

# The Vermont Tax Study

2005-2015

VERMONT  
**JOINT FISCAL OFFICE**

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January 17, 2017



# The Vermont Tax Study

2005-2015

The enabling legislation for this edition of the Vermont Tax Study is Act No. 157 – An Act Relating to Miscellaneous Economic Development Provisions of the 2016 session of the Vermont Legislature (see section Q.2 of the law, titled Vermont Tax Study). <http://legislature.vermont.gov/bill/status/2016/H.868>

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## Credits and Acknowledgements

The following agencies or firms provided data, analysis or review for this study: Vermont Department of Finance and Management, Vermont Department of Taxes, Vermont Agency of Commerce and Community Development, Ad Hoc Associates, and Abacus Bookkeeping & Tax Services.  
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## The Vermont Tax Study

(2005-2015)

This complete study and the summary report can be downloaded at:  
[http://www.leg.state.vt.us/jfo/revenue\\_tax.aspx](http://www.leg.state.vt.us/jfo/revenue_tax.aspx)

## Previous Tax Studies

The Legislative Joint Fiscal Office produced similar tax studies in 1996 and 2007:

- The Vermont Tax Study (1996) – <http://www.leg.state.vt.us/reports/tax/tax.htm>
- The Vermont Tax Study (2007, Vol. 1– Comparative Analysis)  
<http://www.leg.state.vt.us/jfo/reports/2007-01%20Vermont%20Tax%20Study%20-%20Volume%201.pdf>
- The Vermont Tax Study (2007, Vol. 2 – Case Studies)  
<http://www.leg.state.vt.us/jfo/reports/2007-10%20Vermont%20Tax%20Study%20-%20Volume%202.pdf>

## The Legislative Joint Fiscal Office

The Legislative Joint Fiscal Office (JFO) provides non-partisan fiscal analyses to the House and Senate Appropriations Committees, the House Ways & Means Committee, the Senate Finance Committee, the House and Senate Transportation Committees, and the Joint Fiscal Committee. Established in 1973, JFO also provides fiscal analysis and staff support to committees working on health care, education finance, and institutions.

## DOLLARS AND DEFINITIONS

**Gross domestic product (GDP)** is the total value of goods produced and services provided in a country or state during one year.

**Current dollars** are not, as might be expected, current — as in today's dollars. Instead, current dollars represent the nominal dollar amount in a particular year. For a consumer living in 1970, the current dollar price of gasoline was about 36 cents per gallon. All numbers in this report are in current dollars unless otherwise noted.

**Inflation-adjusted (or real) dollars** recognizes that, owing to inflation, a dollar in 1970 wasn't the same in terms of purchasing power as a dollar in 2015. So 36 cents per gallon in 1970 equates to about \$2.21 per gallon today.

To compare dollars across a period of time JFO used the **Consumer Price Index (CPI)** to convert current dollars from past years into inflation-adjusted dollars. The CPI measures the price of a basket of consumer goods and services. From 2005 to 2015, the CPI rose 1.95 percent per year on average.

When comparing numbers across years, this report frequently shows both the current values of revenues raised in 2005 and 2015, reflecting actual dollar amounts in the budgets in those years, and the inflation-adjusted values to show how revenues have changed after accounting for inflation.

Dollar amounts are expressed in current, or nominal, dollars unless otherwise noted. Numbers in the text, tables, and figures of this report may not add up to actual specified totals because of rounding. Years are generally reported two ways: fiscal year refers to the Vermont fiscal year, which runs from July 1 to June 30, and is reported as the calendar year in which the fiscal year ends. The report also uses calendar years when appropriate, such as when referring to income tax filings. The average effective tax rate is defined here as taxes paid relative to federal adjusted gross income (AGI).

## BACKGROUND AND ROAD MAP TO THIS REPORT

The Vermont Legislature in 2016 authorized the Joint Fiscal Office (JFO) to produce a comprehensive study of the state's tax system, including its simplicity, equity, stability, competitiveness, and trends. Covering the period from 2005 to 2015, this is the third such tax study — and the most comprehensive to date. In generating the analysis, JFO collaborated with the Vermont Tax Department, the Legislative Council, and other analysts.

The Vermont Tax Study comprises six major sections. **Section I, Overview of the Economic Climate and Vermont's Demography**, presents context for this report and longer-term trends in Vermont's workforce demographics. **Section II, Total Revenues Available for Public Spending in Vermont**, analyzes revenues (federal, state, and local) available for state spending, including growth rates during the study period. **Section III, Vermont's Three Primary Tax Sources**, representing the bulk of the report, analyzes a number of taxes falling into three general categories: taxes on income, taxes on consumption, and taxes on real estate. (Fees and other revenues, not generally considered taxes, account for a fourth category of state revenue.) **Section IV, How Demographics Affect Taxes Paid in Vermont**, projects how changing demographics, including an overall "aging" of Vermont's population, will affect state revenues. **Section V, Representative Household Case Studies**, explores how Vermont's mix of taxes compares to those in other states among specific kinds of taxpayers. The five **Appendices** contain details on the case studies and on a 50-state comparison of taxes paid. They also discuss how Vermont taxes compare to a group of states similar in some ways to Vermont. The final appendix offers a detailed look at cross-border issues

## MAJOR FINDINGS

**The aging of Vermont's population has the potential to curb or reduce state revenue from taxes on income, consumption, and property.** The baby-boom generation, age 45 to 64, at or near its peak level of income and spending during the study period, has provided a substantial share of state tax revenue. As these workers move toward retirement over the next 10 to 15 years, they are expected to earn less, spend less on certain goods, and, as a result, pay less in taxes. Quantifying the revenue impact is difficult because other factors — a growing economy, other tax revenue, and baby boomers remaining longer in the labor force — may ease some of these revenue losses.

**Vermont's progressive income tax structure results in most Vermonters paying relatively low effective tax rates.** Across most income levels, Vermont has an effective income tax rate lower than those in other New England states and New York. Vermont's effective tax rate begins to climb more steeply at adjusted gross income (AGI) levels exceeding \$100,000. In 2015, Vermont had the highest marginal tax rate in New England and New York at 8.95 percent; in Vermont, that rate applies to taxable income above \$411,000. The state relies on these upper-income taxpayers for a significant share of total income tax revenue: the top 5 percent of resident tax filers, with AGI over \$165,500, paid 48 percent of resident income taxes in Vermont in 2015.

Similarly, a relatively small share of taxpayers account for most of the corporate and estate tax revenues. Eighty-four percent of corporate income taxes are paid by larger, mainly out-of-state businesses. Despite roughly 5,400 deaths in Vermont annually, only about 84 estates per year are subject to the estate tax. Combined, the Corporate Income Tax and Estate Tax accounted for a relatively small share of total state tax revenues, 3.3 percent in 2015.

Because Vermont's three income-based taxes — on individual income, corporate income, and qualifying estates — are linked to the federal tax code, changes in federal tax policies could have major implications for state revenues.

**Despite exempting purchases of food, clothing, and medications, Vermont's consumption taxes remain regressive for many citizens.** Consumption taxes also apply to the purchase of electricity, fuel, vehicles, health care, and meals away from home, among other items. Lower-income households, often young and old alike, spend more of their after-tax income on these goods and services compared to other households. With the exception of taxes on health care and telecommunications, Vermont does not generally tax services, which constitute a growing share of the state and national economies.

**Although Vermont reduces homestead property taxes based on income, the state's property tax structure is relatively flat.** The income adjustments to the education portion of the property tax reduce the tax for low- and moderate-income households. As a result, most Vermont households pay roughly the same effective education tax rate as a percentage of income. The municipal property tax is capped (as a percentage of income) only for households with incomes less than \$47,000; households with incomes just above that threshold generally pay higher effective tax rates than other households.

**Case study analyses, comparing typical Vermont taxpayers to those in other states, illustrate the state's effort to ease tax liability on lower-income households.** By comparison to other states, Vermont's effective income tax rate is lower than the national average among low- and middle-income taxpayers in the case studies, and above the national average for higher-income taxpayers. Vermont's exemption for food and clothing contributes to an effective sales tax rate that is lower than the national average. Finally, although average effective property tax rates are similar across the board in Vermont, the case studies indicate that lower-income taxpayers pay slightly lower rates than higher-income taxpayers

**Vermont Revenue Sources - Fiscal Years 2005, 2010 and 2015**

Revenue Sources (Nominal \$)	FY 2005		FY 2010		FY 2015		Compound Growth Inflation Adjusted %
	\$Millions	%	\$Millions	%	\$Millions	%	
<b>State Total</b>	<b>2,464.0</b>	<b>64</b>	<b>2,872.1</b>	<b>57</b>	<b>3,607.3</b>	<b>60</b>	<b>1.9</b>
<b>Income and Estate Taxes</b>	<b>579.7</b>	<b>15</b>	<b>578.1</b>	<b>11</b>	<b>843.9</b>	<b>14</b>	<b>1.8</b>
Individual Income	500.5		489.1		722.2		1.7
Corporate Income	60.4		74.8		111.8		4.3
Estate Tax	18.9		14.2		9.9		-8.0
<b>Consumption Taxes</b>	<b>817.0</b>	<b>21</b>	<b>901.2</b>	<b>18</b>	<b>1,139.20</b>	<b>19</b>	<b>1.4</b>
<b>General Sales</b>	<b>507.9</b>		<b>498.9</b>		<b>615.8</b>		<b>0.0</b>
Sales & Use	310.9		311.2		366.7		-0.3
Meals & Rooms	113		118		151.9		1.0
Purchase & Use, Vehicle Rental	84.1		69.7		97.3		-0.5
<b>Fuels</b>	<b>94.3</b>		<b>106.3</b>		<b>133.8</b>		<b>1.6</b>
Gasoline	68.3		63.8		80		-0.3
Diesel	15.5		15.7		19.9		0.5
TIB Fund	-		14.7		20.2		-
Fuel Gross Receipts & PCF	6.6		7.7		9.5		1.7
Other Fuel	3.9		4.3		4.2		-1.2
<b>Health Care</b>	<b>108.5</b>		<b>176.6</b>		<b>257.4</b>		<b>6.9</b>
Health Care Taxes	60.1		106.5		180.6		9.5
Cigarette	45.7		64.5		68.3		2.1
Tobacco	2.7		5.6		8.5		10
<b>Business</b>	<b>67</b>		<b>72.7</b>		<b>81.3</b>		<b>0.0</b>
Insurance Premiums	31		32.9		34		-1
Captive Insurance	21.5		23.3		24		-0.8
Bank Franchise	8.6		10.4		10.7		0.3
Solid Waste Franchise	3.3		3.3		3.1		-2.4
Electric Generating	2.6		2.9		9.4		11.5
<b>Other Consumption</b>	<b>39.2</b>		<b>46.7</b>		<b>51</b>		<b>0.7</b>
Lottery	21.4		26.1		26.2		0.1
Liquor, Beer & Wine	17.8		20.6		24.8		1.4
<b>Property Taxes</b>	<b>677.3</b>	<b>18</b>	<b>938.4</b>	<b>19</b>	<b>1,062.10</b>	<b>18</b>	<b>2.6</b>
<b>Net Education Property</b>	<b>637.3</b>		<b>917.5</b>		<b>1,034.0</b>		<b>2.9</b>
Net Homestead Property	255.4		359.5		423.8		3.2
Non-Residential Property	382		558		610.2		2.8
<b>Other Property</b>	<b>40</b>		<b>21</b>		<b>28.1</b>		<b>-5.3</b>
Property Transfer	22.8		12		17.1		-4.7
Land Gains	5.7		0.6		1.5		-14.5
Land Change Use	0.8		0.4		0.5		-6.9
Wind Property	-		-		0.9		-
Solar Energy Property	-		-		0.2		-
Railroad	0.1		0.1		0.1		0
Telephone Business	10.5		7.9		7.7		-4.9
<b>Other</b>	<b>390.0</b>	<b>10</b>	<b>454.4</b>	<b>9</b>	<b>562</b>	<b>9</b>	<b>1.7</b>
Other Revenue	232.5		267.9		335.2		1.7
Motor Vehicle Fees	56.1		72.5		80.1		1.6
All Other Fees	90.8		102.3		136.8		2.2
Penalties & Fines	10.7		11.8		9.9		-2.6
<b>Local</b>	<b>293.2</b>	<b>8</b>	<b>405.9</b>	<b>8</b>	<b>475.5</b>	<b>8</b>	<b>2.9</b>
Municipal Property	284.5		380.5		443.4		2.5
Local Option	8.7		25.4		32.1		11.8
<b>Federal</b>	<b>1,106.8</b>	<b>29</b>	<b>1,765.1</b>	<b>35</b>	<b>1,966.8</b>	<b>33</b>	<b>3.9</b>
<b>TOTAL</b>	<b>3,864.0</b>		<b>5,043.1</b>		<b>6,049.7</b>		<b>2.6</b>

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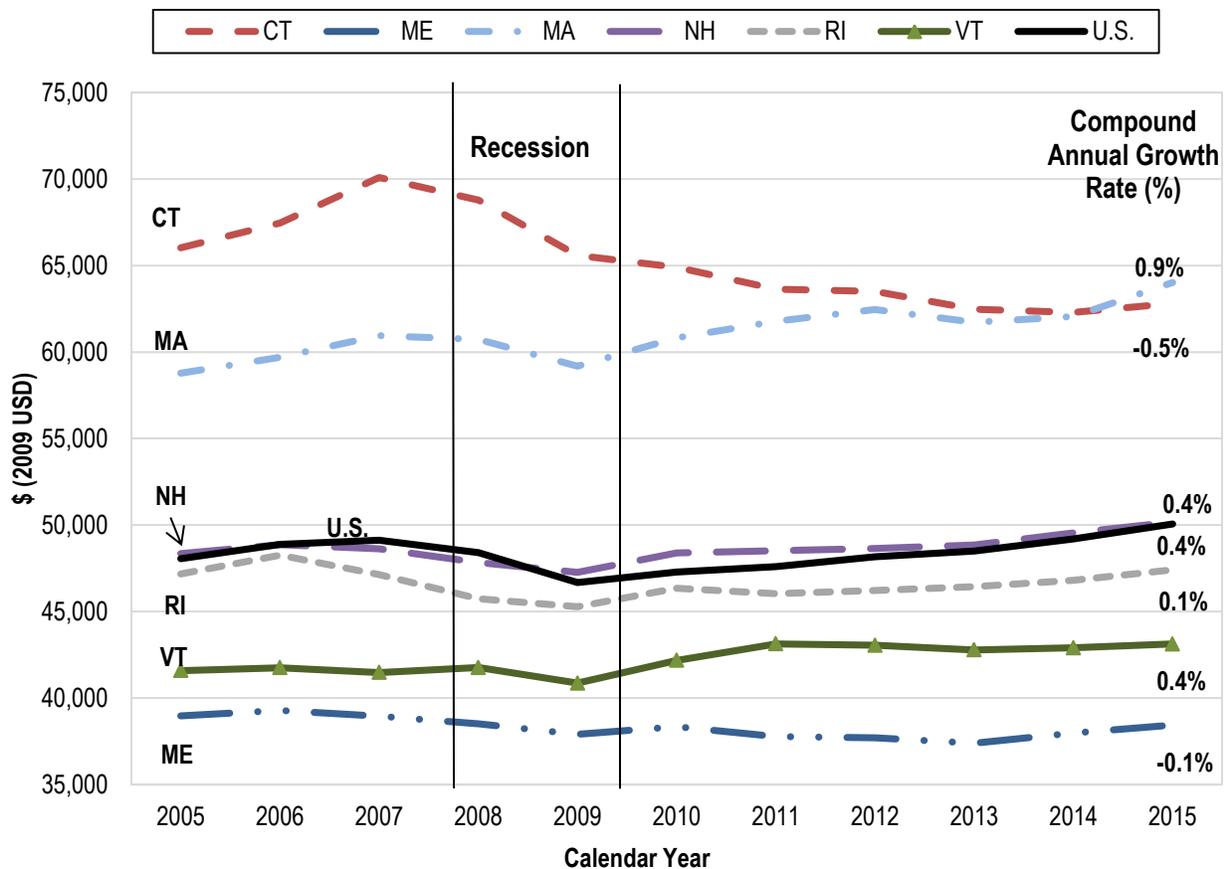
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## I. OVERVIEW OF THE ECONOMIC CLIMATE AND VERMONT'S DEMOGRAPHY

The 10 years covered by this study, 2005 to 2015, represent a challenging time for Vermont and the rest of the country. The Great Recession in the late 2000s was the largest economic downturn since the Great Depression in the 1930s. The nation lost millions of jobs. The U.S. economy, as measured by per capita gross domestic product (GDP), adjusted for inflation, shrank about 5 percent from the peak in 2007. The recovery since 2009 has been weak and erratic.

In Vermont, the recession was less severe than in the country as a whole, but the recovery has been less robust. On a per capita basis, Vermont's inflation-adjusted GDP fell about 2 percent from its peak in 2008 to 2009. Vermont's per capita GDP increased 5.5 percent since then (see Figure 1) whereas it rose more than 7 percent nationwide. On average from 2005 to 2015, real GDP per capita in both Vermont and the United States grew 0.4 percent per year. Among the New England states since 2005, only Massachusetts showed faster per capita growth in real GDP than Vermont; New Hampshire had the same rate of growth per capita as Vermont.

**Figure 1. Per Capita GDP, Adjusted for Inflation, in the New England States and the U.S., 2005-2015, 2009 dollars**



Source: U.S. Bureau of Economic Analysis, U.S. Census Bureau

## A. Income Levels and Growth in Vermont

During the study period, Vermont's per capita personal income rose from 21<sup>st</sup> in the nation to 18<sup>th</sup> — from \$34,668 in 2005 to \$48,587 in 2015. Vermont's per capita personal income in 2015 was 1 percent above the national average of \$48,112. Across the United States that year, average personal income ranged from a high of \$73,302 in the District of Columbia to a low of \$34,771 in Mississippi, 52 percent above and 28 percent below the national average, respectively. In terms of average personal income, Vermont is slightly above the national average.

