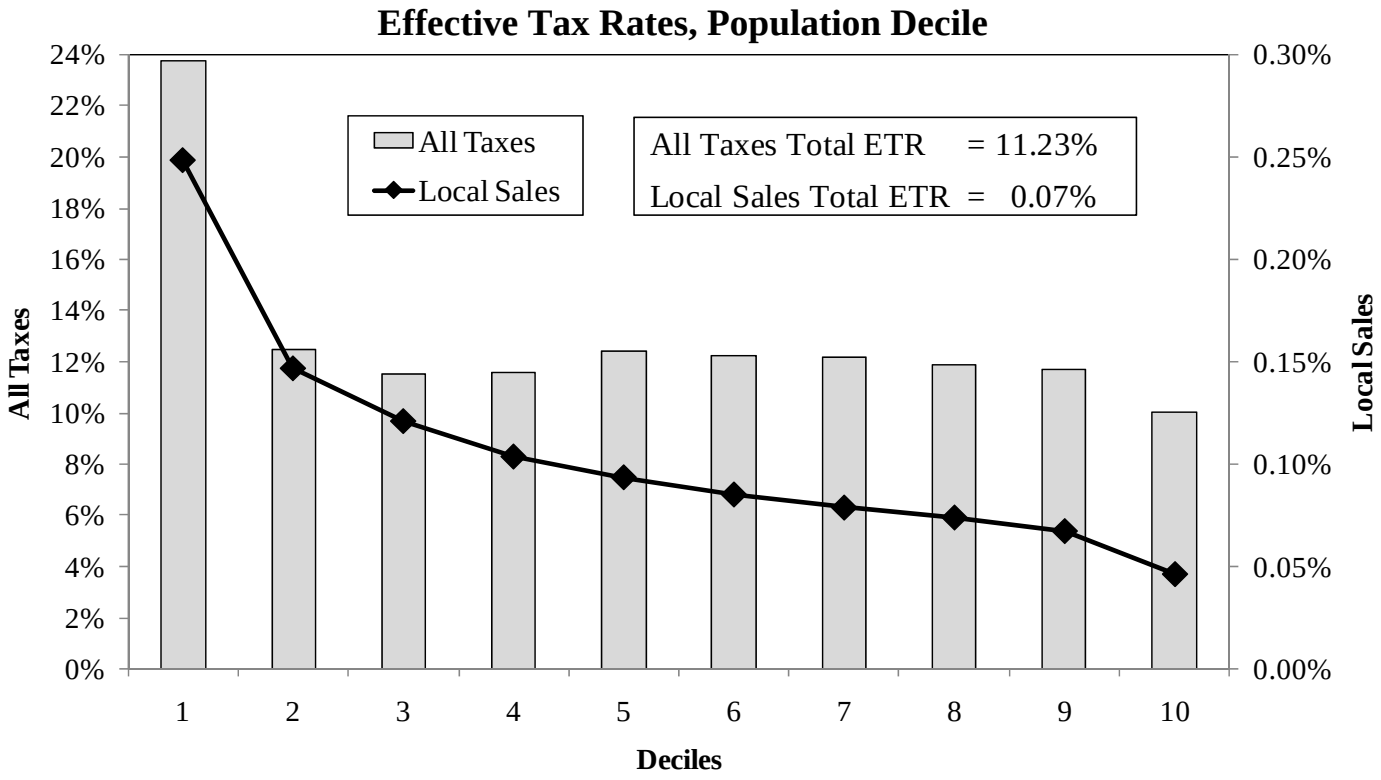
2006 Incidence Estimate for
Local Sales Taxes

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota	Exported
$142	$72	$6	$64	$114	$29

* Shifting allocations: Direct = 64%, Consumers = 33%, Labor = 0%, Capital = 3%



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Local Sales	0.25%	0.15%	0.12%	0.10%	0.09%	0.09%	0.08%	0.07%	0.07%	0.05%	0.06%	0.05%	0.03%	-0.193

