

# Tax Incidence Analysis

Prepared by the Tax Research Division, Minnesota Department of Revenue  
June 18, 2014

## 2014 First & Second Omnibus Tax Bills

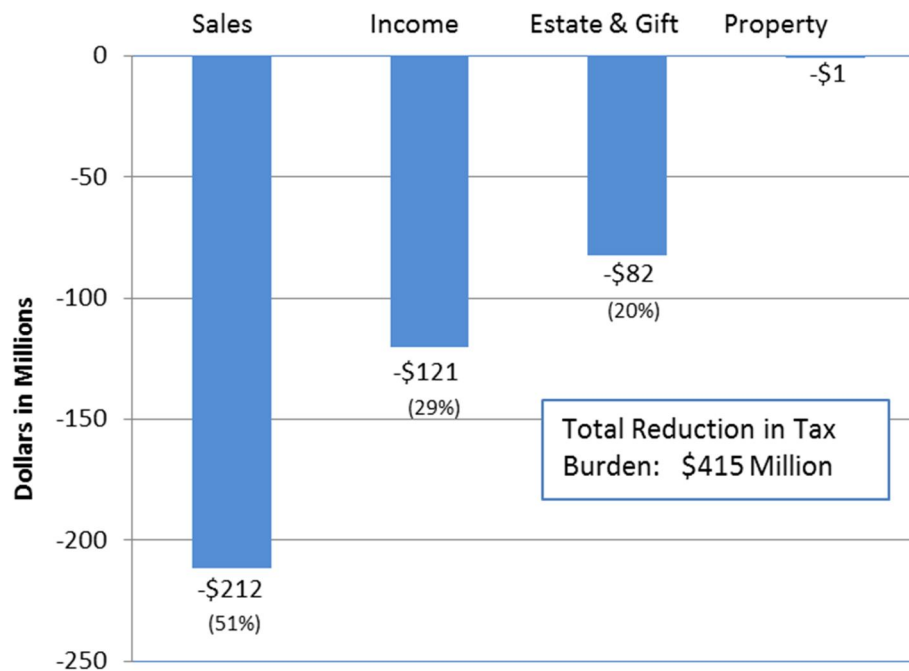
Chapter 150 (H.F. 1777 as enacted on March 21, 2014) and  
Chapter 308 (H.F. 3167 as enacted on May 20, 2014)

### Summary

This document summarizes how the permanent tax law changes enacted in 2014 are expected to change the distribution of Minnesota's state and local taxes burdens by income class. The impact is modeled for tax year 2015 assuming that the laws are fully effective in that year and that businesses have fully adjusted to any changes in business taxes.

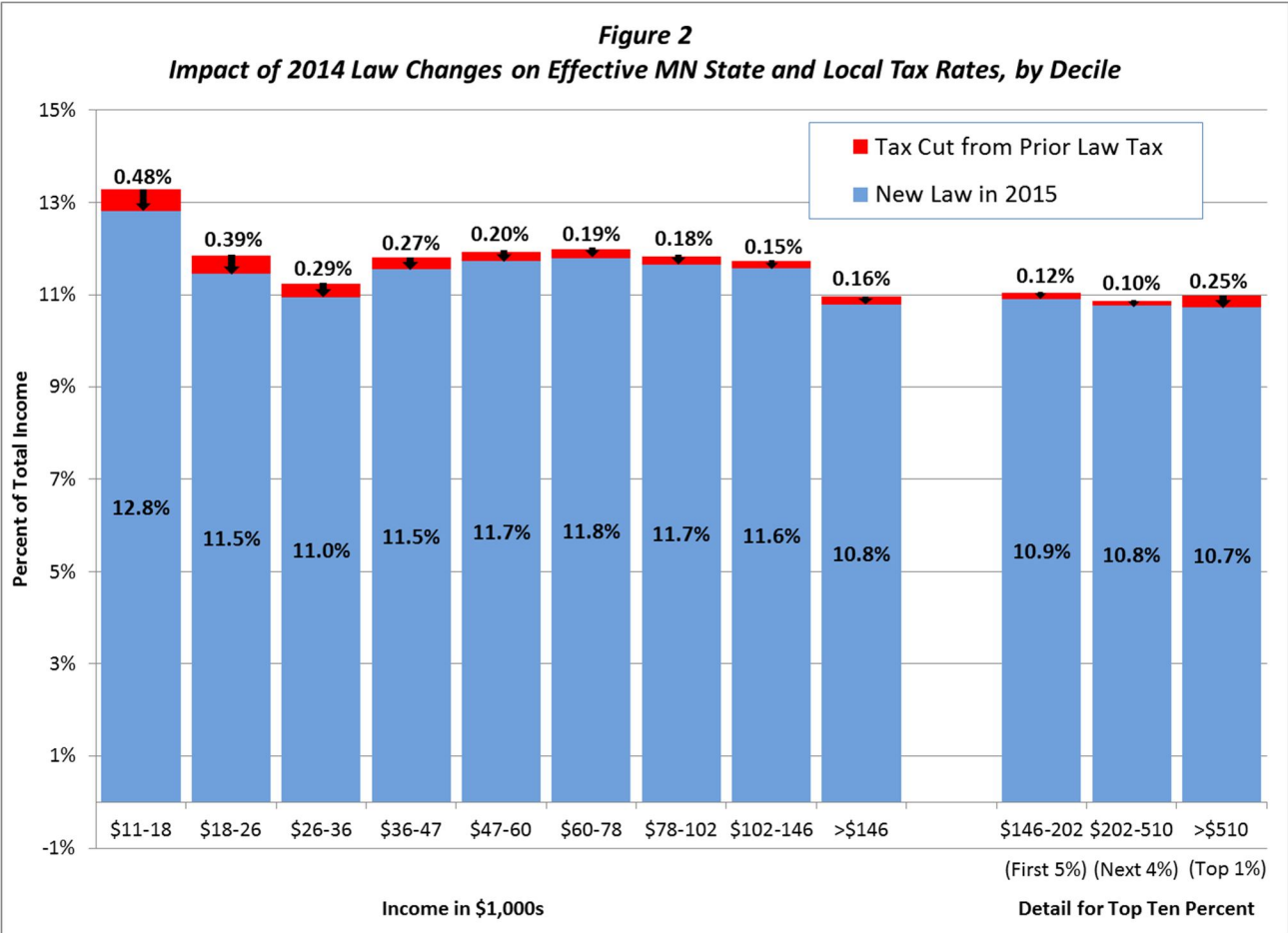
Permanent tax cuts totaling **\$450 million** will reduce the tax burden on Minnesota residents by **\$415 million**. The total burden of Minnesota's state and local tax system **falls by 1.7%**. As shown in Figure 1, sales tax burdens were cut by \$212 million, income tax burdens by \$121 million, estate and gift tax burdens by \$82 million, and net property tax burdens by \$1 million.