Another income measure tells a different story, however. Inflation-adjusted median household income in Vermont, or the level of income separating the higher half of household incomes from the lower half, fell 3.3 percent from \$61,538 in 2005 to \$59,494 in 2015. During the same period, inflation-adjusted median household income in the United States rose 0.5 percent from \$56,224 to \$56,516. Median household income in Vermont was more than 9 percent above the national level in 2005 but dropped to a bit more than 5 percent above the national level in 2015.

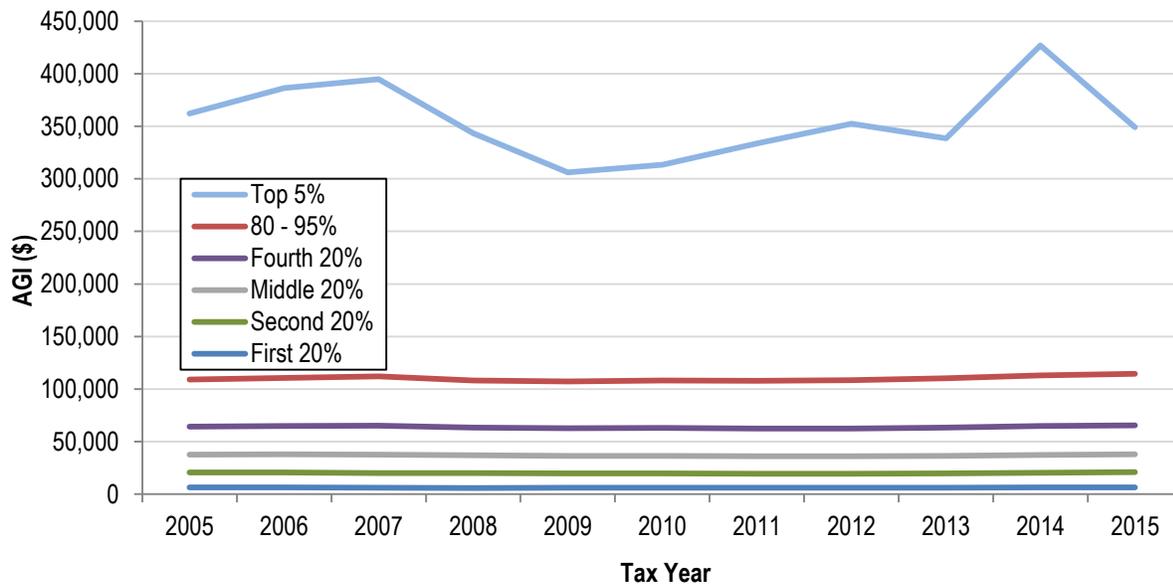
To understand why per capita personal income in Vermont has risen relative to the national average but median household income has fallen relative to the national median requires a look at the change in household size. The number of people per household increased faster across the country than in Vermont between 2005 and 2015. More people per household increases the potential number of earners and household earnings, offsetting stagnant income growth.

The small dip in Vermont's median household income relative to that of the country does not reflect faster growth in income inequality in our state compared to the country as a whole, as measures of income inequality have changed at about the same rate.<sup>1</sup> Both in Vermont and the United States, incomes at the top of the distribution have grown faster than incomes in the middle or near the bottom of the distribution (see Figure 2). As in the rest of the country, Vermont households in the top 5 percent of the income distribution felt the brunt of the downturn from 2007 to 2009, but their incomes have grown notably since the depth of the Great Recession in 2009. Incomes for the lower 80 percent of households were flat in inflation-adjusted dollars from 2005 to 2015.

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<sup>1</sup> For more detail on the change in one measure of income inequality in Vermont and the United States, see "GDP per Capita and a Measure of Income Inequality: Background Information," Joint Fiscal Office, January 2016, available at <http://www.leg.state.vt.us/jfo/misc/GDP%20per%20capita%20and%20Gini6%20-%20Background.pdf>.

**Figure 2. Average Vermont Household Income for Tax Filers by Quintile and Top 5 Percent, Inflation-Adjusted, Tax Years 2005-2015**



Source: Adjusted Gross Income for tax filers, Vermont Department of Taxes

## B. Demographic Changes in Vermont

A particular challenge for Vermont during the study period was the low rate of increase in its population coupled with a slight decline in its working-age population. From 2005 to 2015, Vermont's total population grew 0.8 percent. However, that growth rate masks disparate growth among different age groups. The number of young people under 18 years of age fell almost 14 percent, but the number of older people between 65 years of age and 74 years of age increased almost 57 percent as baby boomers entered their retirement years (see Table 1). The number of middle-aged people, age 35 to 44, fell about 23 percent, but the number of older workers, age 55 to 64, increased about 29 percent.

**Table 1. Vermont’s Population by Age Group, 2005, 2015, and Projected for 2025**

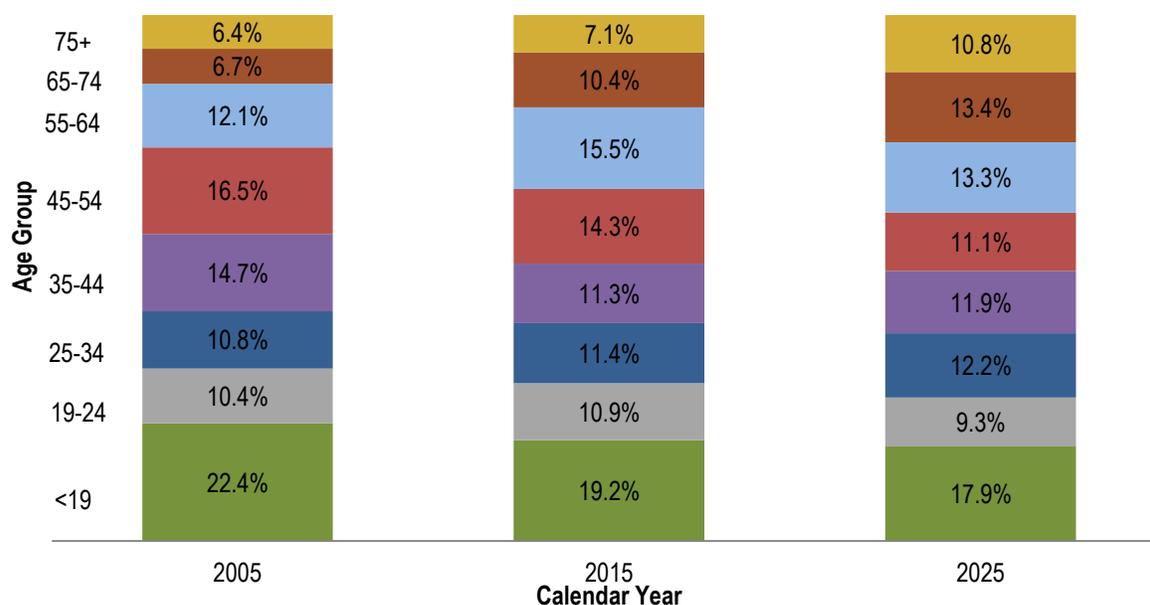
Age Group	Population			Percent Change (%)	
	2005	2015	2025*	2005-2015	2015-2025*
<18	138,933	119,923	114,665	-13.7	-4.4
18-24	64,910	67,928	59,685	4.6	-12.1
25-34	67,389	71,668	77,913	6.3	8.7
35-44	91,466	70,630	75,806	-22.8	7.3
45-54	102,414	89,255	70,995	-12.8	-20.5
55-64	74,917	96,745	85,233	29.1	-11.9
65-74	41,622	65,227	85,358	56.7	30.9
75-84	28,617	30,292	51,039	5.9	68.5
85+	10,947	14,374	18,173	31.3	26.4
Total	621,215	626,042	638,867	0.8	2.0

Sources: U.S. Bureau of the Census; \*JFO-Administration projections, Fall 2016

### 1. Population Projections

Vermont’s demographics are shifting. During the study period the number and proportion of children and people of working age declined — a trend likely to persist, even as increases in the number and proportion of people age 65 and older seem inevitable. Vermont’s overall population is expected to grow 2 percent by 2025, according to the consensus forecast of the legislative and executive branches of state government. During that same period, the number of children under age 18 is expected to decline by 4.4 percent (119,923 in 2015 to 114,665 in 2025) (see Figure 3). Meanwhile, the proportion of Vermonters in their traditional working years, age 25 through 64, is projected to decline by almost 6 percent (328,298 in 2015 to 309,947 in 2025). Expressed another way, working-aged Vermonters will drop from 52 percent of the population in 2015 to less than 49 percent in 2025, with notable declines in the age groups 45 to 54 and 55 to 64. As the baby boomers — born from 1946 to 1964 — continue to get older, the share of the population that is 65 years of age or older is expected to expand from almost 18 percent in 2015 to 24 percent in 2025. Other population projections for Vermont tell a similar but not identical demographics story.

**Figure 3. Shares of Vermont’s Population by Age Group; 2005, 2015, and Projected for 2025**



Source: JFO-Administration Consensus Forecast, Fall 2016.

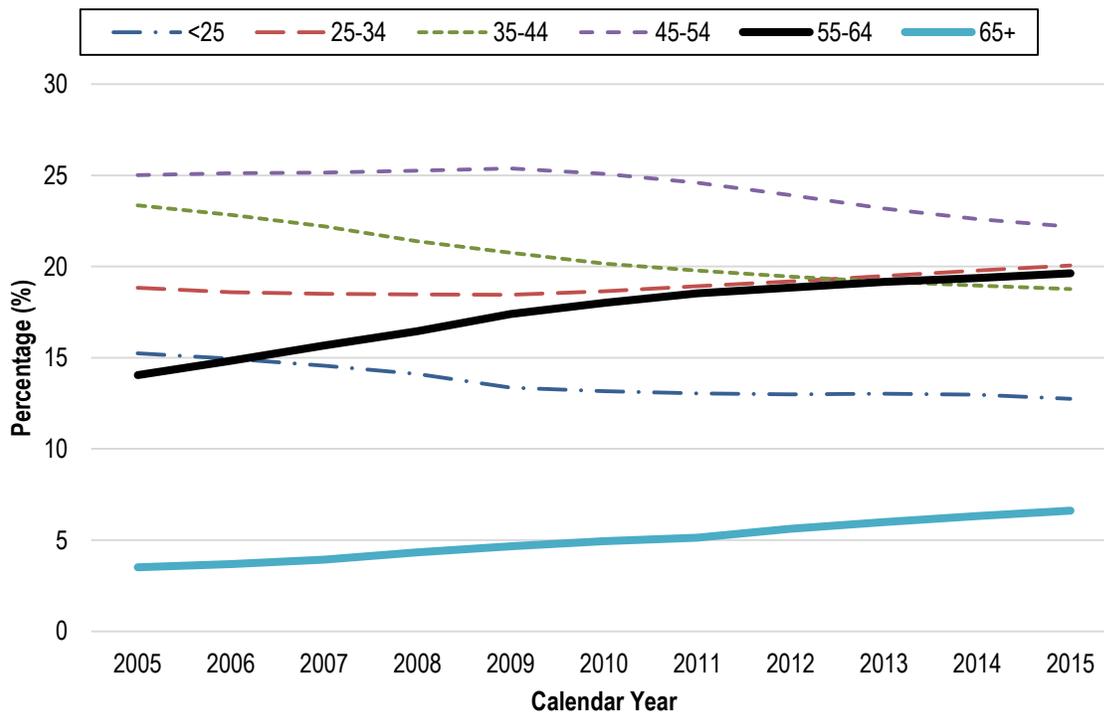
These changes in the age distribution will have implications for the revenue side of the state budget. During the study period, Vermont enjoyed enhanced revenues from the large number of baby boomers at or close to their peak earning and spending years. Revenues derived from personal income taxes, consumption taxes and property taxes vary across different stages of adulthood. They generally peak during ages 45 to 64 and then decline as households move through their retirement years. Looking ahead to 2020 or 2025, Vermont’s tax revenues could grow at a slower rate or even decline as a consequence of the retirement of the baby boom cohort. Vermont is by no means the only state dealing with these demographic issues, but the aging of Vermont’s population tends to be among the most pronounced in the country.

## 2. Changes in Jobs Filled by Age Group

During the study period, older Vermonters became more likely to be working in paid jobs; if the trend continues it could help to offset some of the likely revenue declines as the state ages.<sup>2</sup> The shares of jobs filled — or “employment counts” — in Vermont by age group have varied notably from 2005 to 2015 (see Figure 4). In 2005, jobs filled by people age 55 to 64 made up 14 percent of employment, and jobs filled by people age 65 to 79 made up 3.5 percent of employment. Both of those groups dramatically increased their share of the total employment count by 2015, when jobs filled by people age 55 to 64 were 19.6 percent of all jobs held and jobs filled by people age 65 to 79 were 6.6 percent. From 2005 to 2015, the share of jobs filled by people age 55 or older increased from 17.5 percent to 26.2 percent.

<sup>2</sup> This section is based on the JFO Issue Brief, “Vermont’s Jobs Filled or “Employment Counts” by Age Group: 2005, 2015, and Projected for 2025,” December 22, 2016. [http://www.leg.state.vt.us/jfo/issue\\_briefs\\_and\\_memos/Vermont's%20Jobs%20Filled%20By%20Age%20Group%20final.pdf](http://www.leg.state.vt.us/jfo/issue_briefs_and_memos/Vermont's%20Jobs%20Filled%20By%20Age%20Group%20final.pdf)

**Figure 4. Shares of Employment Counts in Vermont by Age Group with an Emphasis on Older Groups, 2005-2015**



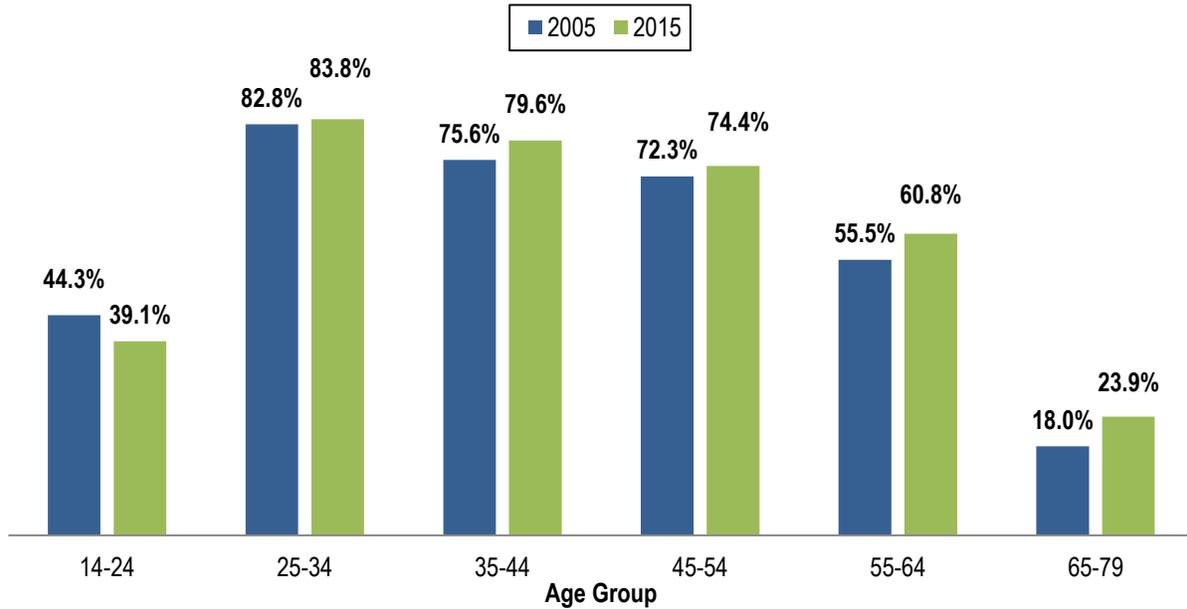
The presence of older people among the employment count became more pronounced for two reasons: the share of older people in the population increased, as documented above, and they became more likely to work in paid jobs. If each working person held one job, the ratio of employment counts or jobs filled to people would be the same as the proportion of people who are employed. The possibility that one person holds more than one job and the availability of data on jobs, not people, cause us to look at the ratio of jobs filled by people in an age group to the population in that age group.

From 2005 to 2015, the ratio of jobs to people age 55 to 64 increased from about 56 percent to almost 61 percent, or by almost one-tenth (see Figure 5). At the same time, the ratio of jobs to people age 65 to 79 increased from 18 percent to almost 24 percent, an increase of about one-third. Those increases can be attributed in part to a rise in the age at which people can claim full Social Security benefits. That age rose from 65 to 66 over the last decade. An increase in life expectancy likely encouraged older people to stay employed as well.

During the next decade, the age at which people can claim full Social Security benefits will rise again — from 66 to 67. Most analysts expect that workers will respond by staying employed even longer, perhaps alleviating part of the revenue shortfall that would otherwise occur. Demographers expect life expectancy will continue to rise as well.

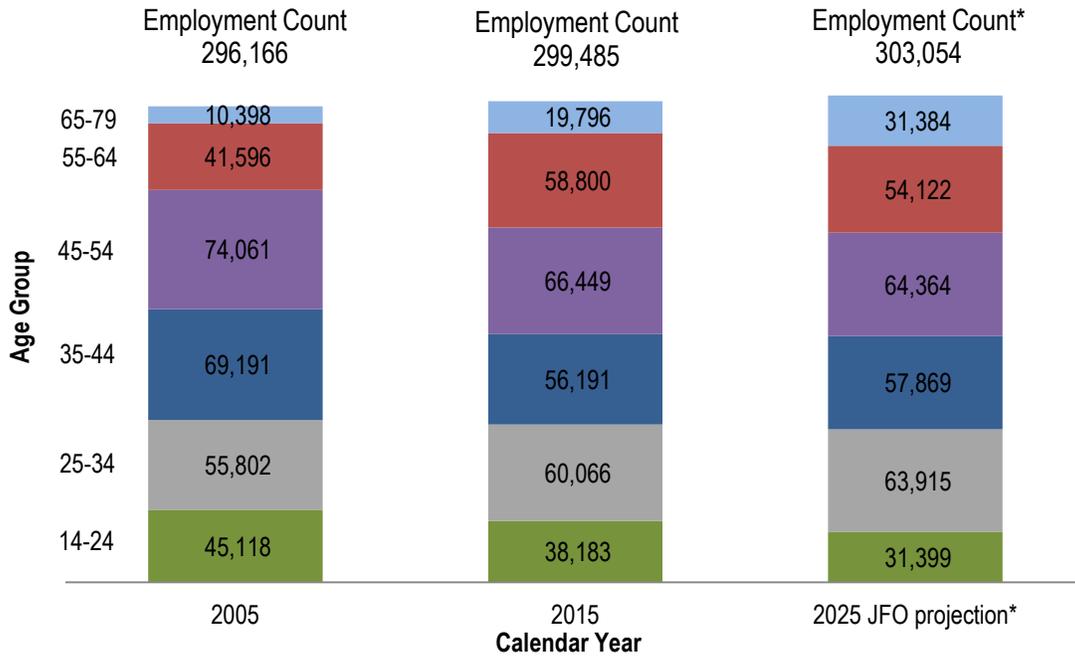
As an illustration of how future employment could be affected by the employment rates of older people, suppose that by 2025 the ratios of jobs to people by age group will increase by half the changes that occurred between 2005 and 2015. We use the population projections known as the consensus JFO-Administration projections to look at the number of people in each age group in 2025 and then apply the projected ratios of jobs to people by age group.