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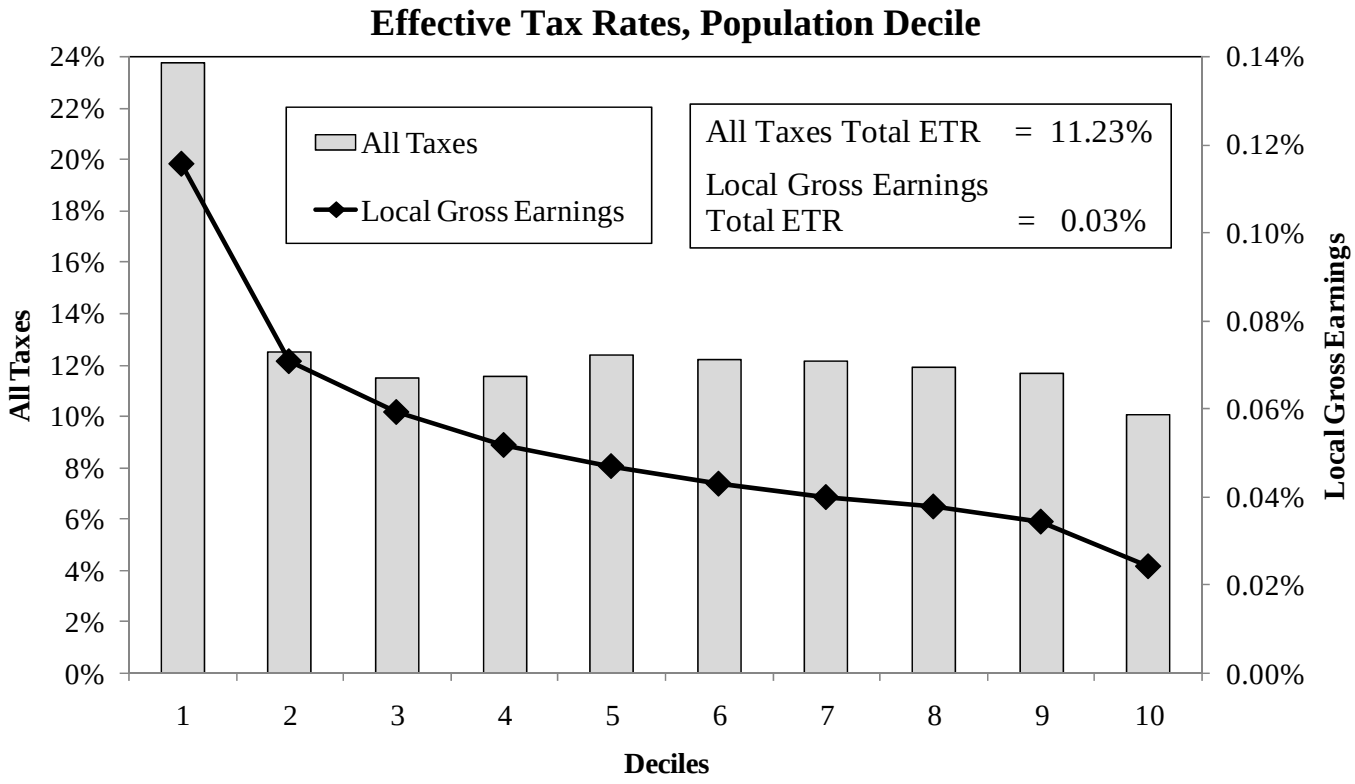
2006 Incidence Estimate for
Local Gross Earning Taxes

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$98	$0	$0	$98	$58	$40

* Shifting allocations: Direct = 0%, Consumers = 89%, Labor = 7%, Capital = 4%



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Local Gross Earnings	0.12%	0.07%	0.06%	0.05%	0.05%	0.04%	0.04%	0.04%	0.03%	0.02%	0.03%	0.03%	0.02%	-0.182

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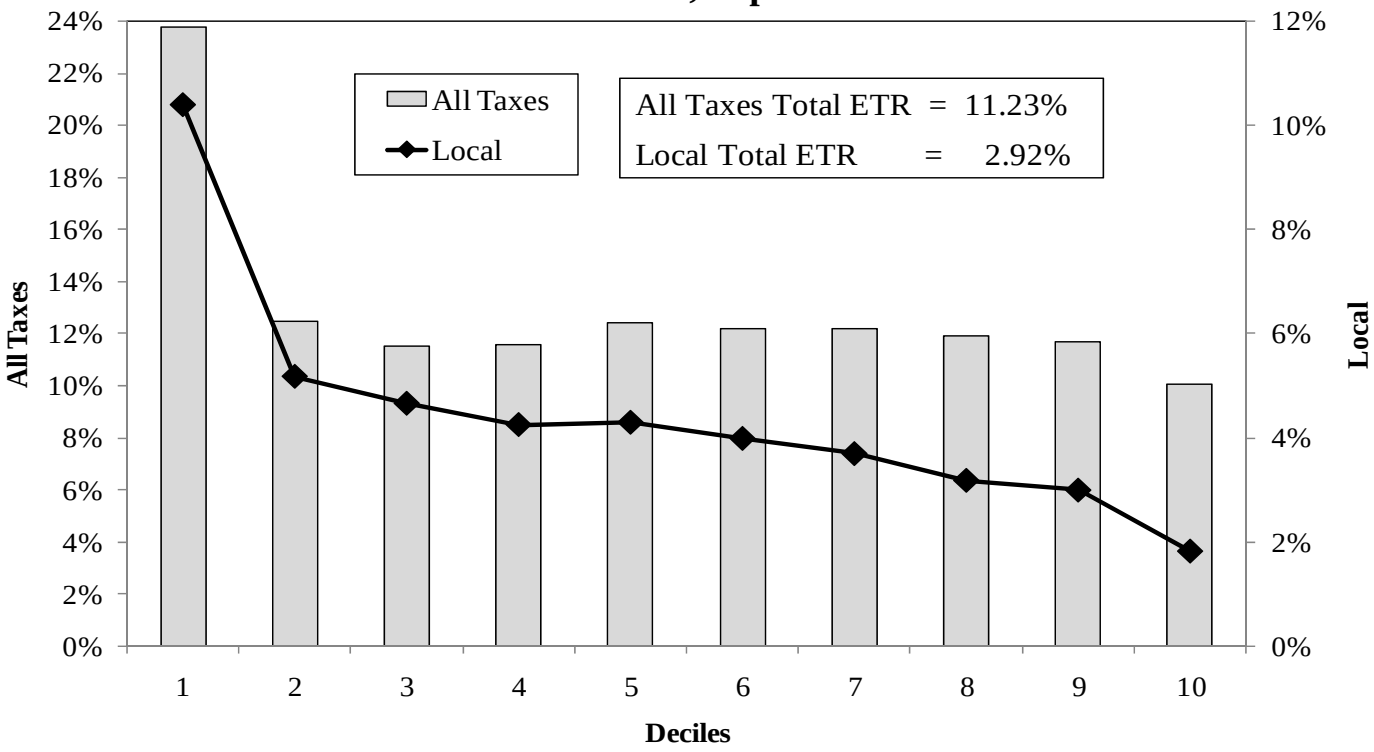
2006 Incidence Estimate for
Total Local Taxes