**Figure 1.**  
**Impact of Permanent Law Changes Enacted in 2014**  
**on the Burden of Minnesota State and Local Taxes in 2015**



Tax burdens are generally measured as a percent of income. Minnesota's system-wide 2015 state and local tax burden under prior law was equal to 11.63% of total household income, so the "effective tax rate" was 11.63%. The 2014 tax law changes **cut the effective tax rate from 11.63% to 11.44%, reducing the system-wide effective tax rate by 0.19% of income.**

**Figure 2** shows the impact of the 2014 law changes by income class. The cuts in effective tax rates for each income class are shown in red. The 2014 law changes generally reduced effective tax rates by more at lower incomes than at higher incomes.



A tax is defined as:

- progressive if effective tax rates rise with income
- proportional if effective tax rates are the same at all income levels
- regressive if effective tax rates fall with income

The Suits Index is a statistical measure of the progressivity or regressivity of a tax or tax change. The index has a value between -1 (most regressive) and +1 (most progressive). The index equals zero for a proportional tax.

The Suits Index for the tax reductions enacted in 2014 is **+0.106**, which is progressive. This reflects the fact that effective tax rates were generally cut by more at lower incomes than at higher incomes. By tax type, both the sales tax and income tax cuts were progressive (Suits Index of **+0.211** and **+0.497** respectively) and they more than offset the distributional impact of the estate tax reductions (Suits Index of **-0.760**).

The Suits Index for the existing overall Minnesota state and local tax system has been negative (regressive) in every year for which an overall index has been estimated (each even year starting in 1990). Prior to the 2014 law changes (including changes enacted in 2013), the Suits Index was -0.033 (regressive). Because the 2014 law changes were progressive, they made the overall system less regressive, increasing the Suits Index (toward zero) **from -0.033 to -0.031**. Though still regressive, the enacted laws make the overall tax system less regressive than in any year since 2004.

## ***Description and Scope of This Analysis***

Tax law changes enacted in 2014 modify the burden of state and local taxes compared to what it would have been under prior law. The impact can be estimated – by income class – using the database and underlying models developed for the *Minnesota Tax Incidence Study*. Because that most recent study projects income and taxes to calendar year 2015, this analysis estimates the impact in 2015.

This analysis includes only permanent changes in tax law. It ignores temporary provisions. It also excludes law changes that only affect the *timing* of tax payments. Changes that are phased in over time are modeled as if they were fully effective in 2015.

Changes in state and local taxes will in some cases have a *direct* impact on federal taxes. For example, lower Minnesota income or home property taxes can reduce federal itemized deductions, raising what individuals pay in *federal* income tax. Minnesota estate and gift taxes are also deductible for federal tax purposes, so part of the reduction in these Minnesota taxes may be offset by a resulting increase in the federal estate tax. State and local taxes are also deductible on federal tax returns filed by businesses. As in past years, this analysis takes these direct changes in federal taxes into account.

More details of the methodology used in this analysis are provided in ***Appendix 1***.

## ***Tax Law Changes Enacted in 2014***

The following 2014 tax law changes are ***included*** in this incidence analysis:

- **Income Tax:** Most income tax reductions were the result of updating Minnesota law to match changes in federal law. Chapter 150:
  - Increased the married joint standard deduction to twice that for single filers (an increase of \$2,050 in tax year 2015).
  - Increased the Working Family Credit rates for all who qualify for the credit and replaced the two-tier credit structure for families with children with a single credit rate. For married couples filing a joint return it also increased the phase-out threshold, extending the credit to higher income levels.
  - Increased the child and dependent care credits for some taxpayers by conforming to changes in federal parameters.
- **Sales Tax:** Chapter 150 repealed the sales tax on certain business purchases that was enacted in 2013, including (1) warehousing and storage services purchased by business, (2) repair services for electronic, commercial, and industrial equipment purchased by business, and (3) certain telecommunications equipment purchased by a telecommunications service provider. Chapter 308 exempted coin-operated amusement machines from sales tax.
- **Estate and Gift Tax:** Chapter 150 created a stand-alone estate tax. The new tax schedule eliminates the so-called “rate bubble” and phases in an increase in the exclusion from \$1 million to \$2 million over 5 years. It also repealed the gift tax that was enacted in 2013. Note that this analysis models the impact of the estate tax changes as if they were fully effective (with a \$2 million exemption) in 2015, even though the phase-in to the \$2 million exemption level will not be complete until 2018.

- **Property Taxes Net of Property Tax Refunds:** Chapter 150 authorized increased education levies, which is expected to raise property taxes (net of property tax refunds) by \$21 million per year. Chapter 308 increased property tax credits and aids to local governments, reducing property taxes by an estimated \$26 million. Property taxes (net of refunds) **fell by \$5 million**. Taxes increased for some property classifications and decreased for others.