**Figure 5. The Ratio of Jobs to People by Age Group in Vermont, 2005 and 2015**



Assuming that the ratio of jobs to people continues to rise somewhat in most age groups, the employment count in 2025 would be 1.2 percent greater than the employment count in 2015 (see Figure 6). An especially notable increase in the number of jobs held by people age 65 to 79 drives much of that increase. If the JFO projection turns out to be reasonably accurate, those older workers will also help to cushion sagging income taxes, consumption taxes and property taxes as the population becomes older on average.

**Figure 6. Vermont Employment Count by Age Group; 2005, 2015 and JFO Projection for 2025\***

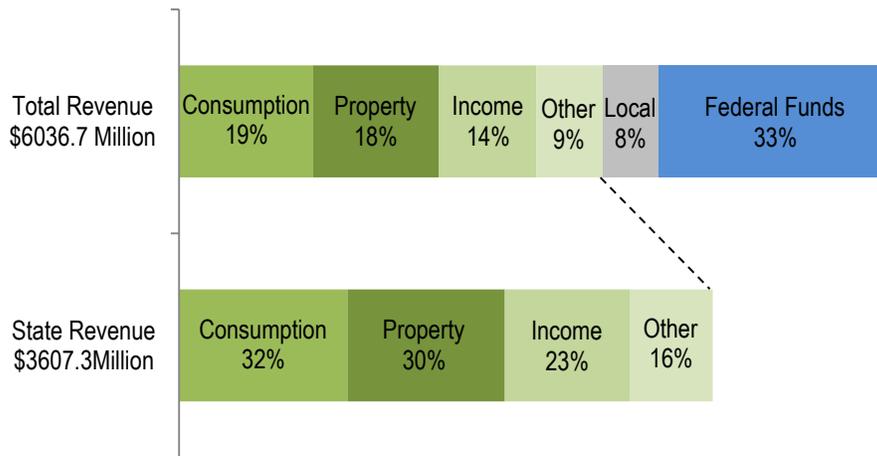


\*Note: JFO projection assumes that the 2015 ratios of jobs to people by age group will change by half the 2005-2015 changes and is based on the Consensus JFO-Administration projection of Vermont's population.

## II. TOTAL REVENUE AVAILABLE FOR PUBLIC SPENDING IN VERMONT

Vermonters pay for federal, state, and local government programs and often don't distinguish among which entities collect the revenue and where the funds are spent. Nonetheless, the focus of this report is Vermont state government revenues, with additional information on corresponding state spending. Generally, the analysis excludes federal taxes and funding as well as local taxes and spending, but some information about federal funding of state government and local revenue collections is included to provide context and a sense of scale (see Figure 7).

**Figure 7. Total Revenue and State Revenue, FY2015**



The total amount of revenue across state and local governments in fiscal year 2015 exceeded \$6.0 billion. The equivalent amount in fiscal year 2005 was a bit less than \$3.9 billion. The federal government contributed almost \$2.0 billion, or 33 percent of Vermont's total revenue in fiscal year 2015. That percentage is slightly above the national average of 30 percent as Vermont often benefits from small-state minimum funding allocations. The federal share was even higher at 35 percent in fiscal year 2010 just after the Great Recession. It stood at 29 percent in fiscal year 2005; the average annual growth rate of federal funds in inflation-adjusted terms was 3.9 percent over the study period.

Local revenues were just 8 percent of total state and local government revenue in fiscal year 2015,<sup>3</sup> as most functions of government in Vermont are administered by the state. Local revenues have remained flat as a share of the total but increased at an inflation-adjusted, annual rate of 2.9 percent.

State-only revenues were \$3.6 billion, or 60 percent of total state and local revenues in fiscal year 2015. Of the state-only revenues, 84 percent came from state taxes; the remaining 16 percent was from non-tax sources, including fees, licenses, fines, assessments and interest. Education property taxes are the largest single revenue source across government in Vermont. Total inflation-adjusted, state-only revenue increased 1.9 percent per year on average during the period 2005 to 2015.

<sup>3</sup> The Vermont League of Cities and Towns notes that the education property tax is billed and collected at the local level and then transferred to the State; many may still consider it an essentially local revenue source.

## A. Total State and Local Revenue in Fiscal Years 2005, 2010, and 2015

The focus of this report spans the 10 fiscal years from 2005 to 2015. The information summarized in five-year increments in the table showing Vermont Revenue Sources on page iv includes: 1) state-source revenues; 2) federal funds received by the state; and 3) local taxes. All together they represent the majority of state and local government revenues. A handful of off-budget programs are excluded that amount to less than 1 percent of the total.<sup>4</sup> The revenue sources are further subdivided into three general categories for a broad overview of the system: income, consumption, and property-based revenues.

The major tax sources are collected by multiple levels of government. Individual Income taxes are paid both to the federal Internal Revenue Service (IRS) and the state of Vermont. The state collects Sales and Use and the Meals and Rooms taxes and allows the addition of local option taxes to fund municipal programs. Local option taxes are enabled only in certain communities.<sup>5</sup> Lastly, the Education Property Tax is controlled by the state but used exclusively to fund local schools. It is complemented by local property taxes to fund town governments. Vermont is unique in financing education at the state level.

“Tax expenditures” are statutory provisions that reduce the amount of revenue that would otherwise be collected in order to encourage a particular activity or to limit the amount of taxes collected from groups of individuals. Tax expenditures have essentially the same fiscal effects as direct government appropriations. Without exception, all the revenue from the major tax types discussed in this report is reduced by the value of the various tax expenditures. In some sections, notably the bank franchise tax, more detail is provided on the tax expenditures used against the revenue collected; in other sections, it has not been elaborated upon. The Vermont Tax Expenditure Biennial Report, a comprehensive catalog, provides estimates of each tax expenditure for every major tax type.

## B. State Revenue History

Over the 10-year study period, total Vermont state revenue has grown at an inflation-adjusted annual rate of 1.9 percent, rising to \$3.6 billion in 2015 from \$2.5 billion in 2005 (see Vermont Revenue Sources on page 4 and Figure 8). For comparison, inflation-adjusted Vermont GDP grew 0.4 percent on an annual basis from 2005 to 2015. Total state revenue averaged 11.3 percent of the total state gross domestic product (GDP), including the 2008 recession.<sup>6</sup> In fiscal year 2015, state-raised revenues were 12.0 percent of the state economy, up from 10.5 percent in fiscal year 2005. Excluding the property tax, state revenue increased at an inflation-adjusted average annual rate of 1.4 percent; relative to Vermont GDP, it averaged 8.0 percent during the period. Analysts prefer to compare revenue as a share of GDP across time at the same points in the business cycle. If Vermont’s economy was at or close to peak levels in 2015 following the

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<sup>4</sup> Energy Efficiency Program and Universal Service Fund Program

<sup>5</sup> As of October 2016, 14 communities employ a local options sales tax, and 17 communities have a local option meals and rooms tax. For the list of communities, see <http://tax.vermont.gov/business-and-corp/sales-and-use-tax/local-option-tax/municipalities>.

<sup>6</sup> For this study, revenue is reported on a fiscal year basis, but state GDP is reported on a calendar year basis. As a result, the GDP measure lags the revenue measure by 6 months. Future work could examine aligning both measures on a fiscal year basis.

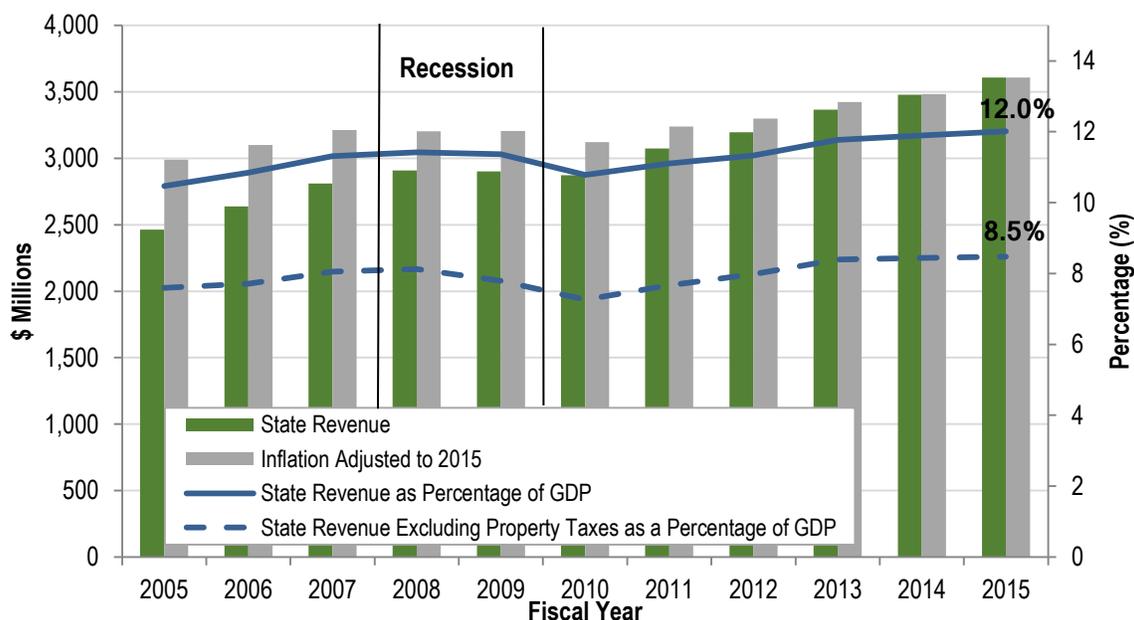
last recession, it is appropriate to compare state revenue as a share of GDP in 2015 at 12.0 percent to 11.4 percent in fiscal year 2008, just prior to the start of the Great Recession.

Annual revenue growth rates over time are moving targets, depending on start and end dates, the business cycle, and even state accounting methods. Vermont's average annual growth rate of 1.9 percent per year, adjusted for inflation, may in other analyses be reported at a lower rate; this is due in part to Vermont's changing the way it accounted for Education Property Tax revenue. Over time, the state moved from collecting gross Education Property Taxes (and then issuing income-sensitive rebate checks) to collecting the taxes net of the income adjustments. Different ways of accounting for this change may cause other growth rate estimates to be lower.

Moreover, further study is needed to understand how the business cycle affects the growth of state revenues relative to Vermont's GDP. Altering the study period would result in different relative growth rates.

Because the state of Vermont balances its budget each fiscal year, state revenues generally track state appropriations and spending. During the Great Recession, however, Vermont and most other states received additional federal funds through the American Recovery and Reinvestment Act of 2009 (ARRA). Those funds helped to cushion the decline in revenue from state income and consumption taxes as the economy contracted. As a result, the drop in total state revenues from 2008 to 2010 (seen in Figure 8) was greater than the decline in state spending during those years.

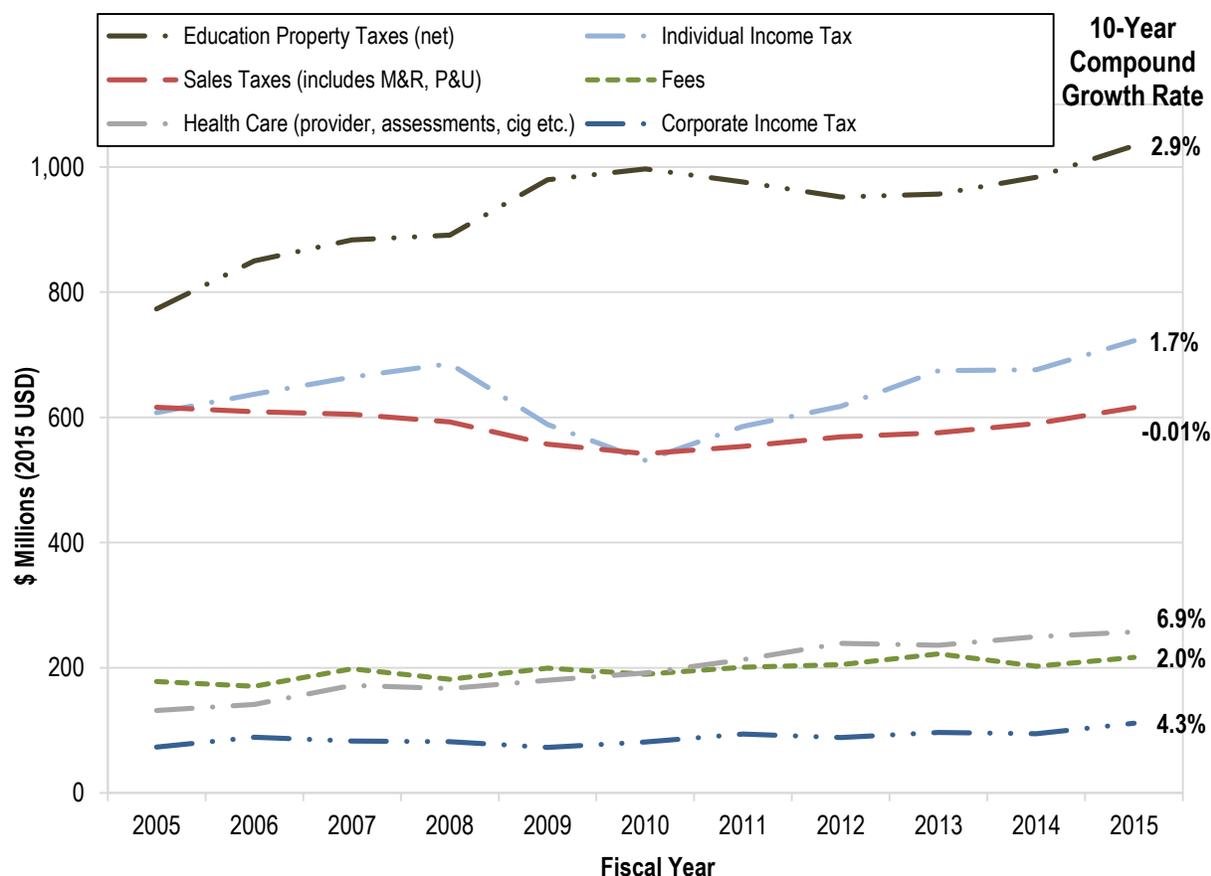
**Figure 8. Total State Revenue and as a Percentage of Vermont's Gross Domestic Product, FY 2005 – FY 2015**



Revenues from the major categories of Vermont state taxes grew at different rates over the study period. Growing at the highest rate were taxes on health care, increasing at an average annual rate of 6.9 percent adjusted for inflation (see Figure 9). As discussed in the section on Consumption Taxes below, this rate of growth was due in part to the adoption of several new

health care taxes during the past 10 years. The second fastest category was corporate income taxes, which increased at an average annual rate of 4.3 percent adjusted for inflation. Corporate income taxes tend to move with the business climate and can be volatile. Education property taxes grew 2.9 percent on an annual basis and adjusted for inflation. Unlike other categories of taxes, education property taxes grew during the Great Recession as rates were increased to track statewide spending on education.

**Figure 9. Comparison of State Revenue from Six Sources, Inflation Adjusted, FY 2005 to 2015**



**C. Balance among Vermont’s Three Primary Tax Sources**

Vermont’s revenues come primarily from three sources: income taxes, consumption taxes, and property taxes. Tax analysts generally believe that obtaining relatively equal shares of revenue from each of the three sources helps avoid too much sensitivity to the business cycle. Sensitivity arises when all tax revenues rise or fall together over the business cycle. For example, income taxes and consumption taxes fell noticeably as shares of overall state revenue during the Great Recession from 2008 to 2010. However, property taxes moved in the opposite direction, increasing as a share of total revenue, and financing increases in education spending during the Great Recession. Having relatively equal shares of revenue coming from the three sources tends to insulate revenue from business cycle swings over time.

On the other hand, the practice of targeting specific revenue sources to specific spending needs tends to undo this balance. For example, the Vermont General Fund depends to a significant degree on revenue from the Personal Income Tax and the Sales and Use Tax; both of those tax types follow the general business cycle and do not provide cushion against business cycle sensitivity. At the same time, Transportation Fund revenue depends not only on motor vehicle purchase and use, often moving with the business cycle, but also on fuel taxes and fees. In recent years, fuel tax revenue has fallen as vehicles became more efficient and oil prices dropped, even as the economy was recovering and generating more income and consumption taxes. Dedicating education property taxes to the Education Fund is another example. When housing values decline and property tax revenue falls, the state has limited options other than raising education property tax rates (or expanding the base subject to the tax) to fund education.

In fact, changes in tax policy in Vermont over the past decade have mostly served to keep total state tax collections growing slightly above the rate of the economy. Increases in some types of tax revenue, such as taxes related to health care, have offset declines in other types of tax revenue, such as sales taxes including those on gasoline and diesel fuel.

#### D. Multistate Comparisons of State and Local Revenue Collections

Most revenue in Vermont — approximately 85 percent — is collected at the state level (see Table 2). In many other states, a considerable amount of government taxation and services takes place at the county and local levels. Nationally, 58 percent of revenue is collected at the state level, and 42 percent is collected at the local level. Vermont has the highest percentage of state and local tax revenue collected at the state level, in large part because all education property taxes are collected by the state. In addition, Vermont has no county or city income tax. Some Vermont communities have enacted a 1 percent local option taxes on Meals and Rooms or Sales and Use. The municipal property tax, the major revenue source for local government, is 30 percent of total property tax collections.