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota	Exported
$5,894	$3,236	$32	$2,626	$4,822	$1,072

Effective Tax Rates, Population Decile



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Local	10.39%	5.18%	4.67%	4.26%	4.30%	3.99%	3.70%	3.19%	3.00%	1.83%	2.68%	2.22%	0.96%	-0.208

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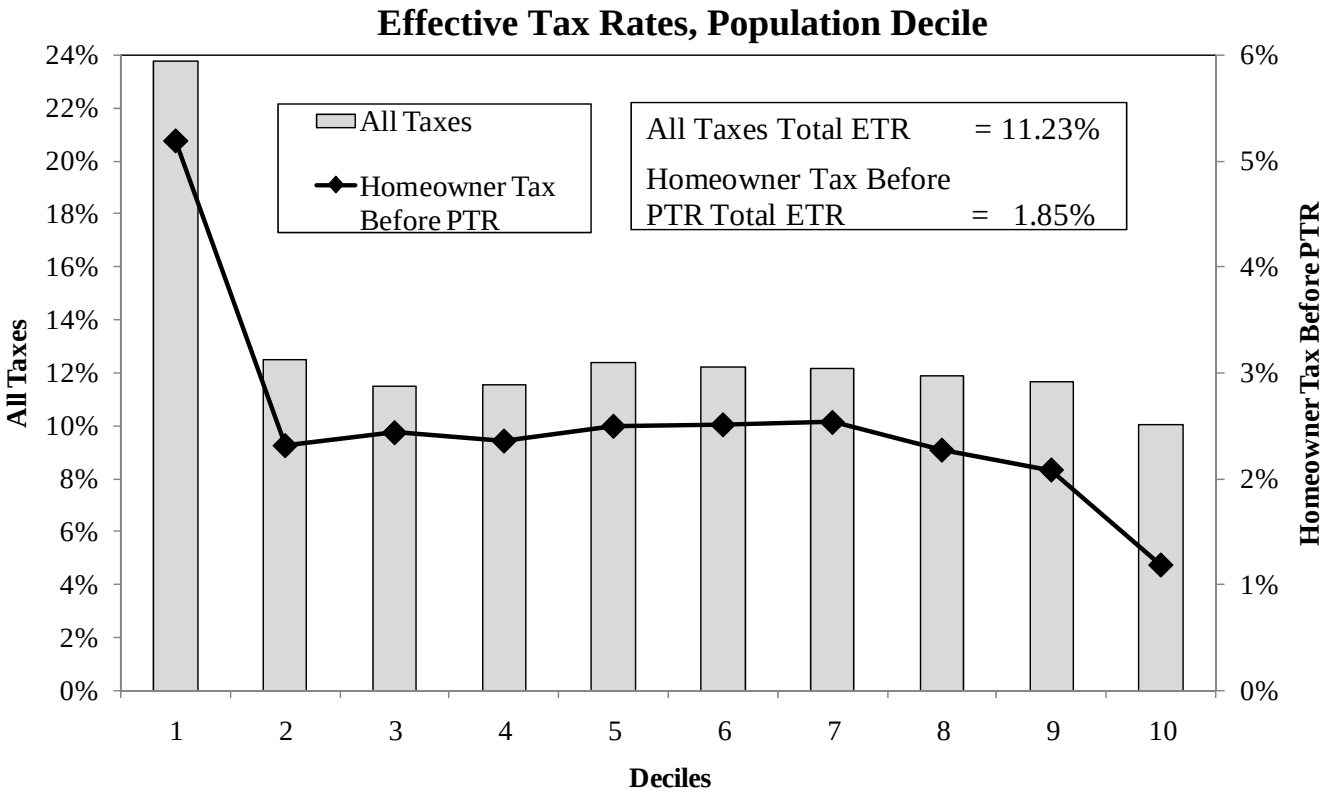
2006 Incidence Estimate for
Homeowner Property Tax Before PTR

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$3,059	$3,059	$0	$0	$3,059	$0

* Shifting allocations: Direct = 100%, Consumers = 0%, Labor = 0%, Capital = 0%



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Homeowner Tax Before PTR	5.19%	2.31%	2.43%	2.35%	2.49%	2.50%	2.53%	2.26%	2.08%	1.18%	1.86%	1.45%	0.51%	-0.178