The following tax law changes are *excluded* from the analysis:

- **Timing changes:** Chapter 150 delayed the move to an upfront capital equipment sales tax exemption (to replace current-law capital equipment refunds) by 10 months (to July 1, 2015). This is omitted because it generally changes only the *timing* of tax payments. Chapter 308's reduction in accelerated June payments of sales and excise taxes is excluded because it also only affects the timing of payments.
- **Temporary provisions:** Federal update items that were only extended temporarily for one tax year (2013) are excluded from this analysis. Several sales tax exemptions enacted in Chapter 308 were also omitted because they are temporary, as were Chapter 308's one-time increases in homeowner and renter property tax refunds.
- **Sales tax exemptions for governments and nonprofits:** Although the sales tax exemption for purchases made by special taxing districts might have some impact on property taxes, no such reductions are included in this analysis. Sales tax changes that will reduce tax for certain nonprofits are also excluded from the analysis because there is no clear link to individual tax burdens.
- **Miscellaneous provisions:** Several smaller income tax and corporate provisions cannot be modeled effectively using our tax models. They include about \$12 million of permanent federal update provisions that affect individual taxpayers (including deductions for certain student loan interest and the exclusion of some employer-provided education assistance). The extension of the Angel Investment Credit (\$15 million per year, but expiring in 2018) is also excluded, as are several small changes to cigarette and alcohol excise taxes.
- **Newly authorized local sales taxes:** A few specific city and county sales taxes and selective sales taxes were authorized in 2014. Any new revenue from those taxes is ignored because it is not clear if or when they will be adopted by the local governments.

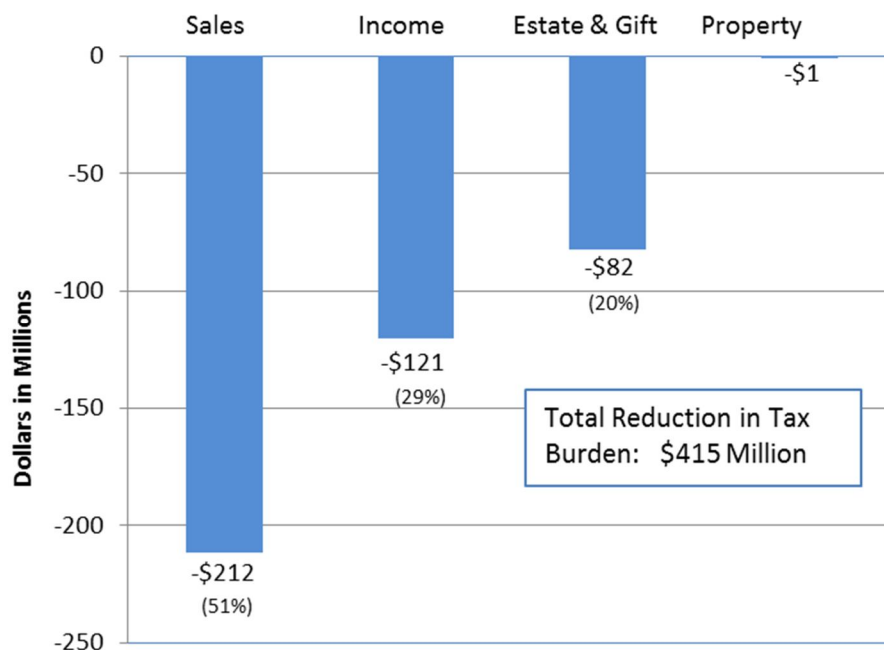
### ***Estimated Impact of 2014 Law Changes by Tax Type***

- **Income Tax**
  - **Married standard deduction:** Married filers who do not itemize deductions will pay less Minnesota tax. Some who itemize will also benefit because the change will in some cases reduce their required add-back for state income taxes on their Minnesota return. In 2015, tax receipts will decline by \$74.4 million. Of that amount, 610,000 Minnesota resident filers will receive **\$71.7 million** (96%).
  - **Working Family Credit:** In 2015, 319,000 Minnesota resident filers will receive **\$47.2 million** (95%) of the \$49.5 million in additional credits.
  - **Child and Dependent Care Credit:** In 2015, 24,000 resident filers will receive **\$1.8 million** (93%) of the \$1.9 million in additional credits.

- **State Sales Tax:** The impact of the cut in business-to-business taxes is estimated using the Minnesota Consumption Tax Model. The tax burden on Minnesota residents is projected to fall by **\$199 million** (90%) of the \$220 million decrease in state sales tax on business purchases.
- **Local Sales Taxes:** The reduced sales tax base will also reduce local sales tax revenue by an estimated \$14.5 million, reducing the burden on Minnesota residents by **\$13 million** (90% of that total).
- **Estate and Gift Taxes:** Minnesota residents will receive **\$82 million** (98%) of the \$84 million cut in estate and gift taxes.
- **Property Taxes Net of Property Tax Refunds:** The net property tax impact is small (**falling by about \$5 million**). Increases for non-farm homesteads (up by \$13 million) are more than offset by reductions for farm homesteads (down by \$16 million). The higher homestead taxes are also partly offset by an automatic increase in property tax refunds (\$1 million). The total property tax burden on Minnesota residents (net of property tax refunds) **falls by \$1 million**.

Figure 3 shows the net change in the burden of Minnesota's state and local taxes by type of tax. Just over half of the **\$415 million reduction** in tax burden is from the repeal of the business-to-business sales tax provisions (51%). Income tax cuts account for 29% of the total, estate and gift taxes for 20%, and property taxes for less than 1%.

**Figure 3.**  
**Impact of Permanent Law Changes Enacted in 2014**  
**on the Burden of Minnesota State and Local Taxes in 2015**



## Dollar and Percent Changes in Tax Burden by Income Class

As shown in **Figure 4**, the \$415 million cut in the Minnesota state and local tax burden on Minnesota residents means that the tax burden **falls by 1.7%**. The percentage reductions are generally larger for lower-income taxpayers and smaller for high-income households. Tax burdens fall by 2.3% or more in the 2<sup>nd</sup> through 5<sup>th</sup> deciles, with the largest percentage reduction in the 2<sup>nd</sup> and 3<sup>rd</sup> deciles. Tax burdens for the 10<sup>th</sup> decile fall by less than the average (1.5%), though they fall by an above-average 2.2% for the top 1%, due largely to the reductions in estate and gift taxes.