**Table 2. State and Local Tax Collections across New England and New York, 2013**

State	Total Tax Revenue		Excl. Property Tax	
	State Tax (%)	Local Tax (%)	State Tax (%)	Local Tax (%)
United States Total	58	42	83	17
Connecticut	62	38	99	1
Maine	61	39	99	1
Massachusetts	62	38	97	3
New Hampshire	42	57	98	2
New York	46	54	67	33
Rhode Island	62	38	98	2
<b>Vermont</b>	<b>85</b>	<b>15</b>	<b>98</b>	<b>2</b>

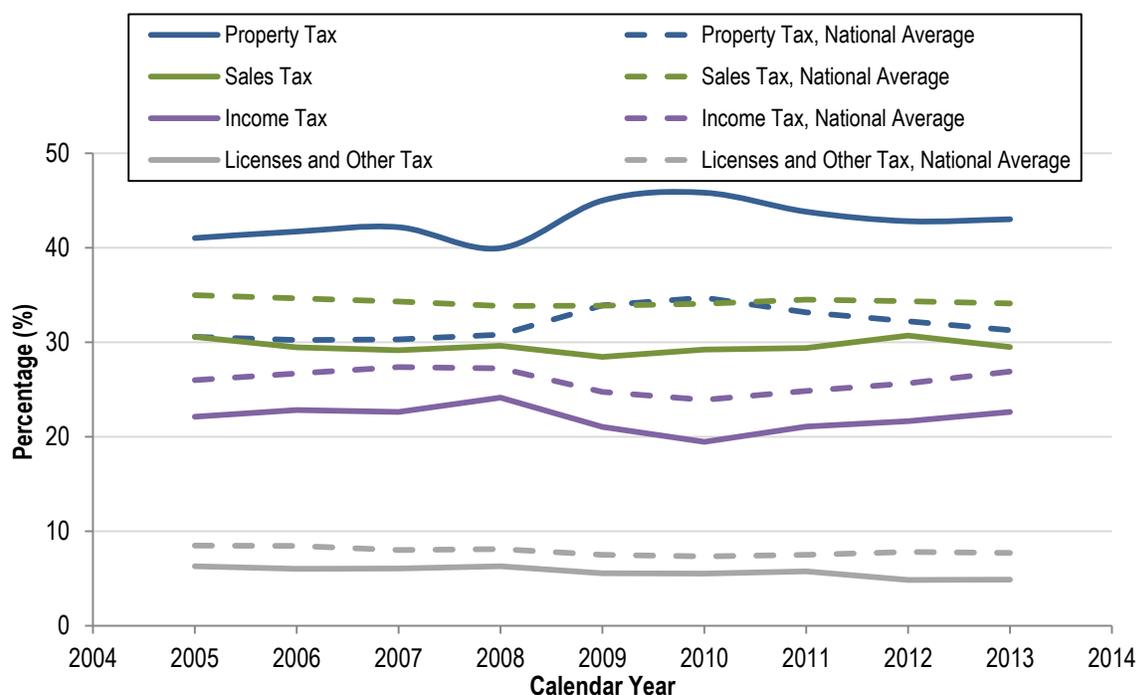
All of the New England states, with the exception of New Hampshire, and New York have shares of state taxation relative to local taxation higher than the national average, indicating a more centralized state government (again see Table 2). Centralized state government is easier to achieve in the relatively small New England states. Connecticut, Maine, Massachusetts, and Rhode Island tax sales and income at the state level and property at the local level. Geographically larger states tend to provide more services and collect more taxes at the local level and share the distribution of state and local government taxation more evenly.

### 1. Shares from Taxes based on Income, Property, and Sales

Vermont’s state and local tax revenue systems rely in large part on income, property, and sales taxes. Ideally, the three are more or less in balance, each generating fairly similar revenue. Overreliance on any particular tax can create volatility as economic conditions and the tax base rise or fall. In a recession, for example, the revenue from the income and sales taxes will decline; as a result, the state may then rely more on stability in the property tax (see Figure 10). A recovering economy will reintroduce balance. This kind of equality and balance among taxation sources enables states to more readily weather economic upheaval.

The conceptual idea of balance also supports financial stability between state and local governments. In most states, property taxes support the operations of local governments, whereas state government relies primarily on income and sales taxes.

**Figure 10. Historical Distribution of Income, Property and Consumption Taxes in Vermont, 2005-2013**



New Hampshire, Vermont, and Rhode Island depend more heavily on property taxes than Connecticut, Massachusetts and New York (see Table 3). Those larger states are able to generate more income tax revenue from a broader tax base, including larger shares of business and corporate income taxes.

**Table 3. Distribution of Income, Property and Sales Tax in New England and New York, 2013**

State	Income (%)	Property (%)	Sales (%)	Fees & Other (%)
US Total	27	31	34	8
Connecticut	32	38	26	4
Maine	27	40	28	6
Massachusetts	38	36	20	5
New Hampshire	12	64	17	7
New York	39	31	25	5
Rhode Island	23	44	29	4
<b>Vermont</b>	<b>23</b>	<b>43</b>	<b>30</b>	<b>5</b>

Vermont also relies more on the property tax relative to the national average. Vermont raised 43 percent of state and local taxes through the property tax in 2013, compared to the national average of 31 percent. However, Vermont's property tax is tied to income for lower-income households so that families with low incomes do not pay more than 5 percent of their income in property tax. That feature of the property tax in Vermont makes it less regressive than a property tax without such income sensitivity. Therefore, a blunt state-by-state comparison of relative property taxation levels may be ill-advised. Further discussion appears below in the section on property taxes.

### III. VERMONT'S THREE PRIMARY TAX SOURCES: INCOME, CONSUMPTION, AND PROPERTY

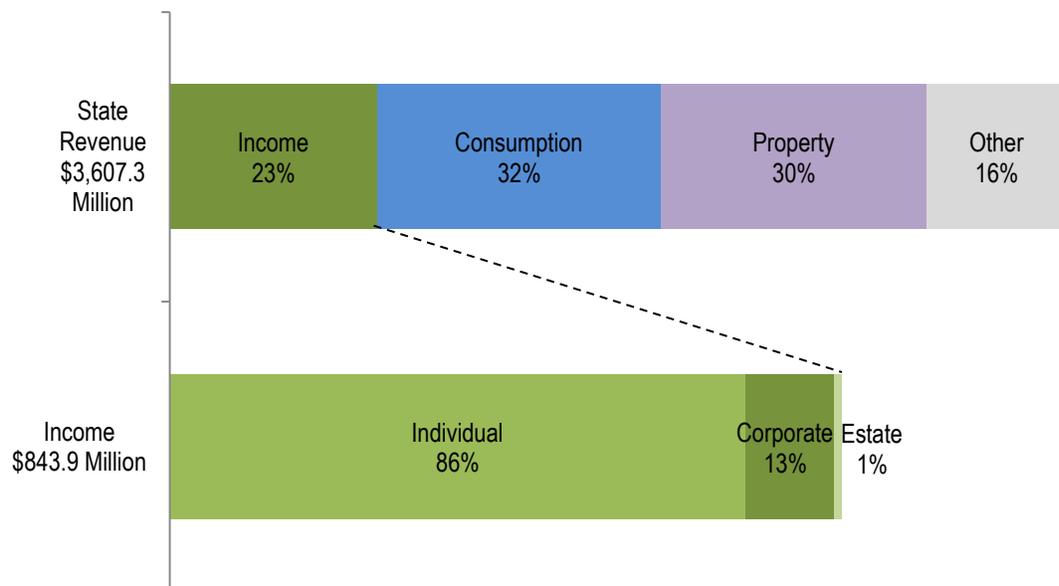
Eighty-four percent of Vermont's state revenue comes from three broad-based taxes: income taxes, consumption taxes, and property taxes. Most Vermont residents pay income taxes, consumption taxes (mostly in the form of sales taxes), and property taxes (either directly or through rent).

The following discussion of each major tax includes an explanation of the tax base (what is actually taxed), the relevant tax rates and who pays them, and the amount of revenue the tax generates.<sup>7</sup> Comparisons with the New England states and New York follow and generally focus on tax rates and the amount of revenue the given tax generates.

#### A. Income Taxes

Vermont income taxes generated \$843.9 million in revenue in fiscal year 2015, or 23 percent of total state revenue (see Figure 11). The income tax consists of the Individual Income Tax and the Corporate Income Tax. This section of the report also covers the Estate Tax.

**Figure 11. Income Taxes as a Share of Vermont State Revenue**



#### 1. Individual Income Tax

Just over 372,000 Vermont income tax returns were filed in 2015. Of those, 86 percent — almost 320,000 — were from resident taxpayers. The individual income tax raised \$722.2 million in 2015 of which 92 percent came from resident taxpayers. The starting point for

<sup>7</sup> Not every tax lends itself well to this method of presentation; however, this format is followed whenever possible.

Vermont income taxpayers is federal taxable income, from which Vermont has state-specific additions and subtractions. Vermont has a progressive income tax system with five brackets whose rates range from 3.55 percent to 8.95 percent (see Table 4) of state taxable income.

**Table 4. Vermont Tax Rates and Brackets - 2015 Taxable Income**

Married Filing Jointly	Single	Tax Rate (%)
0 – \$62,600	0 – \$37,450	3.55
\$62,601 - \$151,200	\$37,451 – \$ 90,750	6.80
\$151,201 - \$230,450	\$90,751 – \$189,300	7.80
\$230,451 - \$411,500	\$189,301 – \$ 411,500	8.80
\$411,501 and over	\$411,501 and over	8.95

Vermont taxable income represents income attributable to Vermont residents, part-time residents, or nonresidents who perform services in Vermont or own property in the state. Taxable income is less than adjusted gross income (AGI) because it has been reduced by personal exemption amounts and either the standard deduction or itemized deductions such as mortgage interest or charitable contributions. In recent years, the state has added a growing number of deviations from federal taxable income, which has further complicated the state income system.

Vermont's link to federal taxable income incorporates into the state's tax structure many components of the federal income tax system. Vermont follows the federal definitions and treatment of gross income sources in the tax base such as wages, interest, dividends, military pay, Social Security benefits, pensions and annuities, IRA distributions, unemployment compensation, business income, farm income, rents, and royalties, among others. Implicit in the federal definition of income is the exclusion of employer contributions for health insurance premiums and medical care as well as deductions for certain contributions to retirement savings plans and health savings accounts.

**a. Overall Income Tax Structure and Changes since 2005**

Vermont's progressive income tax structure is characterized by increasing marginal tax rates as income rises. A taxpayer calculates his or her tax liability by multiplying the amount of income within each bracket by the tax rate assigned at each level. Because of this, the effective tax rate, or the amount of tax as a percentage of total AGI, is often a blend of two or more marginal rate brackets. A Vermont taxpayer would pay the highest rate of 8.95 percent only on Vermont taxable income exceeding \$411,501 after paying tax at the lower rates on all income below that threshold. Therefore, an effective tax rate more accurately captures the overall rate. The effective rate is calculated as the amount of tax paid as a percentage of total AGI.

A number of changes to the state individual income tax structure took place in the past decade focusing on rates, the taxation of capital gains, and the pass-through of federal itemized deductions. The marginal rates have been reduced twice over the past decade in conjunction with other tax changes (see Table 5).

**Table 5. Reductions in Marginal Tax Rates**

Marginal Rates (%)			Percent Change (%)
2002 - 2008	2009	2011	
3.60	3.55	3.55	-1.4
7.20	7.00	6.80	-5.6
8.50	8.25	7.80	-8.2
9.00	8.90	8.80	-2.2
9.50	9.40	8.95	-5.8

Recent state tax changes have focused on limiting some of the federal itemized deductions that “pass through” to the state income tax. Since tax year 2015, federal itemized deductions are limited to two and a half times the standard deduction amount with two exceptions: medical and charitable deductions are fully allowed, and the deduction of state and local income taxes is disallowed. The tax treatment of capital gains is another area where Vermont diverges from the federal system. Vermont now exempts \$5,000 of capital gains for most types of gains, but certain business assets held longer than three years may qualify for a 40 percent exemption. Lastly, Vermont has a number of tax credits that provide a dollar-for-dollar reduction in the amount of tax liability for public policy programs focused on: economic growth and investment, enhancing community development, housing and historic revitalization, promoting income security and encouraging work, or for a specific activity such as investing in Vermont municipal bonds or conducting research and development within the state.

**b. Individual Income Tax Revenue**

The individual income tax is the second largest revenue source for the state — \$722.2 million in fiscal year 2015. It is the largest single tax source directed into the General Fund. The period 2005 to 2015 encompassed significant year-to-year gains in inflation-adjusted revenue (10.2 percent in fiscal year 2011) as well as declines (-14.1 percent in fiscal year 2009), exhibiting the volatility associated with a more progressive income tax structure.

Revenue from the individual income tax fluctuates based on changes in tax policy and the income base subject to taxation. The majority of income tax revenue is paid by the wealthiest taxpayers, who typically rely on volatile income sources such as capital gains, business income, rents and other non-wage income. State income tax revenue has grown increasingly coincident with the economy and general business cycle fluctuations.

In the most recent economic recession, inflation-adjusted income tax revenue decreased at a compound annual rate of 12 percent from fiscal year 2008 to 2010. From 2010 to 2015, income tax revenue recovered at a compound rate of 6.3 percent. Despite the economic turbulence, inflation-adjusted income tax revenue has grown over the 10-year study period by a compound annual rate of 1.7 percent.

**c. Distribution of Income and Tax Liability**

Resident taxpayers with the highest incomes pay the majority of resident income taxes in the state. Arranging resident taxpayers separately by their adjusted gross income — from lowest to highest — and dividing them into 10 equal groups, or deciles, offers a clear picture of income tax revenue and taxpayers by income level (see Figure 12). Each decile contains 31,456

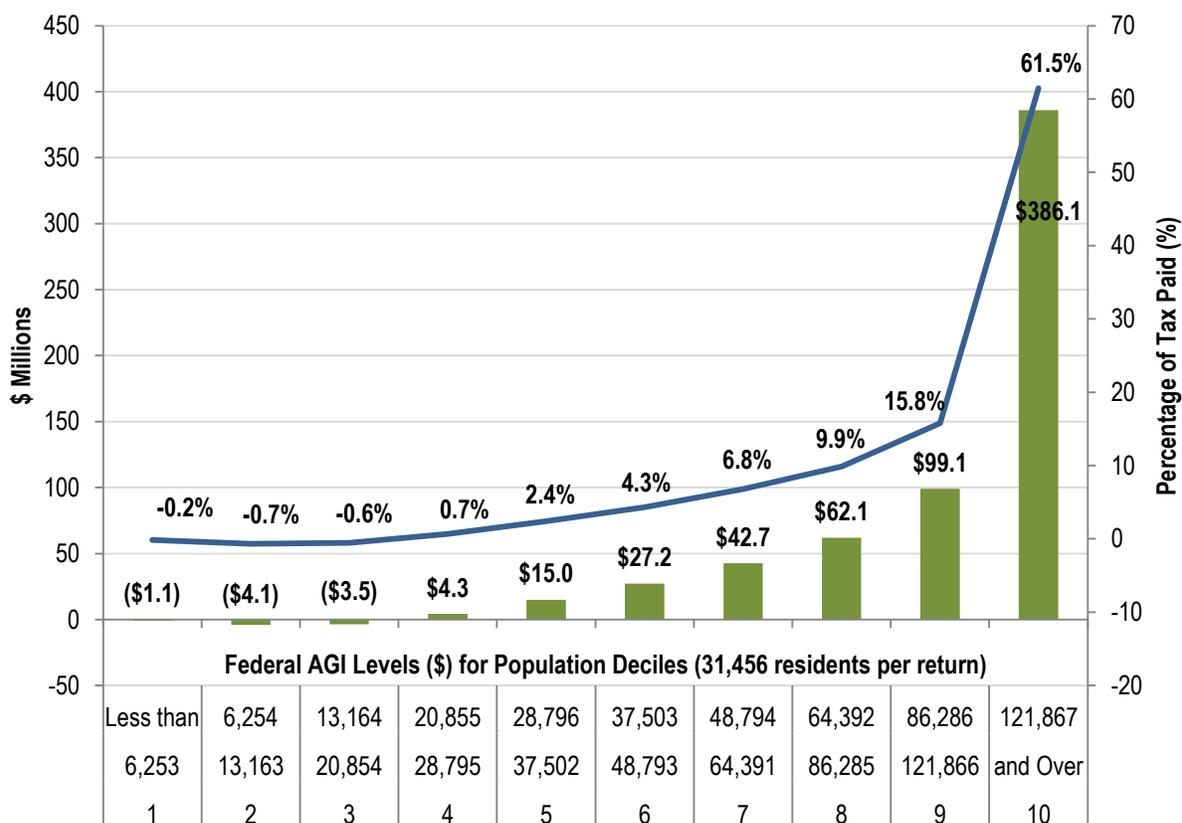
resident returns in tax year 2015. The green bars represent total tax revenue for each decile; the line shows the percentage of total revenue that is collected from each decile of returns.

In tax year or calendar year 2015, the top decile — the top 10 percent of resident returns with AGI greater than \$121,866 — paid 61.5 percent of total resident income taxes collected. The top 5 percent of resident returns — with an AGI greater than \$165,328 — paid 48 percent of total resident income taxes collected. That large share is the result of both the unequal distribution of resident income across the deciles and the progressive structure of the state income tax: rates rise as income increases.

The first three deciles show negative taxes paid by residents because many taxpayers in those deciles receive a refund that is greater than the amount of tax due. The Vermont earned income tax credit (EITC), which is 32 percent of the federal earned income tax credit amount, is the most significant tax credit for lower-income working taxpayers. Unlike most tax credits, which can only be used to lower the amount of tax due, the EITC is refundable, resulting in money back to the taxpayer.