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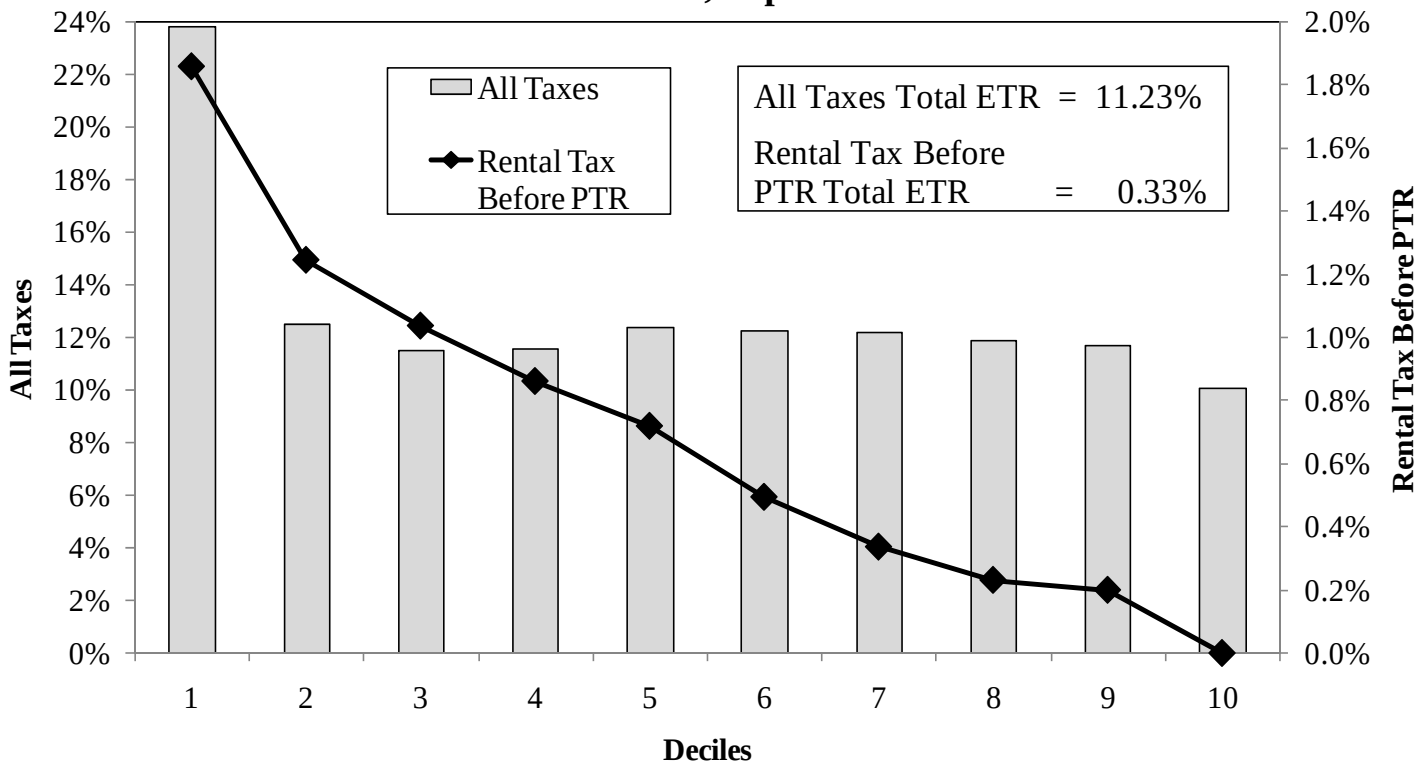
2006 Incidence Estimate for
Rental Property Tax Before PTR

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$610	$0	$0	$610	$544	$67

* Shifting allocations: Direct = 0%, Consumers = 39%, Labor = 0%, Capital = 61%

Effective Tax Rates, Population Decile



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Renter Tax Before PTR	1.86%	1.24%	1.04%	0.86%	0.72%	0.49%	0.34%	0.23%	0.20%	0.00%	0.18%	0.20%	0.10%	-0.391

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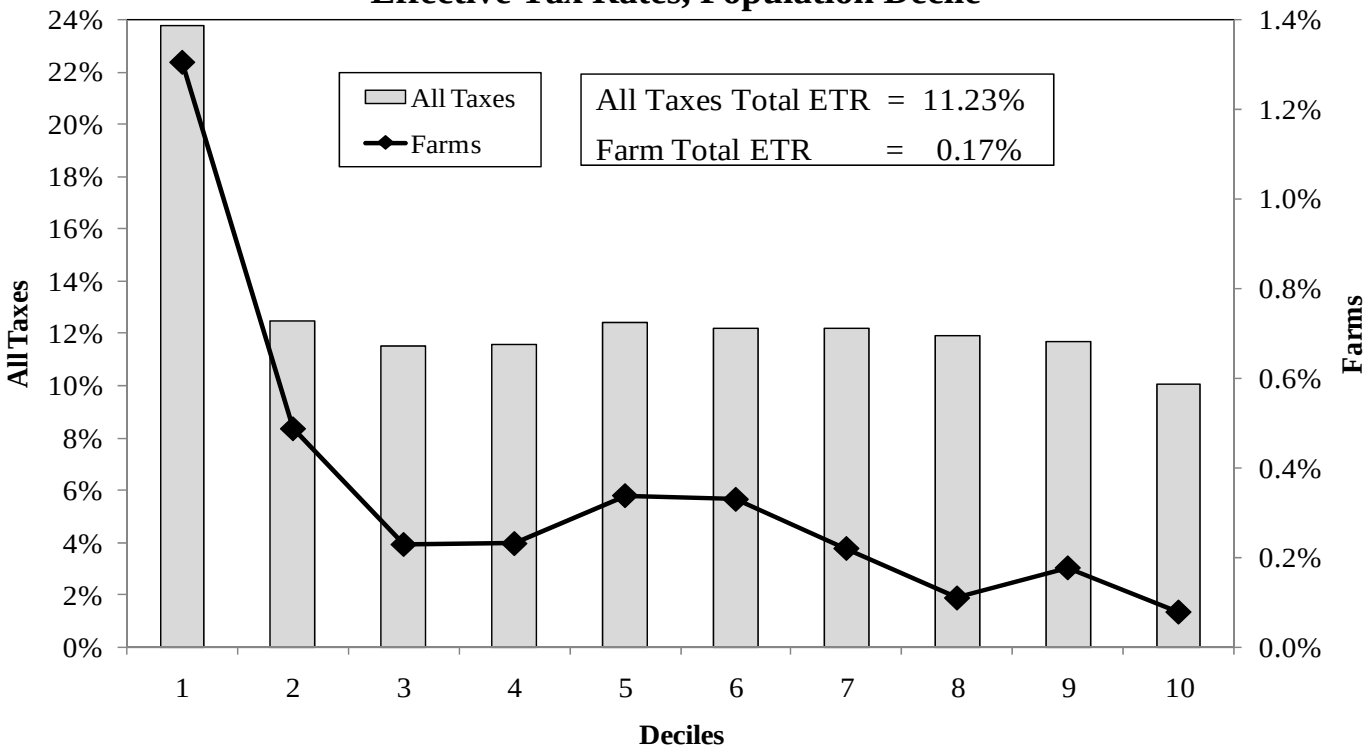
2006 Incidence Estimate for
Farm Property Tax (other than residence)