**Figure 4.**  
**Dollars of Minnesota State and Local Tax Burden**  
**By Population Decile**

Estimated Calendar Year 2015 Impact  
(Dollars in \$1000s)

2015 Population Decile	Income Range	Percent of All Households	Percent of All Income	Minnesota State and Local Tax Burden				
				Prior Law Tax Burden (\$1,000s)	New Law Tax Burden (\$1,000s)	Decrease in Tax Burden (\$1,000s)	Decile's Share of Total Reduction in Tax	Percent Reduction in Tax Burden
1	10,937 & under	10%	0.8%	565,994	555,148	(10,846)	2.6%	-1.9%
2	10,938 to 18,316	10%	1.9%	543,342	523,723	(19,619)	4.7%	-3.6%
3	18,317 to 26,397	10%	2.9%	735,192	711,060	(24,132)	5.8%	-3.3%
4	26,398 to 35,600	10%	4.0%	968,726	943,601	(25,125)	6.0%	-2.6%
5	35,601 to 46,507	10%	5.3%	1,347,008	1,315,982	(31,026)	7.5%	-2.3%
6	46,508 to 59,998	10%	6.9%	1,763,473	1,733,992	(29,481)	7.1%	-1.7%
7	59,999 to 77,704	10%	8.9%	2,284,352	2,248,732	(35,620)	8.6%	-1.6%
8	77,705 to 101,616	10%	11.5%	2,930,042	2,886,160	(43,881)	10.6%	-1.5%
9	101,617 to 146,400	10%	15.6%	3,945,331	3,895,657	(49,673)	12.0%	-1.3%
10	146,401 & over	10%	42.2%	9,954,081	9,808,028	(146,054)	35.2%	-1.5%
<b>All Minnesota Households</b>		<b>100%</b>	<b>100.0%</b>	<b>25,037,540</b>	<b>24,622,084</b>	<b>(415,455)</b>	<b>100.0%</b>	<b>-1.7%</b>

### Detail for the Top 10 Percent (10th Decile)

First 5%	146,401 to 202,407	5%	11.0%	2,607,916	2,579,864	(28,052)	6.8%	-1.1%
Next 4%	202,408 to 510,005	4%	15.0%	3,499,133	3,467,079	(32,055)	7.7%	-0.9%
Top 1%	510,006 & over	1%	16.3%	3,847,031	3,761,084	(85,947)	20.7%	-2.2%
Top 10%	146,401 & over	10%	42.2%	9,954,081	9,808,028	(146,054)	35.2%	-1.5%

Of the total dollars of reduced burden, **65%** will be received by the bottom 90% (with 58% of total income), **35%** by the top 10% (with 42% of total income), **28%** by the top 5% (with 31% of total income), and **21%** by the top 1% (with 16% of total income).

**Figure 5** shows how the dollars of tax cuts are distributed for each of the four tax types (income, estate and gift, sales, and property). Each of the ten deciles receives roughly the same dollars in income tax cuts. The dollar benefits of the sales tax cuts rise with income, and the dollar benefits of the estate and gift tax cuts are concentrated at the top. Net property tax cuts are small, but some types of property will pay more in tax and others will pay less. This accounts for the uneven pattern by income class.

**Figure 5.**  
**Change in Minnesota State and Local Tax Burden by Tax Type**  
**and Population Decile**

Estimated Calendar Year 2015 Impact  
(Dollars in \$1,000s)

2015 Population Decile	Income Range	Percent of All Households	Percent of All Income	Change in Tax Burden				
				Income Tax	Estate Tax	State & Local Sales Tax	Property Taxes	Total
1	10,937 & under	10%	0.8%	(2,858)	(1,136)	(6,433)	(419)	(10,846)
2	10,938 to 18,316	10%	1.9%	(10,443)	(921)	(8,291)	37	(19,619)
3	18,317 to 26,397	10%	2.9%	(12,804)	(717)	(10,268)	(342)	(24,132)
4	26,398 to 35,600	10%	4.0%	(12,201)	(439)	(12,457)	(28)	(25,125)
5	35,601 to 46,507	10%	5.3%	(15,245)	(728)	(15,015)	(38)	(31,026)
6	46,508 to 59,998	10%	6.9%	(10,681)	(570)	(17,534)	(696)	(29,481)
7	59,999 to 77,704	10%	8.9%	(13,733)	(546)	(21,425)	83	(35,620)
8	77,705 to 101,616	10%	11.5%	(16,657)	(588)	(26,324)	(313)	(43,881)
9	101,617 to 146,400	10%	15.6%	(14,667)	(912)	(33,752)	(342)	(49,673)
10	146,401 & over	10%	42.2%	(11,395)	(75,510)	(60,152)	1,004	(146,054)
<b>All Minnesota Households</b>		<b>100%</b>	<b>100.0%</b>	<b>(120,685)</b>	<b>(82,067)</b>	<b>(211,651)</b>	<b>(1,054)</b>	<b>(415,456)</b>

**Detail for the Top 10 Percent (10th Decile)**

First 5%	146,401 to 202,407	5%	11.0%	(5,989)	(730)	(21,649)	317	(28,052)
Next 4%	202,408 to 510,005	4%	15.0%	(3,678)	(4,243)	(24,591)	458	(32,055)
Top 1%	510,006 & over	1%	16.3%	(1,728)	(70,536)	(13,912)	229	(85,947)
Top 10%	146,401 & over	10%	42.2%	(11,395)	(75,510)	(60,152)	1,004	(146,054)

**Change in Effective Tax Rates by Income Class**

Tax burdens are generally measured as a percent of income. If the tax burden equals 10 percent of income, then the effective tax rate is 10 percent.