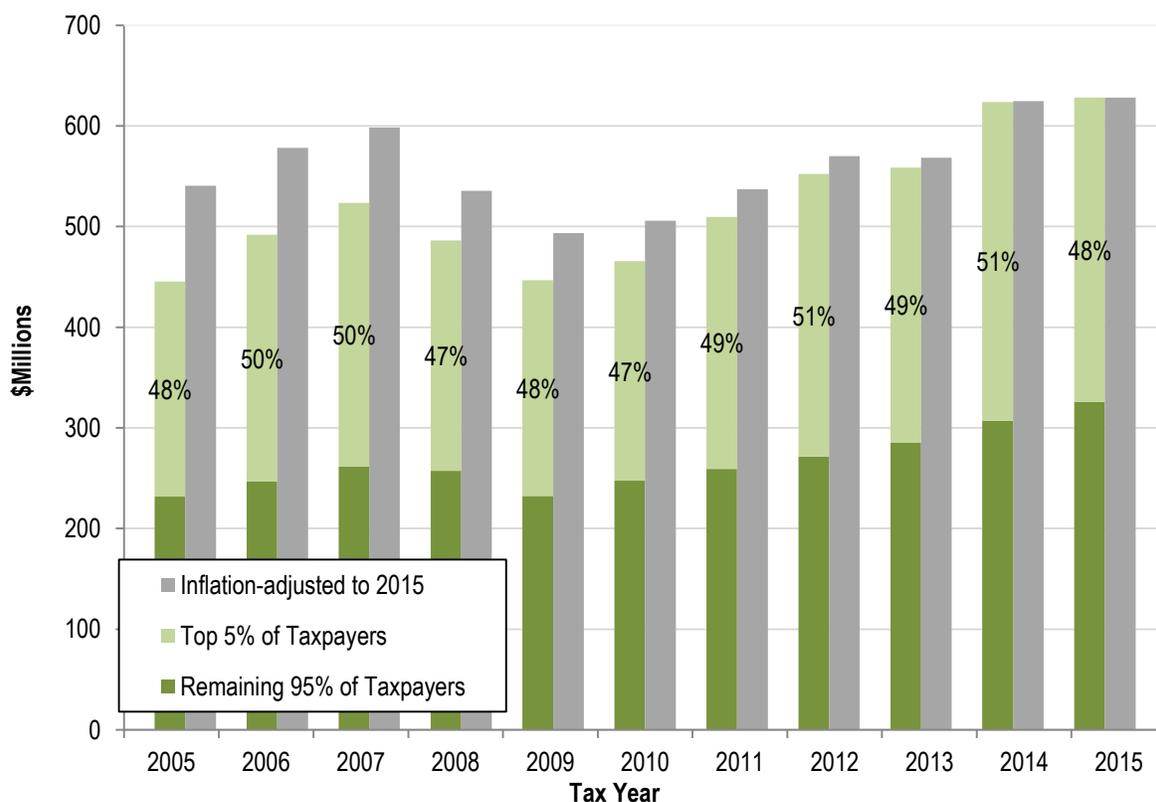
Residents in the 4<sup>th</sup> through 9<sup>th</sup> deciles paid increasing amounts of tax, representing increasing shares of the total individual income tax paid to the state. Taxpayers in the top two deciles provided about 77.3 percent of resident individual income tax revenue in tax year 2015.

**Figure 12. Income Tax Revenue and Percentage of Total Tax Paid by Decile of Resident Tax Filers, Tax Year 2015**



This reliance on high-income taxpayers has been a significant and growing trend in Vermont and the nation. If the top decile is further divided, the upper 5 percent of taxpayers account for a large and growing source of revenue (see Figure 13). In 2000, those tax filers paid 45 percent of all individual income tax revenue. That share increased to 50 percent in 2006, with the growth in capital gains just before the Great Recession. It fell to 32 percent in 2007 but rose to 51 percent in 2012 and again in 2014. Because of this concentration of income and subsequently tax revenue, migration of the highest income taxpayers is especially important. A discussion of mobility later in this section examines in more detail who these taxpayers are and whether they are moving to or away from Vermont.

**Figure 13. Individual Income Tax Revenue and Share Paid by the Top 5 Percent of Resident Filers, Tax Years 2005 to 2015**

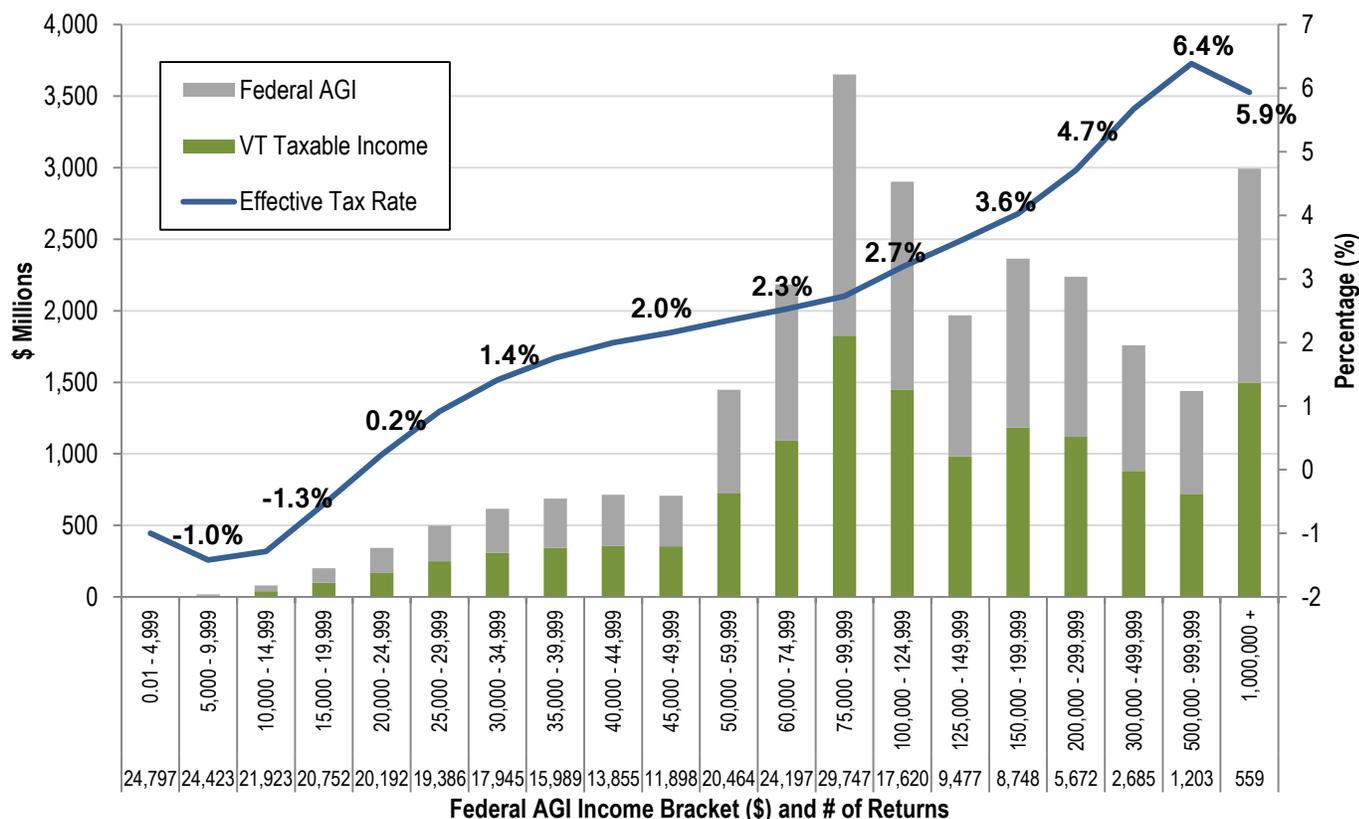


**d. Federal Income, Vermont Taxable Income, and Effective Rates by AGI Group**

In aggregate, Vermont taxable income is 67 percent of federal AGI. The shares differ significantly for the lower and higher AGI groups, however (see Figure 14). For example, for taxpayers with federal AGI between \$15,000 and \$19,999, Vermont taxable income is approximately 70 percent of federal AGI. For lower income taxpayers, personal exemptions and the standard deduction amount make up most of the difference. For middle- and higher-income taxpayers, the state treatment of municipal bond income, capital gains, and itemized deductions explains much of the divergence. Taxpayers with incomes exceeding \$1 million have a larger divergence between the two income measures in part because they report more tax expenditures, such as deductions, exemptions and credits.

Average effective tax rates — a taxpayer’s Vermont income tax liability divided by federal adjusted gross income — vary significantly by income group. Effective rates are negative for the lowest income groups because many low-income tax filers receive the EITC as a refundable tax credit. Effective tax rates reach 6.4 percent for taxpayers with income between \$500,000 and \$999,999. Taxpayers in the highest income group with incomes of \$1 million or more have a lower average effective tax rate of 5.9 percent, again reflecting greater use of deductions, exemptions and credits. Effective rates are a blend of the accumulation tax policy choices including marginal rates into a single, comparable measure of the tax level for a particular taxpayer or group of taxpayers.

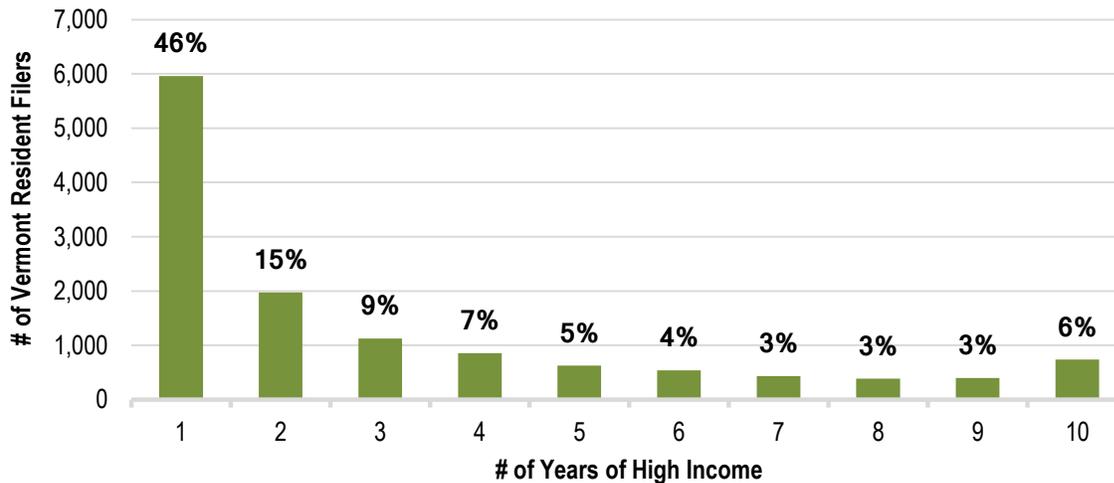
**Figure 14. Effective Tax Rates and VT Taxable Income as a Share of Federal AGI, Tax Year 2014**



**e. The Mobility of High-Income Vermonters**

High-income taxpayers pay a large share of state income tax revenue in Vermont. To better understand the demographics of these taxpayers and their future role in the state’s revenue picture, the Vermont Department of Taxes analyzed income tax returns from 2006 to 2015. The analysis covered tax return data for Vermont resident filers who were not claimed as dependents. Adjusted gross income (AGI) figures are per return, so joint and non-joint filers are not differentiated. The \$300,000 figure was chosen as the cutoff for “high income” because it is the approximate AGI threshold for the top one percent of Vermont taxpayers.

**Figure 15. Share of Vermont Residents Who Ever Report High Income in One or More Years, Calendar Years 2006-2015**

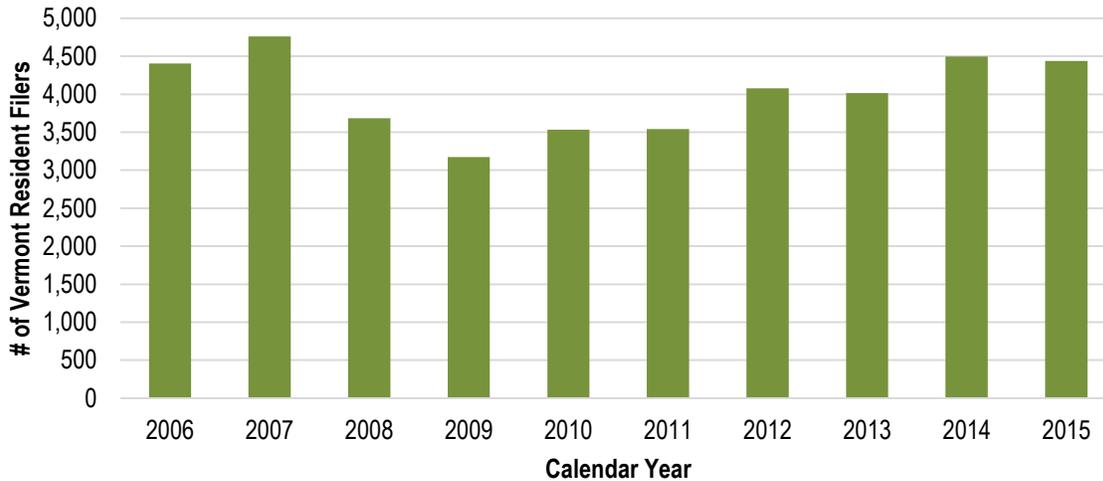


Vermont’s top-income taxpayers generally are not the same people from year to year because high income is often a one-time event (see Figure 15). In fact, nearly half of the instances of high income in Vermont occurred only once between 2006 and 2015. Over that 10-year span, 13,034 distinct tax filers reported AGI over \$300,000; only 6 percent reported that level of income in all 10 of those years. The data reiterate the findings in the Blue Ribbon Tax Commission’s Final Report of 2011.<sup>8</sup>

The total number of high-income filers is relatively stable from year to year (see Figure 16). Even though one-time events, such as the sale of an asset, often trigger the occurrence of high income, the total number of high-income filers in Vermont is relatively stable over time and appears to be tied to general economic conditions. The number of Vermont residents with incomes above \$300,000 declined as the Great Recession was underway in 2008 and 2009 and slowly recovered thereafter.

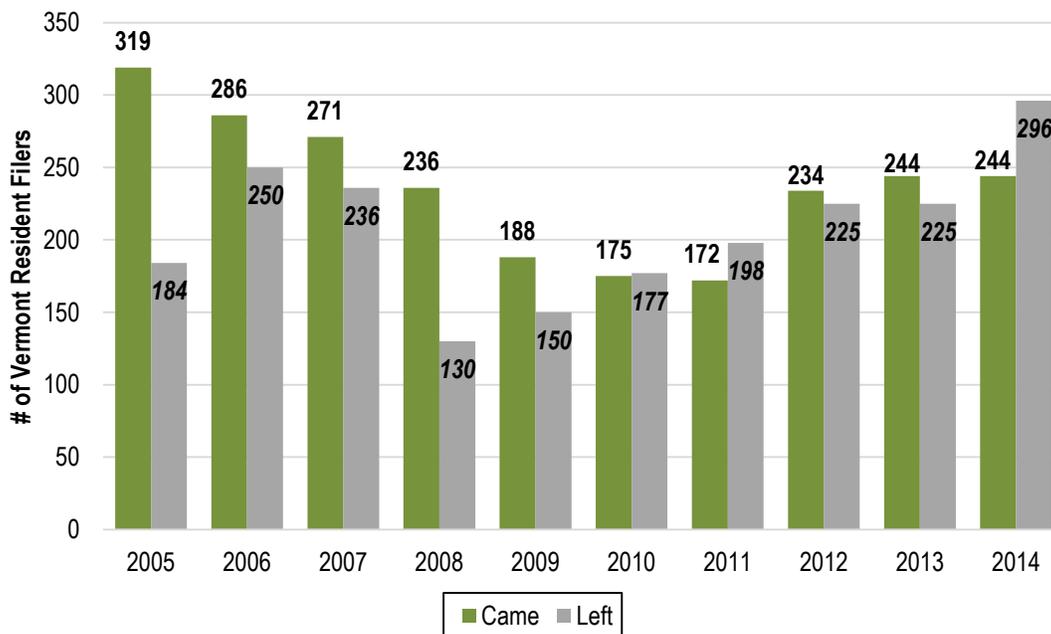
<sup>8</sup> The Blue Ribbon Tax Commission’s Final Report is available at <http://www.leg.state.vt.us/jfo/reports/2011%20Blue%20Ribbon%20Tax%20Structure%20Commission%20FINAL%20REPORT.pdf>

**Figure 16. Vermont Resident Filers with High Income, Calendar Years 2006-2015**



The numbers of high-income filers leaving Vermont and moving to Vermont are comparable over the 10-year period. Every year some high-income filers leave Vermont and some move to Vermont. Additionally, filers sometimes change their residency status to another state without physically moving away from Vermont. This analysis defines filers as having “left” if they filed a resident return in one year but not the next. Similarly, filers who “came” are defined by having filed a resident return in the year indicated but not the previous one. Those definitions allow the data to reveal overall trends despite the “noise” of filers changing residency from year to year. Filers are classified as high-income if their income is greater than \$300,000 in the year of migration; other years are ignored (see Figure 17).

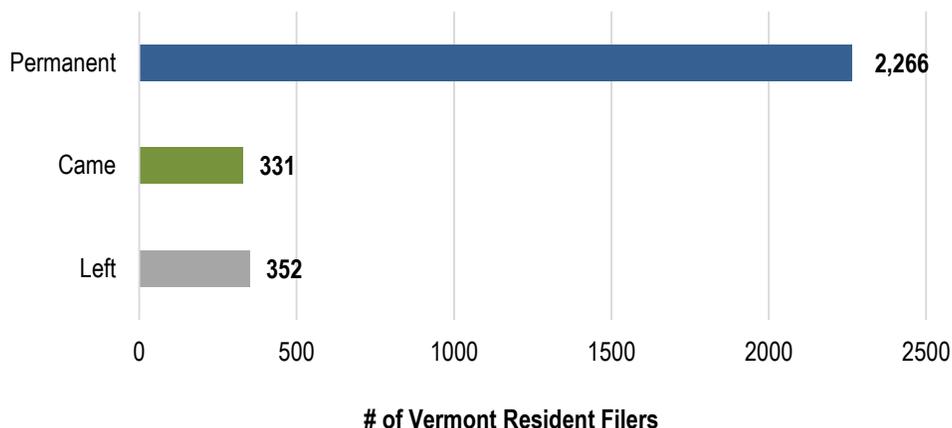
**Figure 17. Migration of Vermont Resident High Income Filers, CY 2005-2014**



The numbers of high-income people who came and left each year have been similar over the last 10 years, but net in-migration was largest before 2010. Net out-migration of high-income taxpayers was more pronounced in 2014, but it is difficult to know if that was a one-year occurrence, the result of depressed levels of out-migration during the recession or the start of a new trend. Data from 2015 were not included here because 2016 tax data was unavailable at the time of writing; it was impossible to determine who was here in 2015 but left in 2016.