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$286	$0	$0	$286	$278	$8

* Shifting allocations: Direct = 0%, Consumers = 0%, Labor = 0%, Capital = 100%

Effective Tax Rates, Population Decile



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Farms	1.31%	0.49%	0.23%	0.23%	0.34%	0.33%	0.22%	0.11%	0.18%	0.08%	0.13%	0.11%	0.01%	-0.331

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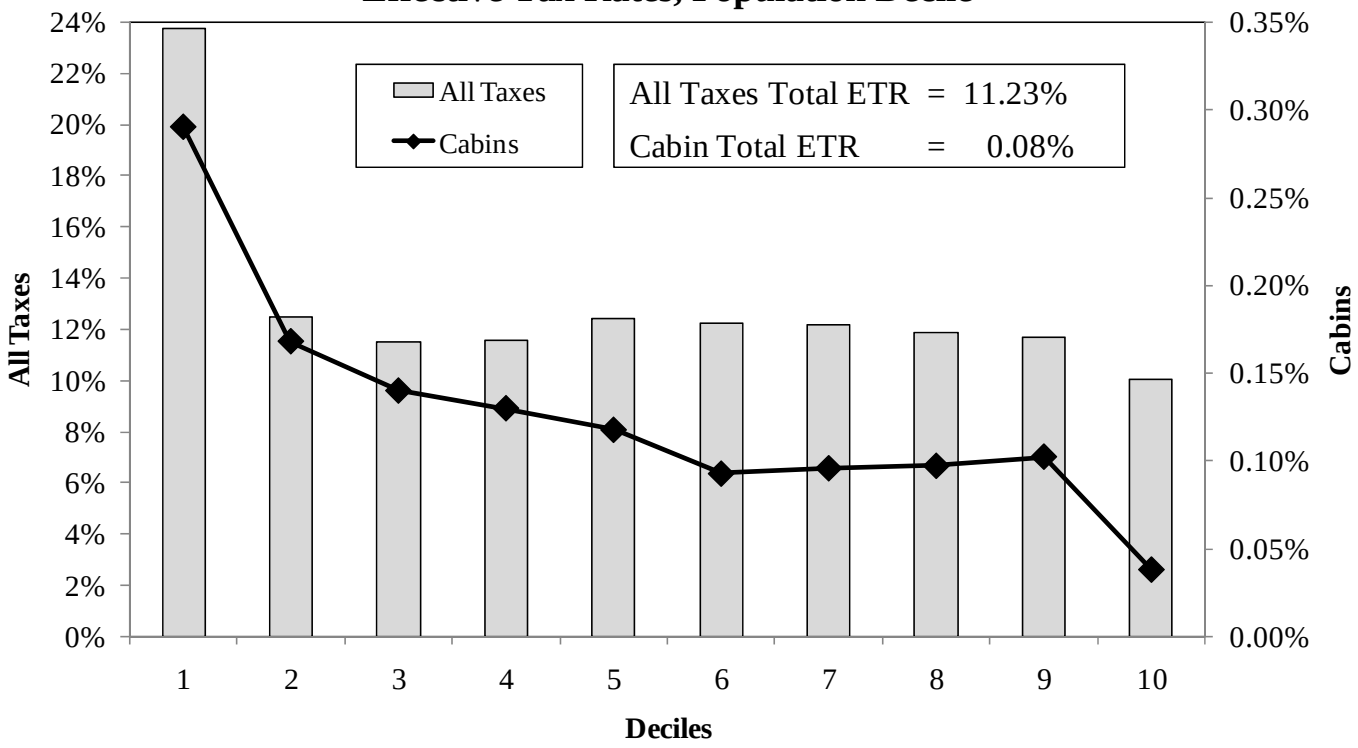
2006 Incidence Estimate for
Residential Recreational Property Tax (State & Local)

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$162	$130	$32	$0	$130	$32

* Shifting allocations: Direct = 100%, Consumers = 0%, Labor = 0%, Capital = 0%

Effective Tax Rates, Population Decile



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Cabins	0.29%	0.17%	0.14%	0.13%	0.12%	0.09%	0.10%	0.10%	0.10%	0.04%	0.07%	0.04%	0.01%	-0.257