A tax is defined as:

- progressive if effective tax rates rise with income
- proportional if effective tax rates are the same at all income levels
- regressive if effective tax rates fall with income

The Suits Index is a measure of the progressivity or regressivity of an individual tax or a tax system. For a proportional tax (effective tax rates the same for all taxpayers), the Suits Index is zero. For a progressive tax (effective tax rates *rise* with income), the Suits Index is positive (with a maximum of +1.000). For a regressive tax (effective tax rates *fall* with income), the Suits Index is negative (with a minimum of -1.000).

**Figure 6** shows effective tax rates (tax burden as a percent of income) for each population decile both before and after the 2014 changes. The cut in effective tax rates is largest in the first decile (a reduction equal to 0.60% of income) and falls continuously between the 1<sup>st</sup> decile and the 9<sup>th</sup> decile (where the cut equals 0.15% of income). The cut in effective tax rate is even smaller for those in the first half of the 10<sup>th</sup> decile (with a cut equal to 0.12% of income) and the next 4% (with a cut equal to 0.10% of income) before rising for the top 1% (with a cut equal to 0.25% of income).

**Figure 6.**  
**Change in Minnesota State and Local Tax Burden as Percent of Income**  
**by Population Decile**

2015 Population Decile	Income Range	Percent of All Households	Minnesota State and Local Tax Burden as Percent of Income ("effective tax rate")		
			Prior Law	New Law	Reduction
1	10,937 & under	10%	31.5%	30.9%	-0.60%
2	10,938 to 18,316	10%	13.3%	12.8%	-0.48%
3	18,317 to 26,397	10%	11.8%	11.5%	-0.39%
4	26,398 to 35,600	10%	11.2%	11.0%	-0.29%
5	35,601 to 46,507	10%	11.8%	11.5%	-0.27%
6	46,508 to 59,998	10%	11.9%	11.7%	-0.20%
7	59,999 to 77,704	10%	12.0%	11.8%	-0.19%
8	77,705 to 101,616	10%	11.8%	11.7%	-0.18%
9	101,617 to 146,400	10%	11.7%	11.6%	-0.15%
10	146,401 & over	10%	11.0%	10.8%	-0.16%
<b>All Minnesota Households</b>		<b>100%</b>	<b>11.6%</b>	<b>11.4%</b>	<b>-0.19%</b>

**Detail for Top 10 Percent (10th Decile)**

First 5%	146,401 to 202,407	5%	11.0%	10.9%	-0.12%
Next 4%	202,408 to 510,005	4%	10.9%	10.8%	-0.10%
Top 1%	510,006 & over	1%	11.0%	10.7%	-0.25%
Top 10%	146,401 & over	10%	11.0%	10.8%	-0.16%

<b>Suits Index</b>	<b>(0.033)</b>	<b>+0.106</b>	<b>(0.031)</b>
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The Suits Index for the tax change enacted in 2014 is **+0.106**, which is **progressive**. The impact is progressive despite the relatively large drop in the effective tax rate for the top 1%, which is due largely to the estate and gift tax cuts. The progressive reductions in income and sales taxes are more than sufficient to make the impact of the combined changes progressive.

The Suits Index for the existing overall Minnesota state and local tax system has been negative (regressive) in every year for which an overall index has been estimated (each even year starting in 1990). Prior to the 2014 law changes (including changes enacted in 2013), the Suits Index was -0.033 (regressive). Because the 2014 law changes were progressive, they made the overall system less regressive, increasing the Suits Index (toward zero) **from -0.033 to -0.031**. Though still regressive, the enacted laws make the overall tax system less regressive than in any year since 2004.



**Figure 7** shows the change in effective tax rates for each of the major categories of tax. Taken together, the changes in income and sales taxes account for 80% of the net tax cuts, and each of those tax cuts is progressive. Although the reduction in estate and gift taxes is concentrated at the top of the income distribution, its impact on the distribution of the overall tax burden is more than offset by the income and sales tax changes. The net impact of the tax changes is progressive, as shown by the Suits Index of **+0.106**.

**Figure 7.**  
**Change in Minnesota State and Local Tax Burden by Tax Type**  
 Estimated Calendar Year 2015 Impact

2015 Population Decile	Income Range	Percent of All Households	Percent of All Income	Change in Effective Tax Rate (Tax Burden as Percent of Income)				
				Income Tax	Estate Tax	State & Local Sales Tax	Property Taxes	Total
1	10,937 & under	10%	0.8%	-0.16%	-0.06%	-0.36%	-0.02%	-0.60%
2	10,938 to 18,316	10%	1.9%	-0.26%	-0.02%	-0.20%	0.00%	-0.48%
3	18,317 to 26,397	10%	2.9%	-0.21%	-0.01%	-0.17%	-0.01%	-0.39%
4	26,398 to 35,600	10%	4.0%	-0.14%	-0.01%	-0.14%	0.00%	-0.29%
5	35,601 to 46,507	10%	5.3%	-0.13%	-0.01%	-0.13%	0.00%	-0.27%
6	46,508 to 59,998	10%	6.9%	-0.07%	0.00%	-0.12%	0.00%	-0.20%
7	59,999 to 77,704	10%	8.9%	-0.07%	0.00%	-0.11%	0.00%	-0.19%
8	77,705 to 101,616	10%	11.5%	-0.07%	0.00%	-0.11%	0.00%	-0.18%
9	101,617 to 146,400	10%	15.6%	-0.04%	0.00%	-0.10%	0.00%	-0.15%
10	146,401 & over	10%	42.2%	-0.01%	-0.08%	-0.07%	0.00%	-0.16%
<b>All Minnesota Households</b>		<b>100%</b>	<b>100.0%</b>	<b>-0.06%</b>	<b>-0.04%</b>	<b>-0.10%</b>	<b>0.00%</b>	<b>-0.19%</b>

**Detail for the top 10% (10th Decile)**

First 5%	146,401 to 202,407	5%	11.0%	-0.03%	0.00%	-0.09%	0.00%	-0.12%
Next 4%	202,408 to 510,005	4%	15.0%	-0.01%	-0.01%	-0.08%	0.00%	-0.10%
Top 1%	510,006 & over	1%	16.3%	0.00%	-0.20%	-0.04%	0.00%	-0.25%
Top 10%	146,401 & over	10%	42.2%	-0.01%	-0.08%	-0.07%	0.00%	-0.16%

Suits Index				+0.497	(0.760)	+0.211	*	+0.106
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\*The pattern of the small changes in property tax burdens makes calculation of a meaningful Suits Index impossible.