The numbers of *sustained* high-income filers leaving Vermont and coming to Vermont are similar over the last decade. From 2005 to 2014, about 3,000 filers had sustained income over \$300,000 for five or more of those years. Those filers provide a stable source of higher-income tax revenue for the state. Of the filers in that group, 2,266 or about 77 percent were permanent residents over the decade; 352 left and 331 came (see Figure 18).

**Figure 18. Migration among Vermont Resident Filers with Sustained High Income, CY 2005-2014**



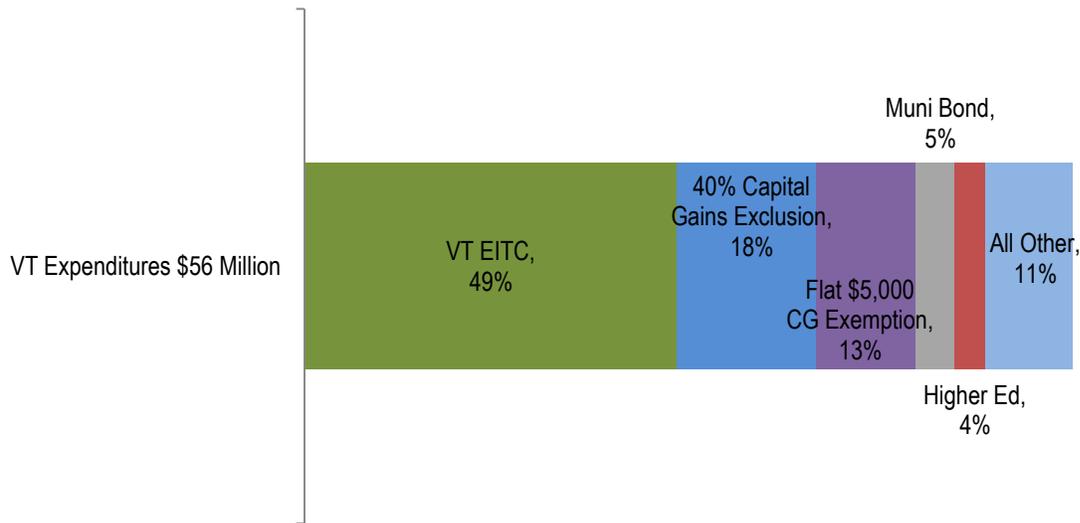
Roughly the same number of sustained high-income filers has come to Vermont as has left over the 10 years examined. The majority were here permanently, meaning they filed a Vermont resident return for all years in the period. If the state can retain high-income resident filers while simultaneously adding new ones, both the economy and the state budget would benefit.

**f. Income Tax Expenditures**

Tax expenditures are subsidies to taxpayers delivered through the tax code as deductions, exclusions, and other tax preferences. Tax expenditures reduce the amount of tax that households or corporations owe. Because they decrease tax revenue to governments, these subsidies are considered “expenditures.” Vermont has 19 tax expenditures available through the income tax that supplement the expenditures embedded in federal taxable income (see Figure 19).

Vermont state tax expenditures related to the Individual Income Tax are a mix of deductions, exclusions, exemptions and credits. Tax deductions, exclusions, and exemptions reduce the amount of taxable income. Tax credits are dollar-for-dollar reductions in a taxpayer’s liability after all other calculations are complete. Altogether, Vermont Individual Income Tax expenditures reduced state income tax revenue by almost \$56 million in fiscal year 2015, or 8 percent of total income tax revenue that year.

**Figure 19. FY 2015 Vermont Income Tax Expenditures by Value**



**g. State Comparisons**

The complexity of the individual income tax makes it difficult to compare across the 50 states and Washington D.C. Among the variables are income subject to taxation, the tax rates, and brackets. But one way to evaluate and compare tax systems is to use the effective tax rate — the percentage of total federal adjusted gross income actually paid in taxes.

Vermont is one of 43 states and Washington D.C. with a tax on individual income. Vermont is also one of seven states that use federal taxable income as the starting point for income taxation (incorporating all federal itemized and standard deductions and personal exemptions). The remaining jurisdictions use federal AGI. Using federal AGI, a broader base that includes more income than federal taxable income, insulates a state from some changes in the federal tax code.

Overall, Vermont has lower effective rates for most income levels than other comparable New England states and New York (see Figure 20). Vermont’s effective rate increases steeply beginning at \$100,000 of adjusted gross income.

The relatively wide spread among effective rates for the lowest AGI levels is often misleading. Taxpayers with higher wages and salaries but large tax offsets that produce negative income (business, rent, capital gains, and net operating losses, among others) are mixed with taxpayers with low income, leading to unusual results. Each state treats those taxpayers differently in published statistics.

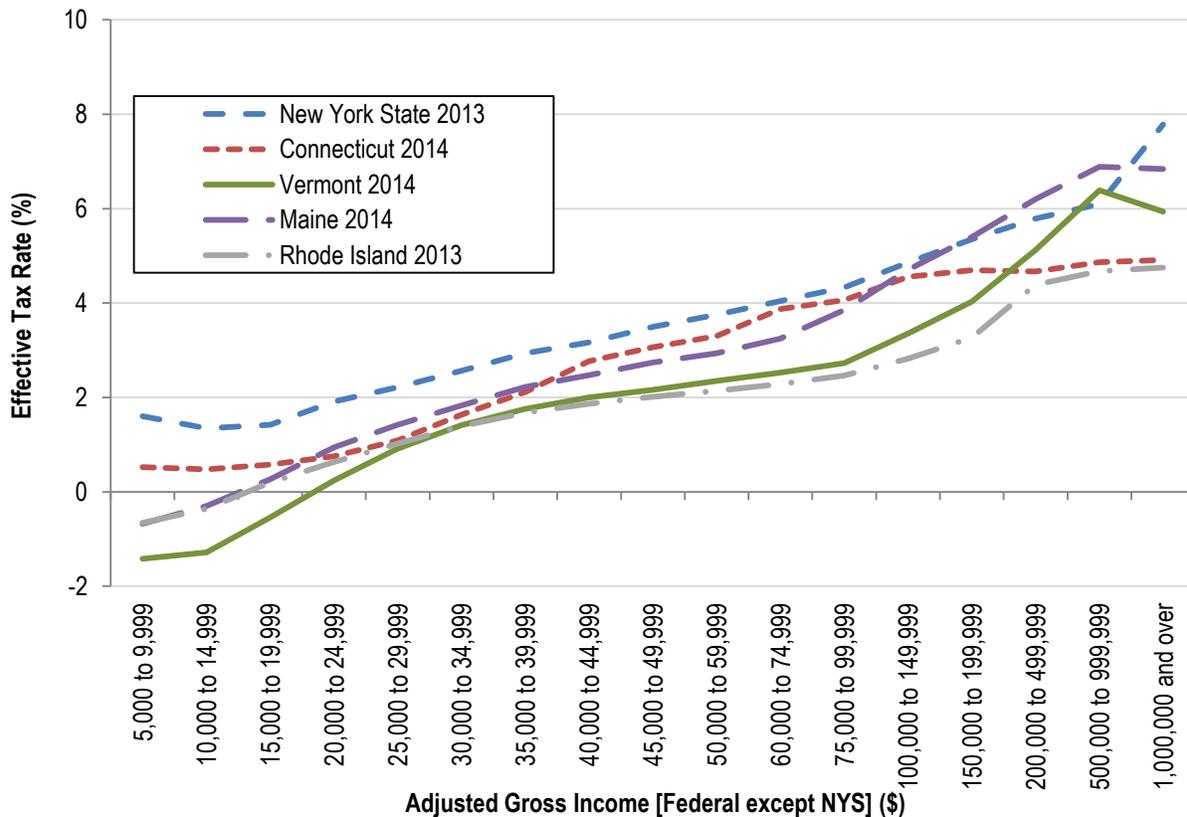
For taxpayers with AGI exceeding \$1 million, marginal tax rates in the region range from a low of 5.15 percent in Massachusetts (a flat rate on all income) to a high of 8.95 percent in Vermont (see Table 6). Even so, Vermont’s *effective* marginal rate drops to third among the states for these same taxpayers. A likely explanation is that the top marginal rate begins at a lower level of income in some other states, meaning that more income (notably in Maine, Massachusetts and Rhode Island) is subject to taxation at the highest rate.

**Table 6. Top Marginal Rate Comparison – NE States, Tax Year 2016**

State	Top Rate (%)	On Taxable Income (\$) Above:
Connecticut	6.99	1,000,000
Maine	7.15	37,499
Massachusetts	5.10	0
New York	8.82	1,070,350
Rhode Island	5.99	138,300
<b>Vermont</b>	<b>8.95</b>	<b>415,600</b>

The household comparison section of this report analyzes differences in state income tax levels, as well as other taxes, using the representative household approach (see Appendix D).

**Figure 20. Effective Rate Comparison by AGI Level for the New England States and New York, Tax Liability as a Percentage of Federal AGI, 2013 and 2014**



Note: The Effective Income Tax Rate is calculated using Federal AGI, except in New York, which uses state AGI in its calculation. New Hampshire does not tax income, and data was unavailable for Massachusetts.

## 2. Corporate Income Tax

All except six states have a corporate income tax on either income or gross receipts. Corporate income taxes apply only to a small segment of businesses, those formed as C corporations. Over 37,227 domestic for profit corporations and limited liability corporations (LLCs) and an additional 14,683 foreign for-profit corporations and LLCs are registered with the Secretary of

State in Vermont. In tax year 2014, however, only 7,272 corporate income tax returns were filed, representing fewer than 14 percent of the for-profit businesses. The profits from other types of businesses are passed through to shareholders who pay income tax on those earnings.

Insurance companies and bank franchises do not pay the Vermont corporate income tax but are assessed the insurance premiums tax and the bank franchise tax. Those two taxes are discussed in the section on Consumption Taxes.

### a. Corporate Tax Structure

Federal taxable income with state-specific adjustments is the base for the Corporate Income Tax. In tax year 2014, 7,272 corporate income tax returns were filed, contributing \$70.3 million to state revenue. The Corporate Income Tax has three tiers of rates that rise as taxable income increases (see Table 7).

Since tax year 2006, the first year of enactment of a significant tax reform, Vermont has used mandatory combined reporting: all members of multistate affiliated corporations within the country engaged in a unitary business must file and pay on a single return. The apportionment for multistate businesses was changed from an equal-weighted, three-factor formula (payroll, property, and sales) to one using a double-weighted sales factor, and net operating loss rules were adjusted. All of these changes were combined with tax rate reductions in 2006 and 2007, and the top bracket was eliminated.

**Table 7. Vermont Corporate Income Tax Rates**

Taxable Income (\$)	Tax Rates (%)		
	1997 - 2005	2006	2007 - Present
under 10,000	7.00	6.00	6.0
10,001 - 25,000	8.10	7.00	7.0
25,001 - 250,000	9.20	8.75	8.5
250,001 and over	9.75	8.90	8.5

After the rate changes in 2007, the benefit to companies of the tiered rate structure is a maximum \$475 savings for those with taxable income greater than \$25,000. The tax structure is not flat, but it is only slightly progressive. A minimum tax also applies (see Table 8); it was tiered based on gross receipts beginning in tax year 2012. Previously, the minimum tax was \$250 for all except small farm corporations. Just over \$1.3 million or 2.1 percent of the total revenue collections in tax year 2014 was from the minimum tax.

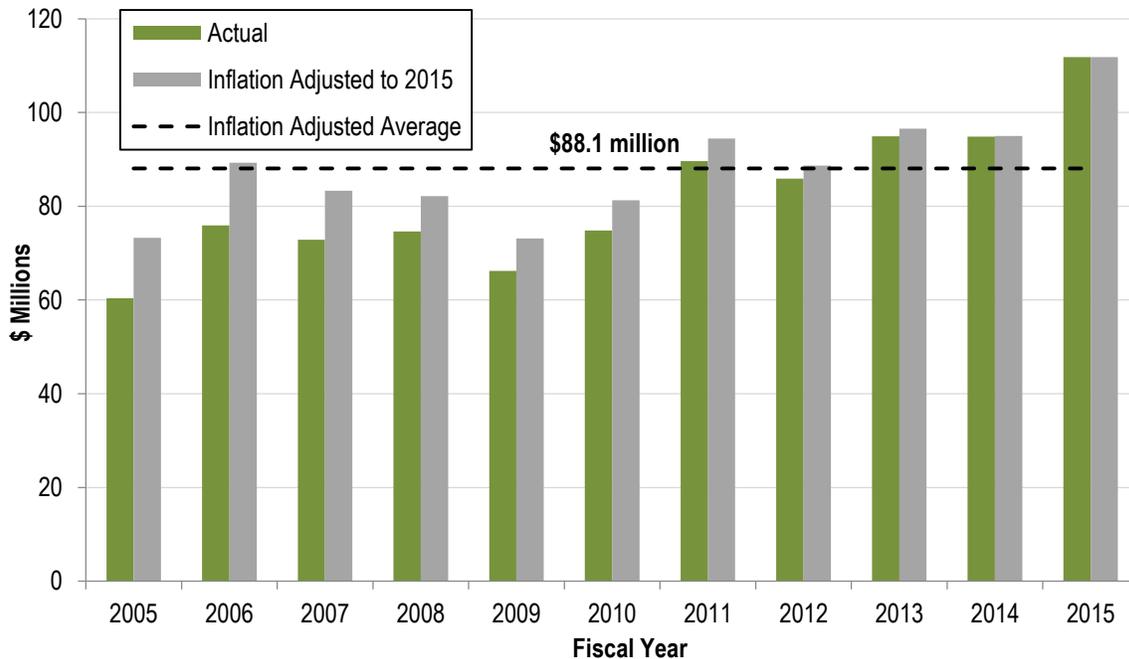
**Table 8. Corporate Minimum Tax**

Taxable Income	Minimum Tax (\$)	
	2012 - Present	Number of Taxpayers
Small farm corps <\$100K	75	Fewer than 10
\$2.0 million or less	300	4000
Between \$2.0 - \$5.0 million	500	130
Over \$5.0 million	750	110

### b. Corporate Income Tax Revenue

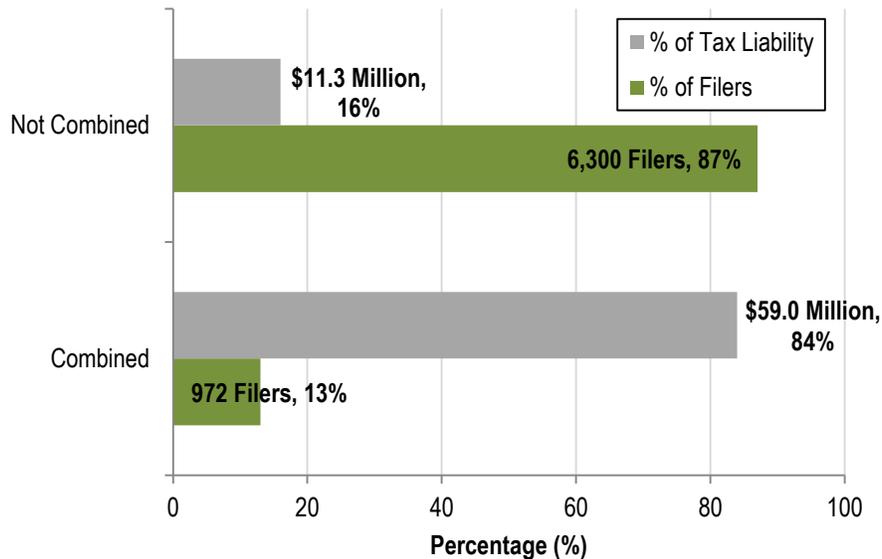
A number of factors affect the stability of corporate income tax revenue, including economic cycles, federal and state tax law changes, tax credits, and tax planning. Vermont corporate income tax revenues have a compound growth rate over the 10-year period of 6.4 percent, making it one of the faster growing revenue sources. Its share of total state revenue has grown from 2.5 percent in fiscal year 2005 to 3.1 percent in fiscal year 2015 (see Figure 21). Much of the increase can be attributed to the implementation of unitary combined reporting.

**Figure 21. Corporate Income Tax Revenue, FY 2005 to 2015**



The universe of corporate income tax returns can be divided into two groups: those that file a combined return, meaning affiliated unitary businesses that file on a single return, and businesses that are not part of a larger company group. That division shows the concentration of taxable income in a small number of returns and the majority of the revenue coming from a small number of taxpayers, most of which are non-Vermont corporations (see Figure 22). Combined returns make up 13 percent of the returns filed but account for 84 percent of the tax.

**Figure 22. Corporate Income Tax by Type of Return: Unitary Combined or Not Combined, Tax Year 2014**



Examining the portion of the company attributable to Vermont further demonstrates the reliance on large multi-jurisdictional businesses that pay the majority of the tax (see Table 9). Most of the corporate tax revenue in tax year 2014 came from companies that filed combined returns with less than 50 percent of the business attributable to Vermont.