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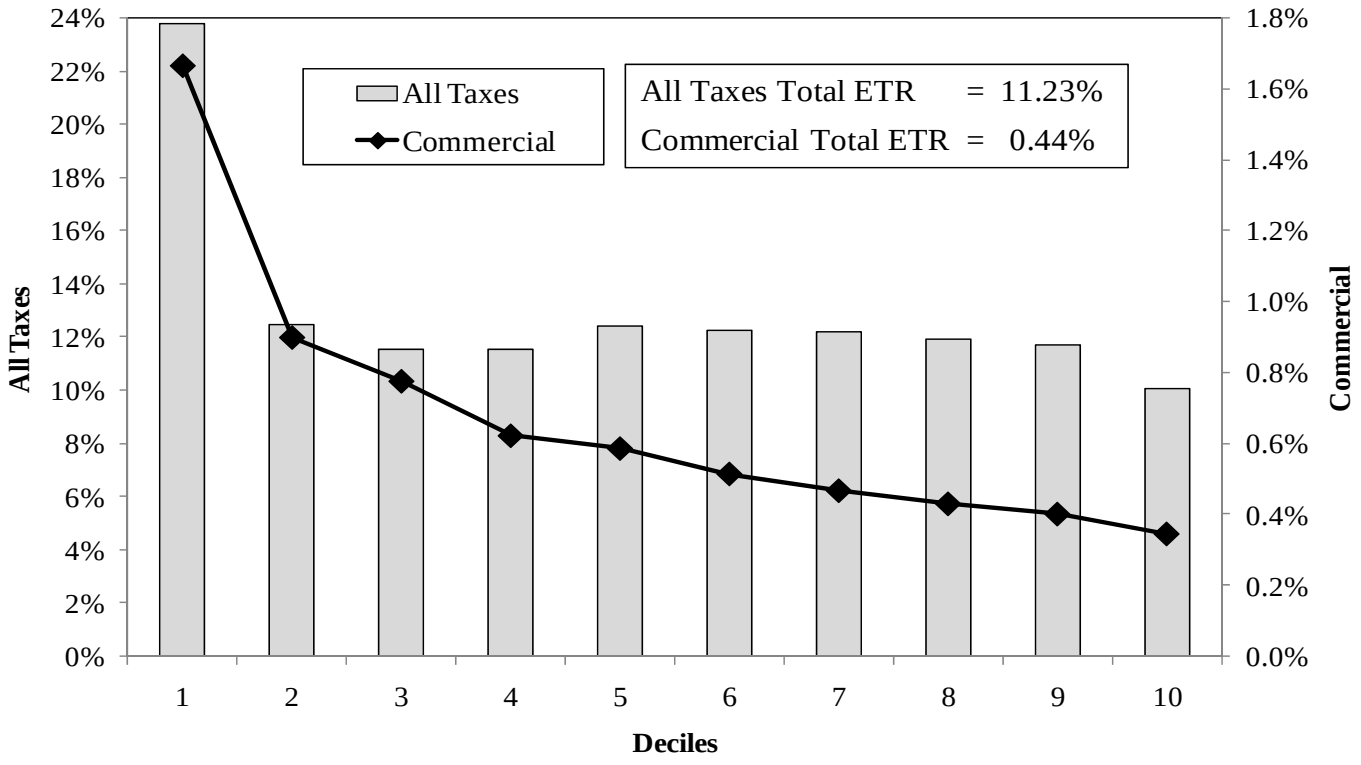
2006 Incidence Estimate for
Commercial Property Tax (State & Local)

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$1,444	$0	$0	$1,444	$733	$711

* Shifting allocations: Direct = 0%, Consumers = 62%, Labor = 4%, Capital = 34%

Effective Tax Rates, Population Decile



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Commercial	1.67%	0.90%	0.78%	0.62%	0.59%	0.51%	0.47%	0.43%	0.40%	0.35%	0.39%	0.39%	0.28%	-0.152