The overall Suits Index for the change in tax law (**+0.106**) can be broken down as follows:

- The Suits Index for the **three income tax changes combined** is **+0.497**. By component, the Suits Index is:
  - **+0.243** for the increased married standard deduction
  - **+0.867** for the Working Family Credit expansion
  - **+0.914** for the change in the child care credit
- The repeal of the business-to-business **sales taxes** is also progressive, with a Suits Index of **+0.211**.
- The **estate and gift tax** changes primarily benefit high-income Minnesotans, so those changes alone are regressive, with a Suits Index of **-0.760**.
- The **property tax** changes were too small to have an impact on the overall Suits Index for all of the changes enacted in 2014.

## ***Supplemental Analysis: Accounting for Changes in Federal Income Tax***

Because homeowner property taxes and state income taxes can be claimed as itemized deductions on federal income tax returns, a change in these taxes can change federal tax liability. The change in federal tax will offset part of the changes in Minnesota income taxes and homeowner property taxes. Recognition of these direct links was a primary reason why the large tax rebates provided by Minnesota in 1999, 2000, and 2001 were rebates of sales tax rather than income or homestead property taxes.

There is no federal income tax offset for those who do not itemize deductions, nor is there any offset for a taxpayer who is subject to the federal Alternative Minimum Tax (because property and state income taxes are not deductible). For those who itemize (and are not subject to the federal AMT), the portion of the change in Minnesota tax that is offset by the change in federal liability is generally equal to the federal tax rate on the last dollar of the taxpayer's income. The offset is 15% for a taxpayer in the 15% federal tax bracket and 39.6% for a taxpayer in the 39.6% tax bracket.

Minnesota's estate and gift taxes are deductible in calculating federal estate tax, so reductions in Minnesota estate and gift taxes can result in higher federal estate tax. The federal estate tax offset only applies to those who owe federal estate tax, and in 2015 the federal tax will only be paid on taxable estates above \$5.4 million. The federal tax rate is 40%, so each dollar reduction in Minnesota tax *for estates over \$5.4 million* will raise federal estate tax by 40 cents.

The direct impact of Minnesota law changes on federal income and federal estate tax burdens are summarized below. Detailed tables are found in **Appendix 3**.

### **Itemized Deductions**

- Increased federal tax liability will offset only **4.8% (\$5.8 million)** of the \$121 million *reduction* in Minnesota income taxes. That percentage is low because the enacted tax reductions are concentrated among lower-income taxpayers and those who do not itemize deductions.
- Increased federal income tax liability will offset **12.8% (\$1.4 million)** of the \$11 million *increase* in net homeowner property taxes.
- As a result, the lower itemized deductions will raise federal income taxes by a total of **\$4.4 million**.

### **Estate & Gift Taxes**

- Increased federal tax liability will offset **\$2.6 million (3.2%)** of the \$84 million in estate and gift tax reductions. The low percentage (despite the 40% federal estate tax rate) occurs because almost all of the estate tax reduction went to those with estates valued less than the federal exemption level. Although larger estates also received an estate tax cut, their reduction was smaller. Most of the federal tax offset is due to repeal of the gift tax.

### **Overall Impact**

- Although the new law will reduce the burden of *Minnesota* state and local taxes by **\$415 million**, federal income and estate taxes will *rise* by **\$7 million**. The net reduction in the total burden of *federal plus Minnesota* state and local tax burdens is \$7 million less, at **\$408 million**.
- The federal tax offset is concentrated at higher incomes. Of the total \$7.0 million net increase in federal taxes, 79% (\$5.5 million) will be paid by those in the 9<sup>th</sup> and 10<sup>th</sup> deciles and 39% (\$2.7 million) by those in the top 1%.
- As a result, **adjusting for the change in federal taxes increases the progressivity of the change in tax burdens**. When the impact on federal taxes is included, the Suits Index for the enacted change in taxes rises from +0.106 to **+0.113**, which is more progressive.

## Appendices

**Appendix 1. Technical Notes on Methodology**

**Appendix 2. More Detailed Summary of Results by Tax Type**

**Appendix 3. Direct Impact of Minnesota Tax Changes on *Federal* Income and Estate Taxes**  
(More detail than shown in “Supplementary Analysis” section.)

## Appendix 1 Technical Notes on Methodology

### A. Assumptions about Changes in Local Property Taxes

- The impact of changes in local government aids and credits and other changes in the property tax system on property tax levies are estimated (by property classification) using the Minnesota Property Tax Model. Given data limitations, property taxes are modeled for calendar year 2014.