**Table 9. Returns by Vermont Apportionment**

Filing Type	100% VT	0 – 99.9% VT	0% VT	Total
Not Combined	2817	2159	1324	6300
Combined	> 50% VT = 36	< 50% VT = 936		972
<b>Total</b>				<b>7272</b>

### c. State Comparisons

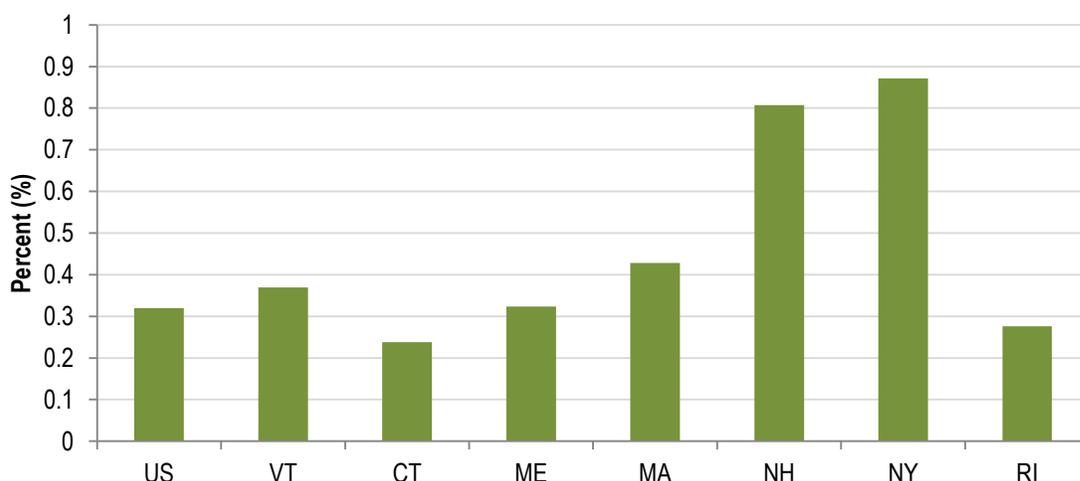
Of the 50 states and DC, four states have no corporate income tax, two have alternative corporate taxes, and 32 states have a flat tax rate. The remaining 12 have income tiers like Vermont. Vermont's top corporate income tax rate of 8.5 percent ties the state with New Hampshire for 9th highest behind eight other states and Washington DC. With the recent passage of combined reporting by Connecticut in 2016, all the New England states and New York now have mandatory combined reporting. In addition to unitary combined or separate reporting, other factors affecting the tax calculation for various states include apportionment methods and formulas, throwback, sourcing, and net operating rules (see Table 10). In recent years, states have moved away from three-factor apportionment in favor of an emphasis or sole reliance on the sales factor.

**Table 10. New England State Comparisons of the Top Rate, Rate Structure, and Apportionment**

State	Top Rate (%)	Flat/Tiered	Apportionment
Maine	8.9	4 Tiers	Single Sales
New Hampshire	8.5	Flat Rate	Double-Weighted Sales
<b>Vermont</b>	<b>8.5</b>	<b>3 Tiers</b>	<b>Double-Weighted Sales</b>
Massachusetts	8.0	Flat Rate	Sales or Double-Weighted Sales
Connecticut	7.5	Flat Rate	Single Sales
Rhode Island	7.0	Flat Rate	Single Sales
New York	6.5	Flat Rate	Phasing to 100% sales in 2018

In most New England states, corporate income tax revenue represents less than 0.45 percent of state GDP (see Figure 23). New Hampshire and New York are the exceptions, with corporate tax closer to 1 percent of GDP.

**Figure 23: Corporate Income Tax\* as a Percentage of State GDP, 2013**



\*Includes taxes on corporations and unincorporated businesses including financial institutions.

Sources: U.S. Census (State and Local Government Finance) and Bureau of Economic Analysis (GDP)

### 3. Estate Tax

The estate tax is a tax on the assets of a deceased person. Both resident and non-resident estates may owe the tax on Vermont-based property. Farm businesses are exempt in Vermont. Revenues from the estate tax tend to be volatile because they depend on the wealth of people who die in a particular year. From fiscal year 2005 through fiscal year 2015, the Vermont estate tax contributed about \$22.3 million on average each year.

For the period of this study, 2005 to 2015, the Vermont Estate Tax was linked to the repealed federal estate tax credit amounts from 2001 (see Table 11). Most components of the estate tax were closely tied to the federal tax code, which was unsettled for most of the period. From 2005 to 2015, the only changes to the Vermont Estate Tax structure were increases in the exemption

amount from \$1.5 million in calendar year 2005 to \$2.0 million in 2006 and then to \$2.75 million in 2011.

In 2016, Vermont reformed the Estate Tax, effective January 1, 2016. The reforms were intended to modernize and simplify the tax without changing the total amount of revenue collected. The new law includes a true \$2.75 million exemption, a 16 percent flat rate, elimination of the second tax calculation, definition of the Vermont taxable estate, and inclusion of gifts made up to two years prior to death, among other changes.

**Table 11. Brief Federal and State Estate Tax History**

Calendar Year	Federal Exemption Amount (\$)	Max Federal Rate (%)	State Credit (%)	Vermont Exemption Amount (\$)
2001	675,000	55	100	675,000
2002	1,000,000	50	75	1,000,000
2003	1,000,000	49	50	1,000,000
2004	1,500,000	48	25	1,500,000
2005	1,500,000	47	0*	1,500,000
2006	2,000,000	46	0*	2,000,000
2007	2,000,000	45	0*	2,000,000
2008	2,000,000	45	0*	2,000,000
2009	3,500,000	45	0*	2,000,000
2010		Repeal		2,000,000
2011	5,000,000	35	0*	2,750,000
2012	5,120,000	35	0*	2,750,000
2013	5,250,000	40	0*	2,750,000
2014	5,340,000	40	0*	2,750,000
2015	5,430,000	40	0*	2,750,000
2016	5,450,000	40	0*	2,750,000

\*state credit replaced with a federal deduction

Source: CCH Tax Briefing

Nationally, the estate tax affects less than 1 percent of all estates. From fiscal year 2011 to fiscal year 2015 in Vermont, an average of only 84 estate tax returns were filed annually (see Table 12).<sup>9</sup>

<sup>9</sup> Additional study is needed to understand how the estate tax affects taxpayer behavior.

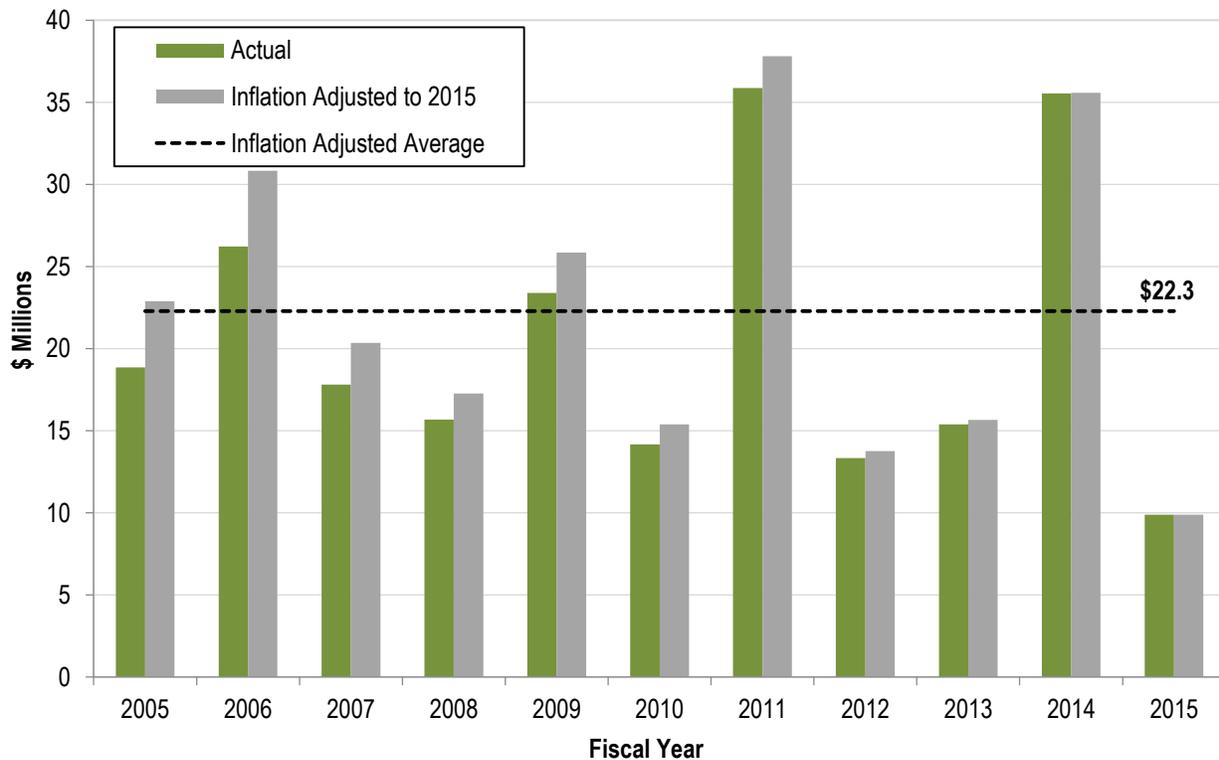
**Table 12. Vermont Estate Tax Returns FY 2011 - FY 2015 Inflation-adjusted dollars**

Estate Size	# Returns	Tax (\$)
\$0 - 3.5 million	224	7,303,986
\$3.5 - \$5.0 million	88	12,878,322
\$5.0 and over	109	81,533,306
Total	421	101,715,614
5-year average	84	20,343,123

Source: Vermont Department of Taxes

The estate tax is extremely volatile and among the most unpredictable revenue sources due to the small number of filers and the variability of estate values. Between fiscal year 2005 and 2015, revenue from the estate tax has ranged from a high of just over \$35 million in FY 2011 and fiscal year 2014 to its lowest level of \$9.9 million in fiscal year 2015 (see Figure 24). One or two substantial estate tax returns may constitute the majority of the tax revenue in any given year.

**Figure 24. Estate Tax Revenue, FY 2005 to 2015**



**Figure 25. States With and Without Estate Taxes and Inheritance Taxes, 2016**



Estate taxes are applied on the decedent's estate while heirs are responsible for inheritance taxes. In response to the federal estate tax changes, many states repealed their estate or inheritance taxes. In 2001 all 50 states had an estate tax at least equal to the federal credit amount. As of 2016, a total of 18 of the 50 states, plus Washington D.C., retain an estate, inheritance or gift tax on the transfer of individual assets. Estate taxes are applied in 12 states in 2016, inheritance taxes are imposed in four states, and two states have both estate and inheritance taxes. The map and tables include some of the major details of these state tax structures, including the exemption amounts, top rate, and the treatment of gifts (see Figure 25 and Tables 13 and 14). The federal exemption amount in 2016 was \$5.45 million.

**Table 13. States with Estate Taxes in 2016**

State	Exemption Amount (\$M)	Top Rate (%)	Gifts
Connecticut [1]	2.0	12	Unified
Delaware [2]	Federal	16	
Hawaii [2]	Federal	15.7	
Illinois	4.0	16	
Maine	Federal	12	1-year
Maryland [3]	1.0	16	Inheritance
Massachusetts	2.0	16	
Minnesota	1.6	16	3-years
New Jersey	0.675	16	Inheritance
New York [3]	4.19	16	3-years
Oregon	1.0	16	
Rhode Island [4]	1.5	16	
<b>Vermont</b>	<b>2.75</b>	<b>16</b>	<b>2-years</b>
Washington [4]	2.079	20	
D.C.	2.0	16	

[1] \$20 million maximum tax

[2] Exemption is portable

[3] Increasing to federal exemption amount in 2019

[4] Indexed in 2017 and beyond

**Table 14. States with Inheritance Taxes in 2016**

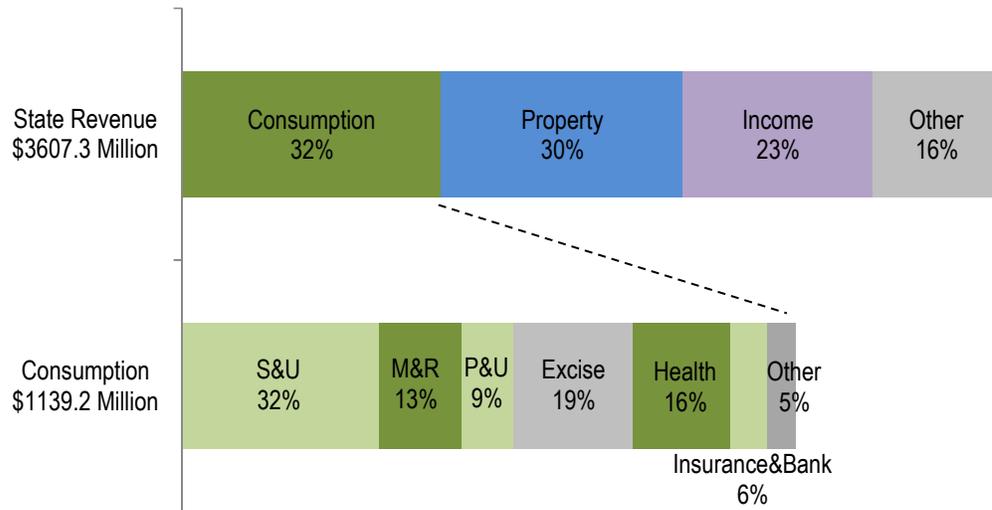
State	Top Rate (%)
Iowa	15
Kentucky	16
Maryland	10
Nebraska	18
New Jersey	16
Pennsylvania	15

Source: Minnesota House Research Department,  
Survey of State Estate, Inheritance, and Gift Taxes

## B. Consumption Taxes

Total consumption tax revenue increased from \$817.0 million in fiscal year 2005 to \$1,139.2 million in fiscal year 2015. The inflation-adjusted growth rate was 1.4 percent on average. Consumption taxes apply to the purchase of goods or certain services in the form of sales taxes or excise taxes. Sales taxes are applied to the retail sales price of a good. An excise tax is a sales tax that applies to a specific class of goods, typically alcohol, gasoline or cigarettes. The tax generally applies to the quantity purchased rather than the price of the good.

**Figure 26. Consumption Taxes in Vermont, FY 2015**



**1. Sales-based Taxes**

Vermont has three major sales-based taxes assessed at the retail level: Sales and Use, Meals and Rooms, and Purchase and Use (on motor vehicles). The Sales Tax is applied to the retail sale of a good or service. Taxable sales in Vermont are limited to tangible personal property and do not usually include services. A use tax is due from the purchaser when a sales tax was not applied at the point of sale by the vendor.

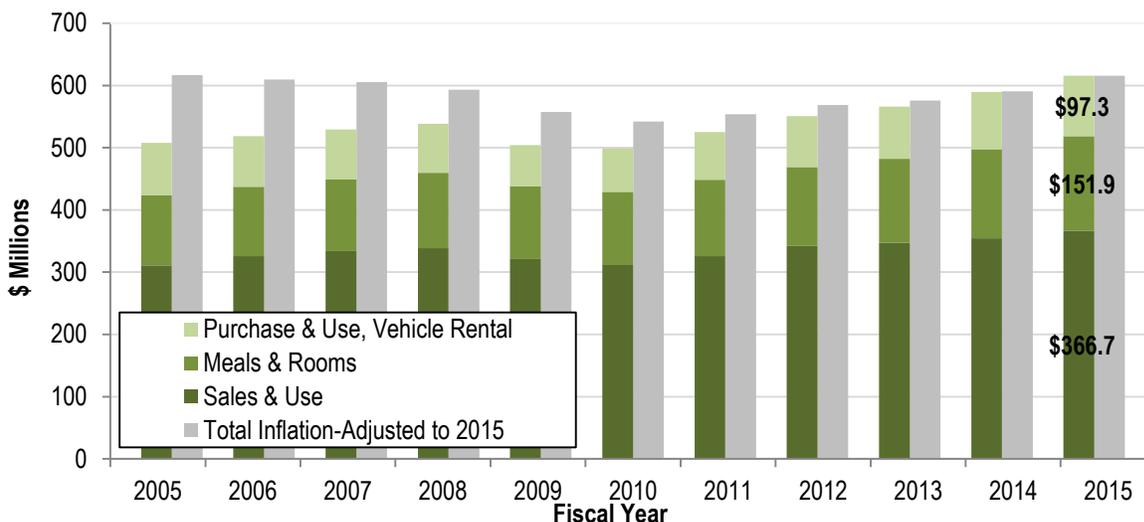
**a. Sales-based Tax Structure**

The Vermont Sales and Use tax of 6 percent is charged on retail sales of tangible personal property unless exempted by law. Telecommunications services are also subject to the Sales and Use tax in Vermont. The Vermont Sales Tax is destination based; it is applied where the buyer takes possession of the item or where it was delivered. The compensating Use Tax applies to items purchased out of state that are brought back to Vermont for use. Use taxes are administered to prevent tax avoidance through purchase outside the state; they are the responsibility of the consumer as opposed to the retailer.

Three broad categories of exemptions apply for the Sales and Use Tax. The first is entity-based exemptions: nonprofit, agricultural, and rescue organizations need not pay the tax. Second, use-based exemptions apply to products that will be used for farming purposes or as a component of a manufactured product. Third and most significant are the exemptions that are product-based such as food sold at a grocery store or market, over-the-counter and prescription medicine, and clothing and footwear; all are items which are considered necessities.

State sales and use revenue constitutes 10 percent of total state tax revenue and 32 percent of all Vermont consumption taxes (see Figures 26 and 27). The general state sales tax rate is 6 percent, and local communities may choose to exercise a 1 percent local option sales tax.

**Figure 27. General Sales-Based Tax Revenue, FY 2005 to 2015**



Consumers pay the Vermont Meals and Rooms tax when they purchase meals (food prepared away from home) or alcoholic beverages or when they rent a room for short-term lodging. The tax rate on is 9 percent on sales of prepared food and food sold in restaurants, 10 percent on the sale of alcoholic beverages, and 9 percent on room rentals, including meeting rooms in hotels. The state meals and rooms revenue constitutes 4 percent of total state tax revenue and 13 percent of state consumption tax revenue. Additionally local communities can exercise a 1 percent local option tax on meals, rooms, and alcoholic beverages.

Vermont taxes the sale of motor vehicles separately at a rate of 6 percent. The rate applies to the vehicle’s market value and is reduced by the value of any trade-in credited against the purchase price or the amount of any sales tax paid to another jurisdiction. The state purchase and use revenue constitutes 3 percent of total state tax revenue and 9 percent of consumption tax revenue. Vehicles used for short-term rentals are subject to a separate rental tax of 9 percent.