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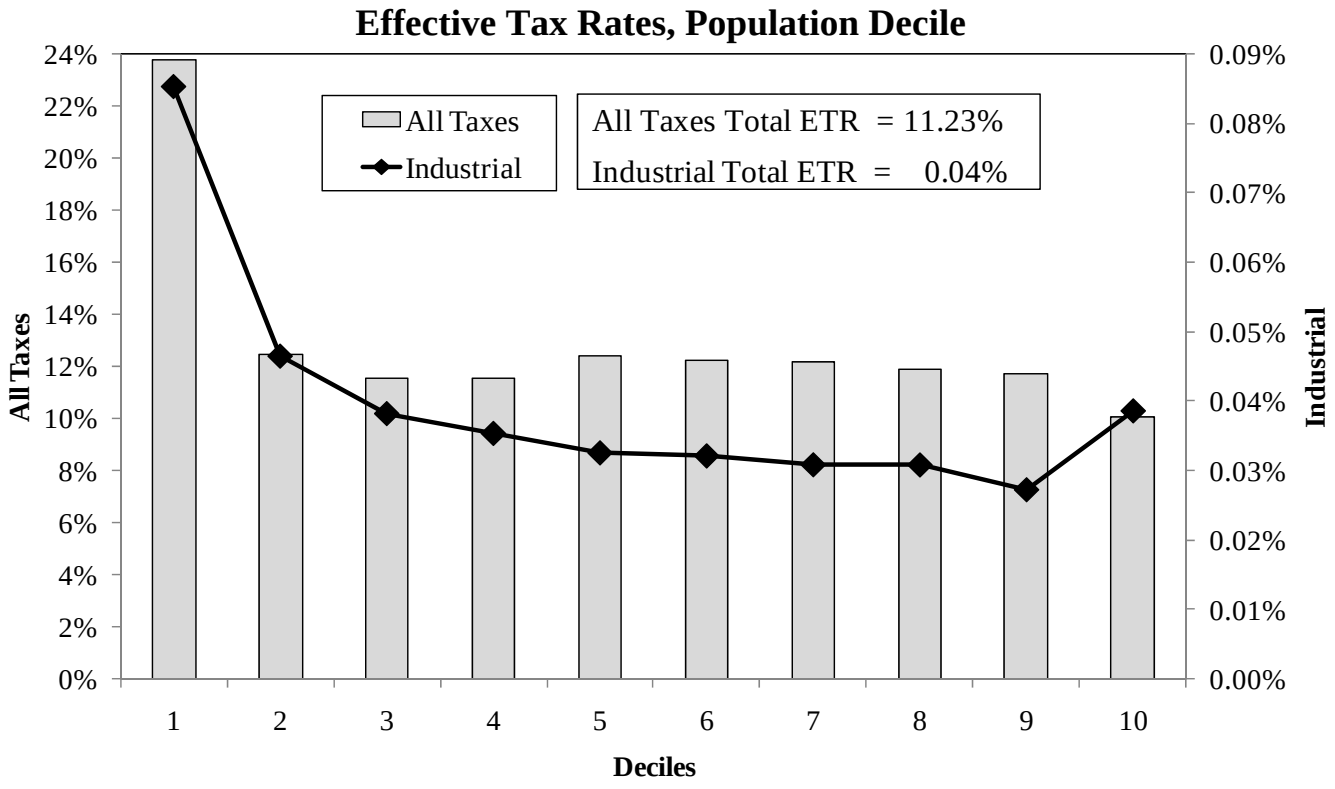
2006 Incidence Estimate for
Industrial Property Tax (State & Local)

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$432	$0	$0	$432	$58	$374

* Shifting allocations: Direct = 0%, Consumers = 44%, Labor = 0%, Capital = 56%



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Industrial	0.09%	0.05%	0.04%	0.04%	0.03%	0.03%	0.03%	0.03%	0.03%	0.04%	0.03%	0.03%	0.05%	0.019

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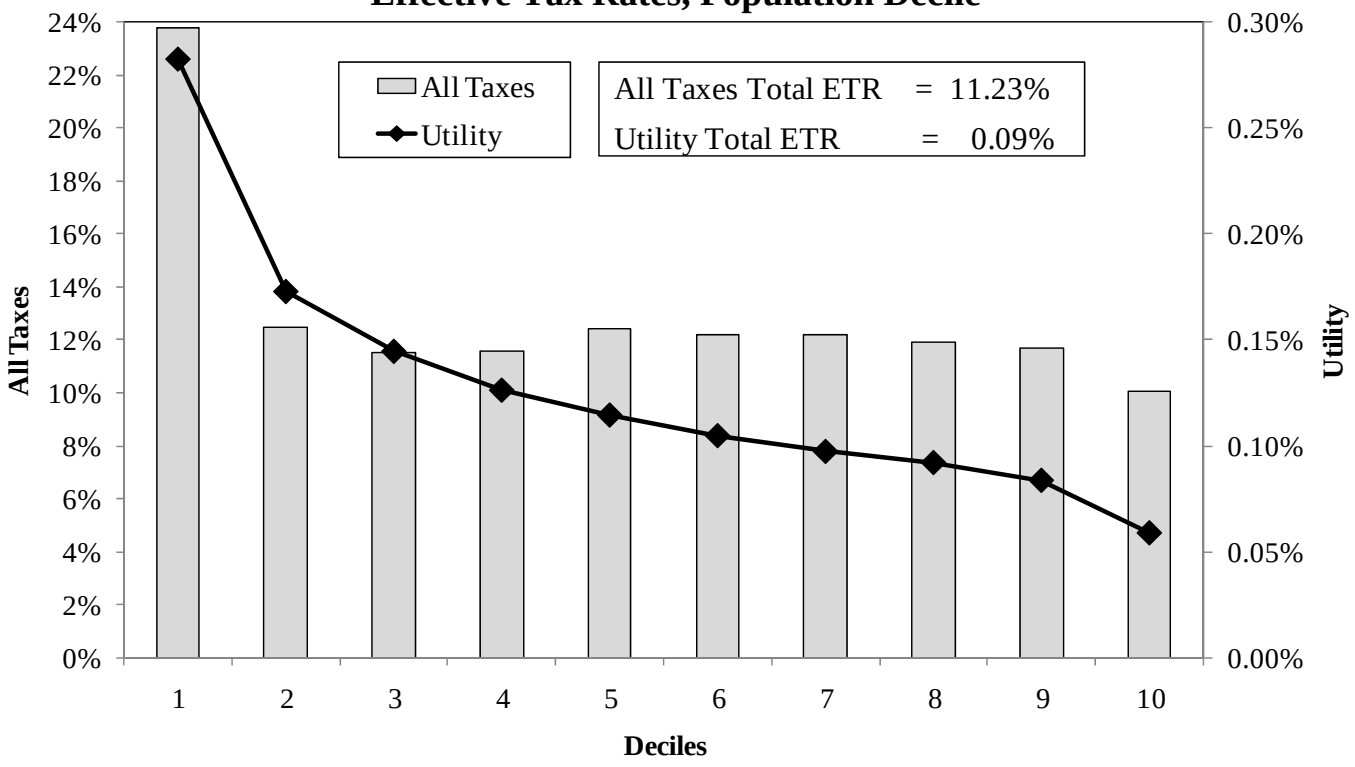
2006 Incidence Estimate for
Utility Property Tax (State & Local)