### B. Business Taxes and “Incremental Incidence”

- As explained on pages 60-61 of the 2013 *Tax Incidence Study*, the incidence of a *change* in the level of business taxes (“incremental incidence”) will differ from the average incidence of existing business taxes (“average incidence”). Average incidence (which is estimated in the *Minnesota Tax Incidence Study* itself) starts by dividing an existing business tax into three parts – the national average tax on all capital, the sector differential, and the Minnesota differential. In contrast, for incremental incidence the *change* in the level of a business tax is all treated as a change in the Minnesota differential.
- If the level of Minnesota business taxes changes, this will generally change the amount of *federal tax* paid by the business – either the federal corporate income tax or the federal individual income tax (for flow-through businesses). For a corporation paying federal tax at the 35% rate, each additional \$1,000 in Minnesota tax will reduce the federal tax burden by \$350. Therefore, \$350 of the \$1,000 of Minnesota tax burden is borne by the federal government in foregone tax revenue. The burden of the remaining \$650 in tax may be shifted to consumers in higher prices or to workers in lower compensation – or it may reduce the after-tax income of the business owner. This analysis assumes an average federal tax rate for business owners of 30% for corporate tax and 20% for individual income tax.
- The extent to which the tax burden will be shifted to consumers or workers depends on the nature of the market. Minnesota tax changes are most likely to result in price changes if the market is local, so close competitors all see the same change in tax. In contrast, businesses selling in national or international markets are less likely to shift the added cost to consumers by raising prices (or cutting prices in response to a tax cut). *As in the Minnesota Tax Incidence Study, the incidence results assume the market has time to fully adjust to any tax changes.*
- The incidence of business tax changes in the bills (as modeled here) is as follows:
  - The 2014 law changes increased tax on some types of nonresidential business property and reduced tax on others. The impact of changes in commercial and utility property taxes falls primarily on consumers. The impact of changes in industrial taxes falls primarily on labor. The impact of changes in taxes on farm property falls mostly on the owners of farm land.
  - Reduction in rental property taxes: 53% of the benefits to renters, 24% to Minnesota owners, and 23% to nonresidents and the federal government.
  - Business sales tax reductions: 64% to Minnesota consumers, 26% by Minnesota workers, 0.2% by Minnesota owners, and almost 10% by nonresidents.

### C. Estate Tax Methodology

- The estate tax changes are assumed to reduce forecast estate tax collections by 36% when fully effective. The forecast for gift taxes will fall to zero.

- A database including 10 years of estate tax returns matched to income tax return data for years immediately preceding the decedent's year of death is used to calculate the distributional impact of the enacted estate tax changes. Gift taxes are assumed proportional to the estate tax under prior law.

#### **D. The Suits Index**

The Suits Index is a measure of the regressivity or progressivity of an individual tax or a group of taxes. Tax burdens are calculated as a percent of income, and the index summarizes the extent to which the tax burden rises or falls with income.

- If the tax burden is a larger share of income at high levels of income, then the tax is a progressive tax. The Suits Index will be a positive number.
- If the tax burden is the same share of income for all taxpayers, then the tax is a proportional tax. The Suits Index will be zero.
- If the tax burden is a smaller share of income at high levels of income, then the tax is a regressive tax. The Suits Index will be negative.

The Suits Index cannot exceed 1.000 (the richest person pays all the tax) or be less than -1.000 (the poorest person pays all the tax). Suits Indexes for each of the existing Minnesota taxes can be found on page 25 of the *2013 Minnesota Tax Incidence Study*. Suits Indexes cited in this analysis are calculated using the full sample of households.

#### **E. Definition of Income**

The income measure used for tax incidence analysis is total cash income. It includes all forms of cash income, both taxable and nontaxable. Income reported on tax returns is supplemented by information from administrative data. For details, see Appendix A of the *2013 Tax Incidence Study*.

#### **F. Definition of Household**

For purposes of this analysis, a household includes taxpayer and (if married) a spouse and all dependents (with or without income). This is essentially the same definition as used for income tax purposes, but it differs from the definition of household used by the Census. For a discussion of the differences, see Appendix A of the *2013 Tax Incidence Study*. Note that the database used for this analysis includes all full-year resident households, including those who file neither income tax nor property tax refund returns.

#### **G. First Decile Effective Tax Rates are Overstated**

Effective tax rates in the first decile are overstated for several reasons. First, some in this decile have temporarily low incomes, and their spending patterns and assets match those of a higher permanent income. Some are in the first decile only because they had large business losses, so they have negative incomes despite considerable wealth. Second, income is understated for some in the first decile because they do not file tax returns and administrative information on incomes is incomplete. Third, the allocation of some taxes is based spending patterns reflected in the federal Consumer Expenditure Survey, where income for this population may be understated. It should also be noted that "in-kind" income such as food stamps and housing subsidies are not included in the measure of income used in this analysis. For more information, see page 17 of the *2013 Minnesota Tax Incidence Study*.

## Appendix 2

### More Detailed Summary of Results by Tax Type

**Figure A2-1**  
**First and Second 2014 Omnibus Tax Bills**  
**Estimated Incidence in Tax Year 2015**  
**Detailed Summary by Tax Type**

	Change in Tax Burden on MN Full-Year Residents	Percent of Total Reduction	Suits Index for Change
Married Standard Deduction	(71,687,000)		0.243
Working Family Credit	(47,183,000)		0.867
Child and Dependent Care Credit	(1,815,000)		0.914
<b>Income Tax</b>	<b>(120,685,000)</b>	<b>29%</b>	<b>0.497</b>
<b>Estate &amp; Gift Taxes</b>	<b>(82,067,000)</b>	<b>20%</b>	<b>(0.760)</b>
Business-to-Business Sales Tax			
State Tax	(198,554,000)		0.211
Local Taxes	(13,097,000)		0.211
<b>State &amp; Local Sales Taxes</b>	<b>(211,651,000)</b>	<b>51%</b>	<b>0.211</b>
Homesteads & Cabins	12,660,000		(0.177)
Property Tax Refund (permanent)	(1,260,000)		0.696
Rental Residential Property	1,154,000		(0.434)
Nonresidential Business Property	(13,608,000)		0.258
<b>Property Taxes</b>	<b>(1,054,000)</b>	<b>0%</b>	<b>**</b>
<b>Change for All Taxes</b>	<b>(415,456,000)</b>	<b>100%</b>	<b>0.106</b>

	Total Minnesota S&L Tax Burden	Total Suits Index
<b>Prior Law Total MN Tax Burden*</b>	<b>25,037,540,000</b>	<b>(0.033)</b>
<b>Proposed Law Total MN Tax Burden</b>	<b>24,622,084,000</b>	<b>(0.031)</b>
<b>Percent Change</b>	<b>-1.7%</b>	

\*Total 2015 tax burden under prior law is the total projected in the 2013 *Minnesota Tax Incidence Study* adjusted for the law changes adopted in the 2013 legislative session.

\*\*The pattern of the small changes in property tax burdens makes calculation of a meaningful Suits Index impossible.

**Appendix 3.**  
**Details on the Direct Impact of Minnesota Tax Changes**  
**on Federal Income and Federal Estate Tax Liability**

**Figure A3-1**  
**Dollar Change in Minnesota State, Local,**  
**and Federal Tax Burden**  
(Dollars in \$1000s)

2015 Population Decile	Income Range	Number of Households	Net Reduction in Minnesota Tax Burden	Net Change in Federal Taxes Due To:				Net Reduction in Minnesota and Federal Tax Burden (\$1,000s)
				Lower Federal Itemized Deductions for State Income Taxes	Higher Federal Itemized Deductions for Home Property Taxes	Lower Federal Estate Tax Deduction for State Estate Tax	All Provisions	
1	10,937 & under	10%	(10,846)	0	(0)	9	9	(10,837)
2	10,938 to 18,316	10%	(19,619)	1	(1)	9	9	(19,610)
3	18,317 to 26,397	10%	(24,132)	26	(4)	6	27	(24,104)
4	26,398 to 35,600	10%	(25,125)	68	(13)	3	59	(25,067)
5	35,601 to 46,507	10%	(31,026)	157	(33)	0	124	(30,902)
6	46,508 to 59,998	10%	(29,481)	218	(74)	0	144	(29,337)
7	59,999 to 77,704	10%	(35,620)	506	(144)	1	363	(35,257)
8	77,705 to 101,616	10%	(43,881)	968	(221)	0	748	(43,133)
9	101,617 to 146,400	10%	(49,673)	1,952	(395)	1	1,559	(48,115)
10	146,401 & over	10%	(146,054)	1,874	(556)	2,610	3,928	(142,126)
<b>All Minnesota Households</b>		<b>100%</b>	<b>(415,456)</b>	<b>5,771</b>	<b>(1,442)</b>	<b>2,640</b>	<b>6,968</b>	<b>(408,488)</b>

**Detail for the Top 10% (10th Decile)**

First 5%	146,401 to 202,407	5%	(28,052)	1,176	(315)	4	865	(27,187)
Next 4%	202,408 to 510,005	4%	(32,055)	455	(167)	74	363	(31,692)
Top 1%	510,006 & over	1%	(85,947)	243	(75)	2,532	2,700	(83,247)
Top 10%	146,401 & over	10%	(146,054)	1,874	(556)	2,610	3,928	(142,126)

**Figure A3-2**  
**Change in Minnesota State and Local**  
**and Federal Tax Burden as a Percent of Income**

2015 Population Decile	Income Range	Percent of All Households	Net Reduction in Minnesota Tax Burden as Percent of Income	Net Change in Federal Taxes as Percent of Income Due To:				Net Reduction in Minnesota and Federal Tax Burden as Percent of Income
				Lower Federal Itemized Deductions for State Income Taxes	Higher Federal Itemized Deductions for Home Property Taxes	Lower Federal Estate Tax Deduction for State Estate Tax	All Provisions	
1	10,937 & under	10%	<b>-0.60%</b>	0.000%	0.000%	0.000%	0.000%	<b>-0.60%</b>
2	10,938 to 18,316	10%	<b>-0.48%</b>	0.000%	0.000%	0.000%	0.000%	<b>-0.48%</b>
3	18,317 to 26,397	10%	<b>-0.39%</b>	0.000%	0.000%	0.000%	0.000%	<b>-0.39%</b>
4	26,398 to 35,600	10%	<b>-0.29%</b>	0.001%	0.000%	0.000%	0.001%	<b>-0.29%</b>
5	35,601 to 46,507	10%	<b>-0.27%</b>	0.001%	0.000%	0.000%	0.001%	<b>-0.27%</b>
6	46,508 to 59,998	10%	<b>-0.20%</b>	0.001%	-0.001%	0.000%	0.001%	<b>-0.20%</b>
7	59,999 to 77,704	10%	<b>-0.19%</b>	0.003%	-0.001%	0.000%	0.002%	<b>-0.19%</b>
8	77,705 to 101,616	10%	<b>-0.18%</b>	0.004%	-0.001%	0.000%	0.003%	<b>-0.17%</b>
9	101,617 to 146,400	10%	<b>-0.15%</b>	0.006%	-0.001%	0.000%	0.005%	<b>-0.14%</b>
10	146,401 & over	10%	<b>-0.16%</b>	0.002%	-0.001%	0.003%	0.004%	<b>-0.16%</b>
<b>All Minnesota Households</b>		<b>100%</b>	<b>-0.19%</b>	<b>0.003%</b>	<b>-0.001%</b>	<b>0.001%</b>	<b>0.003%</b>	<b>-0.19%</b>

**Detail for the Top 10% (10th Decile)**

First 5%	146,401 to 202,407	5%	<b>-0.12%</b>	0.005%	-0.001%	0.000%	0.004%	<b>-0.12%</b>
Next 4%	202,408 to 510,005	4%	<b>-0.10%</b>	0.001%	-0.001%	0.000%	0.001%	<b>-0.10%</b>
Top 1%	510,006 & over	1%	<b>-0.25%</b>	0.001%	0.000%	0.007%	0.008%	<b>-0.24%</b>
Top 10%	146,401 & over	10%	<b>-0.16%</b>	0.002%	-0.001%	0.000%	0.001%	<b>-0.16%</b>