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota*	Exported
$238	$0	$0	$238	$140	$98

* Shifting allocations: Direct = 0%, Consumers = 89%, Labor = 7%, Capital = 4%

Effective Tax Rates, Population Decile



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
Utility	0.28%	0.17%	0.14%	0.13%	0.11%	0.10%	0.10%	0.09%	0.08%	0.06%	0.08%	0.07%	0.04%	-0.182

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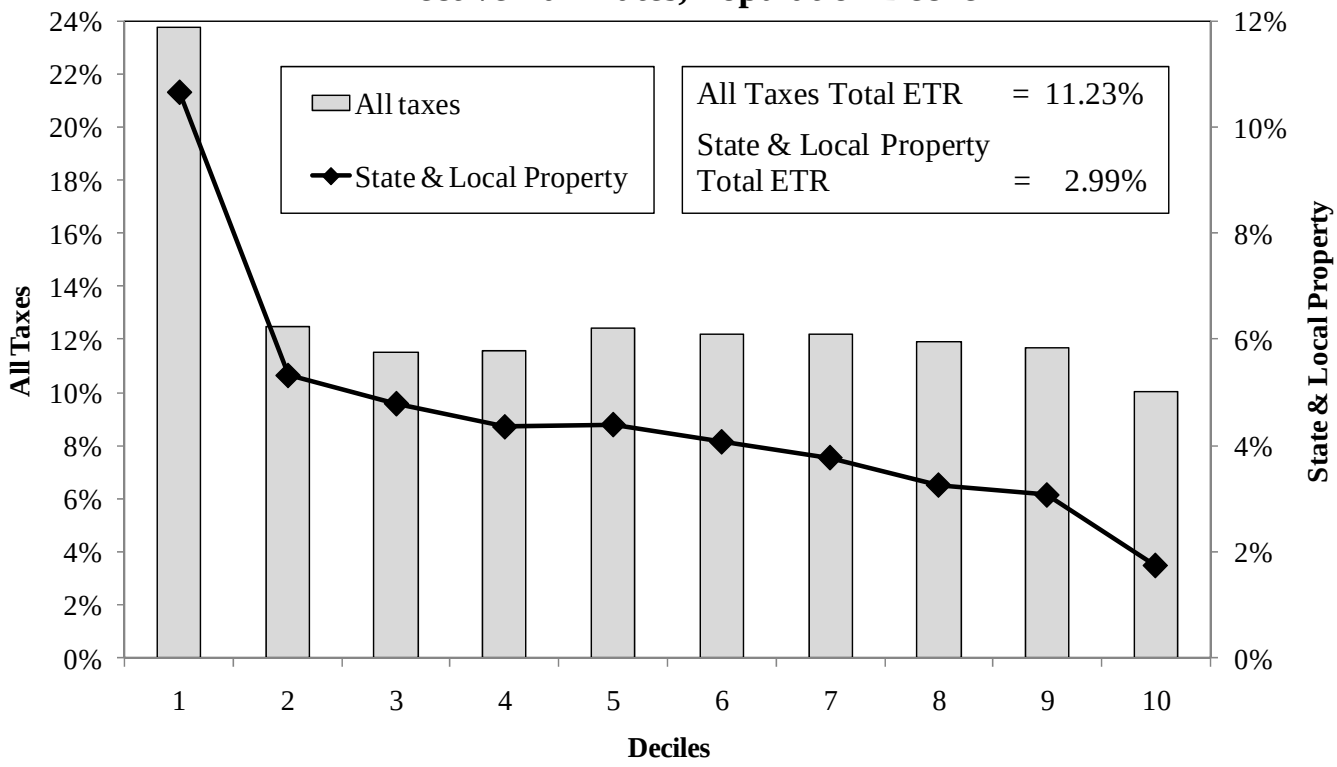
2006 Incidence Estimate for
Total State and Local Property

Tax Collection Amounts 2006
($ Millions)

Total	As Imposed			After shifting	
	MN HH's	NR	Business	Minnesota	Exported
$6,231	$3,189	$32	$3,010	$4,942	$1,289

Effective Tax Rates, Population Decile



Deciles	1	2	3	4	5	6	7	8	9	10	91%-95%	96%-99%	Top 1%	Pop. Suits Index
All Taxes	23.79%	12.48%	11.52%	11.55%	12.40%	12.22%	12.18%	11.90%	11.69%	10.04%	11.11%	10.54%	8.93%	-0.053
State & Local Property	10.68%	5.33%	4.79%	4.36%	4.40%	4.07%	3.77%	3.25%	3.07%	1.74%	2.74%	2.29%	1.01%	-0.206

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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.

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.

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.

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Legislative Mandate

270C.13 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 as follows: (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.

Subd. 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 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.

Subd. 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, 2005 c 151 art 1 s 15.