**b. Background**

In 2007, Vermont became a member of the Streamlined Sales Tax Agreement (SSTA). The SSTA is a cooperative effort among 44 states and the District of Columbia, local governments, and businesses to simplify tax collection and administration of sales and use taxes by retailers across states. The SSTA seeks to minimize costs and administration burdens on retailers and encourages collection of tax on sales to other states. The agreement essentially seeks to create a fair competitive environment for retailers in an increasingly national economy. As of 2016, 24 states representing 33 percent of the population have passed legislation to conform to the simplification measures proposed in the Agreement.<sup>10</sup> In Vermont those simplifications included the exemption of footwear and clothing and the taxation of beer and wine; those features have become ubiquitous in Vermont tax code.

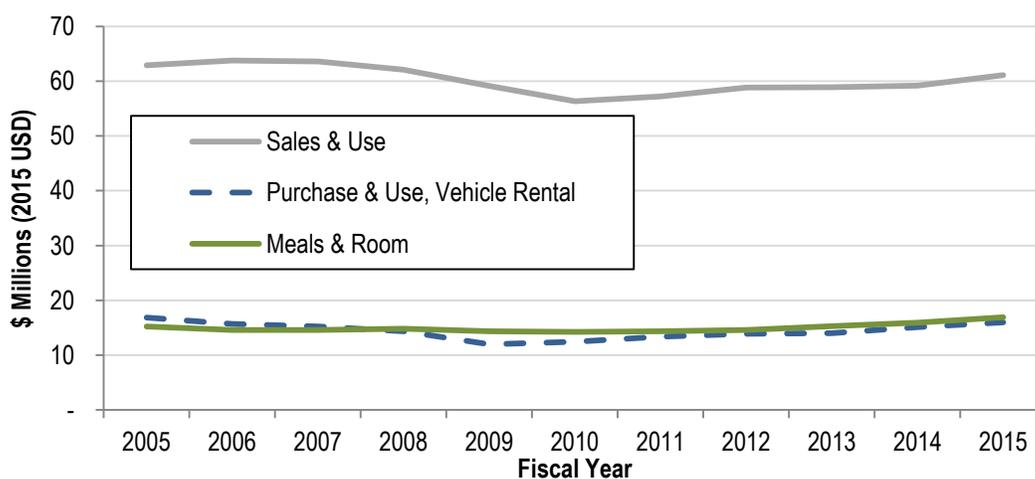
The Meals and Rooms Tax was implemented in 1959 at 3 percent, followed by the Purchase and Use Tax on motor vehicles in 1960 at a rate of 2 percent. Sales and use taxes on all retail goods were imposed in 1969 at a similar rate of 3 percent. Rates rose over the years and

<sup>10</sup> Streamlined Sales Tax Governing Board, <http://www.streamlinedsalestax.org>

reached their current values in 2003; they have been stable since then. In 1997, in response to the shift in property taxes from local administration to statewide collection, a local sales tax option of 1 percent on sales, meals and rooms, and alcoholic beverages was enacted. As of October 2016, 14 of the 255 municipalities in Vermont exercise this local tax option on sales and 17 exercise the local tax option on meals and rooms and alcoholic beverages.<sup>11</sup>

Different amounts of revenue would result from raising each of the three types of sales-based taxes by one penny. The largest amount of revenue would come from raising the Sales and Use Tax by one penny, about \$60 million. Raising the Purchase and Use Tax or Meals and Rooms Tax by one penny would raise less than one-third as much (see Figure 28).

**Figure 28. Sales-Based Taxes per Penny of Tax, Inflation Adjusted, FY 2005 to 2015**



### c. Effect of Business Cycles and Other Factors

A number of economic factors influence sales and use tax revenue. Over the 10-year period of study, the primary driver was the economy, as sales tax rates did not change (see Figure 27). Revenues were fairly consistent from 2005 to 2008. Sales tax revenue decreased significantly through the economic recession. Since 2010, revenues have grown steadily at an inflation-adjusted rate of 2.6 percent per year, as consumers slowly increased their consumption post-recession.

Other factors that affect the growth and stability of the sales tax include:

- Population Growth – As the resident and non-resident (including tourist) population increases, consumption of taxable goods is likely to increase.
- Changing Demographics – As discussed in this report’s section on demographics, older people and younger people buy different bundles of goods with different tax treatments.
- Service Sector – Vermont does not levy sales tax on most services. As services continue to constitute a growing part of the economy, many states are adapting their sales tax policies to include taxation of services.
- Mail Order and Online Shopping – The Vermont Sales Tax is likely underpaid or unreported, despite legal obligations.

<sup>11</sup><http://tax.vermont.gov/business-and-corp/sales-and-use-tax/local-option-tax/municipalities>

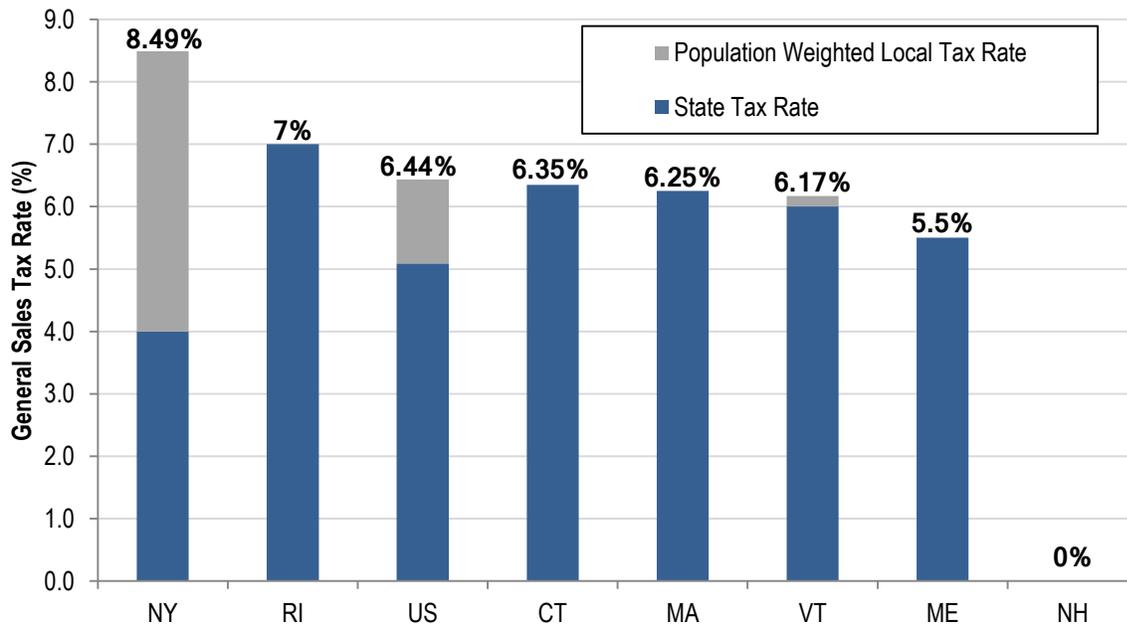
- Cross-border Sales – The lack of sales tax in New Hampshire attracts some sales across the border. In addition, sustained periods when the Canadian dollar is significantly stronger or weaker than the American dollar can affect sales across the border. See the summary below and the Appendix for a more detailed analysis of cross border sales.
- Streamline Sales Tax Agreement – As more states participate in the SSTA, tax base recovery is anticipated. With full tax collection from remote sellers, the tax base would increase substantially

**d. State Comparisons**

The national median state sales tax rate is 5.09 percent with a population weighted average local tax rate of 1.35 percent, for a cumulative rate of 6.44 percent. Vermont’s comparable weighted average is 6.17 percent. Five states — Alaska, Delaware, Montana, Nevada and New Hampshire — impose no sales tax. A chart of state and local rates in 51 states and jurisdictions is available in the Appendix C.

Direct comparison of sales tax revenues among state is complicated by a variety of rates and exemptions that vary considerably from state to state.

**Figure 29: State and Population-Weighted Local Sales Tax Rates in the New England and New York, 2015**



Vermont exempts grocery food, all clothing, and footwear — items of necessity — and prescription and nonprescription drugs from local option taxes. All of the New England states exempt grocery food, but some states have begun to tax nonessential food such as candy and soda (CT, ME, NY,RI). In July of 2015, Vermont began taxing soft drinks.

**Table 15. Sales Tax Rates and Exemptions (X = Item is Taxed at General Rate)**

Exemption	CT	ME	MA	NH	NY	RI	VT
State Rate	6.35%	5.5%	6.25%	None	4.0%	7.0%	6.0%
Maximum Local Rate	n/a	n/a	n/a		4.875%(e)		1.0%
Grocery							
Candy	X	X			X	X	
Soda	X	X			X	X	X
Prescription Medicine							
Non Prescription Drugs		X	X			X	
Clothing	(a)	X	X(b)		X(b)	X(b)	
Alcohol	X	X		State Controlled	X	X	X
Maximum Local Meals/Rooms Rate							
Meals	X	0	X	0	X	X	9%(g)
Rooms/Lodging	0	0	0	0	X+\$2.00 daily	X+5%(f)	0
Vehicle Purchase							
Trade-In	X(a)	X	X			X	X
Trade-In	Yes	Yes	Yes	n/a	Yes	Yes	Yes
Vehicle Rental	0	0	X	0	6%(e)	X+8%(f)	0

(a) 7.75% on luxury cars >\$50,000, clothing >\$1,000

(b) Clothing under \$175 excluded (MA), under \$110 (NY), under \$250 (RI)

(c) Boston may impose a local room tax of up to 6.5%

(d) NYC 4.5% + 0.375% Metropolitan Commuter Transport District Tax (MCTD)

(e) Additional 5% use tax in MCTD

(f) State hotel occupancy tax 5%, state rental surcharge 8%

(g) 10% on served alcohol

Among New England and New York State, the general sales tax rate varies between 4 percent and 7 percent (see Figure 29 and Table 15). The meals tax rate is 8 percent in Maine and 9 percent in New Hampshire as well as Vermont; other New England states and New York State impose the general state sales tax rate on meals. The lodging tax differs substantially across the states, with Connecticut's rate at 15 percent.

The New England states vary in offering local option sales taxes. Connecticut and Maine do not allow for local option sales taxes. Massachusetts and Rhode Island have local option taxes on meals and rooms. New York, which has the lowest overall state sales tax rate, allows for local tax rates of up to 4.5 percent (general and meals) and 5.875 percent for lodging, effectively yielding the highest sales tax rate within New England for the select jurisdictions that employ the local options.

## 2. Excise Taxes

An excise tax is a narrowly based tax levied on the sale or consumption of a particular good. Excise taxes are typically unit taxes, meaning that the tax is applied to the number of units sold rather than as a percentage of the sales price. In Vermont, as in most states, excise taxes are

levied on cigarettes and other tobacco products, alcoholic beverages, and motor fuel. On certain items, excise taxes are applied at the wholesale level, and then sales taxes are applied to the retail sale of the same item. This double taxation — sometimes called “sin taxes” — occurs for cigarette and tobacco products as well as alcoholic beverages in Vermont.

**a. Taxes on Cigarettes and Other Tobacco Products**

Excise taxes are imposed on all cigarettes and tobacco products sold in Vermont. The current rate is \$3.08 per pack of cigarettes or little cigars. Lower-priced cigars are taxed at 92 percent of the wholesale price, but other product types have different tax amounts. Cigarettes and other tobacco products are also subject to the Vermont sales tax. Over the past 10 years, more types of tobacco products have become taxable in different ways (see Table 16). Vapor products, including e-cigarettes, are not considered a tobacco product for tax purposes in Vermont.

**Table 16. Vermont Tobacco Products Taxes, 2016**

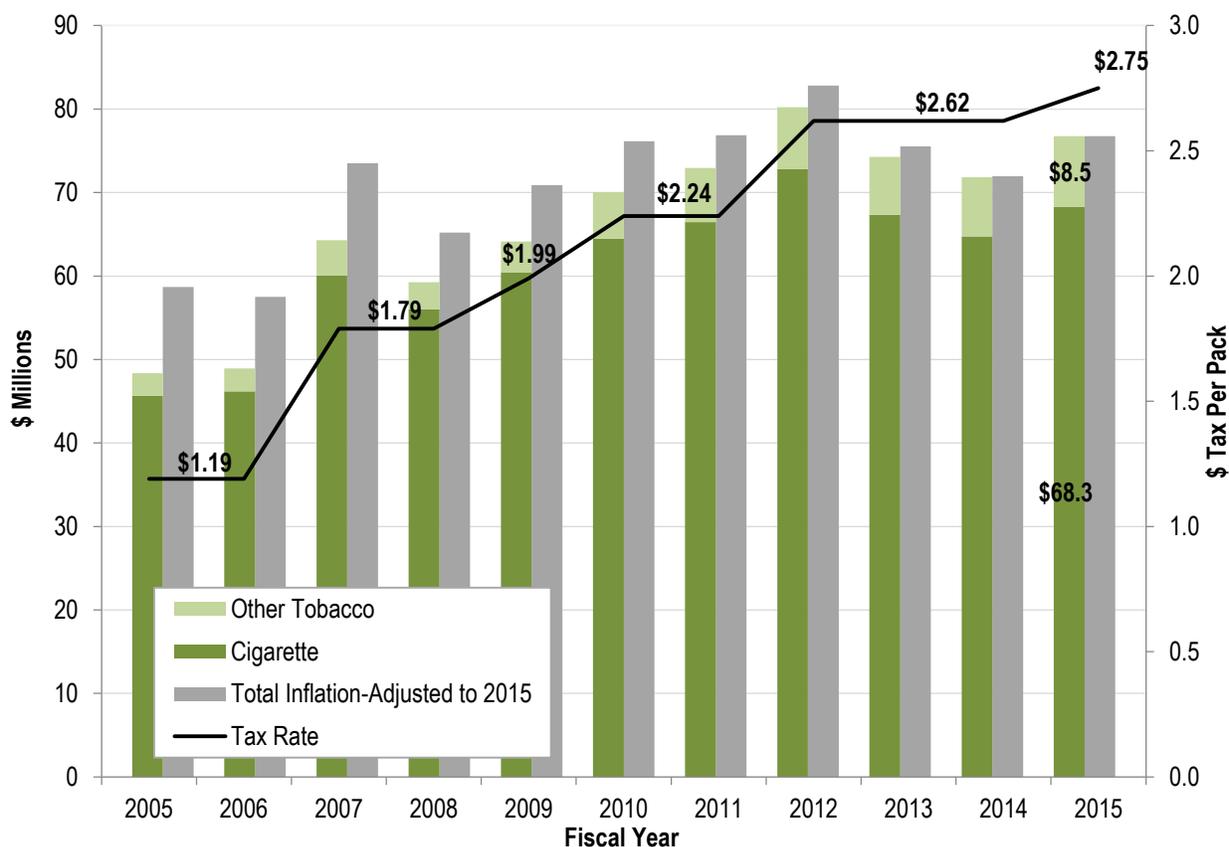
Tobacco Product	Weight	Wholesale Price	Packaging	2016 Tax Rate
Cigarettes	tax is by mills	N/A	Pack of 20	\$3.08 per pack
Roll Your Own (RYO)	one cigarette = 0.0325 ounces	N/A	any number of units	\$4.47 per ounce
Little Cigars	Up to 4.5 lbs per 1,000 sticks	N/A	Pack of 20 or equivalent rate	\$3.08 per pack
Cigars	More than 4.5 lbs per 1,000 sticks	Less than \$2.18 per cigar	any number of units	92% of wholesale price
	More than 4.5 lbs per 1,000 sticks	\$2.18 - \$9.99 per cigar	any number of units	\$2.00 per cigar
	More than 4.5 lbs per 1,000 sticks	\$10.00 or more per cigar	any number of units	\$4.00 per cigar
Snuff	tax is by weight	\$2.57 per ounce	1.2 oz container	\$3.08 per container
New Smokeless Tobacco	tax is by weight	\$2.57 per ounce	1.2 oz container	\$3.08 per package

**1). Excise Tax Revenue and History**

Taxes on cigarettes and tobacco products generated \$76.8 million of revenue in fiscal year 2015, up from about \$58 million in inflation-adjusted dollars in 2005 (see Figure 30). All of those revenues are used to fund state health care programs. In 2015, 89 percent of revenues from excise taxes on cigarettes and tobacco came from the tax on cigarettes.

The cigarette tax was increased five times during the 10-year study period, from \$1.19 per pack in 2005 to \$2.75 per pack in 2015. The tax was again increased to \$3.08 per pack in 2016.

**Figure 30. Revenue from Cigarette and Tobacco Products, and Tax Rates on Cigarettes, FY 2005 to 2015**



Escalating cigarette and tobacco prices tend to drive down sales at the retail level. Over the last 10 years, as Vermont raised its cigarette tax, sales have declined by 38 percent — from 40 million packs to approximately 25 million. In addition to depressing demand, the higher prices drive more purchases to other states, Native American reservations, and the Internet. Cross-border sales, however, have also boosted Vermont revenues by increasing cigarette sales in Vermont communities near states with higher tax rates.

## 2). State Comparisons of Cigarette and Tobacco Products

Vermont's tax rate per pack of cigarettes ranks 5th among the New England states and New York (see Table 17). Vermont placed third in terms of revenue per capita in fiscal year 2015, indicating Vermont was an overall beneficiary of cross border sales.

**Table 17. New England State Comparisons**

State	2015 Tax Rate	Rank	FY15 Revenue Per Capita (\$)	Rank	Adult Smoking Rate (%) 2015	Rank
U.S. Average	1.69	-	51	-	15.1	-
Connecticut	3.40	2	95	4	13.5	7
Maine	2.00	6	94	5	19.5	1
Massachusetts	3.51	4	91	6	14.0	2
New Hampshire	1.78	7	159	1	15.9	3
New York	4.35	1	63	7	15.2	5
Rhode Island	3.75	3	126	2	15.5	4
<b>Vermont</b>	<b>3.08</b>	<b>5</b>	<b>109</b>	<b>3</b>	<b>16.0</b>	<b>2</b>

Sources: Smoking Rates: CDC Current Cigarette Use Among Adults

**b. Alcohol Excise Taxes on Beer, Wine and Liquor**

Three separate tax rates apply to beer, wine, and liquor in Vermont. The rates on beer (26.5 cents) and wine (55 cents) are per gallon at the wholesale level, except malt beverages (beer) that contain greater than 6 percent alcohol by volume are taxed at the higher rate of 55 cents per gallon. The liquor excise tax rate is tiered as a percentage of the gross revenue (see Table 18). The rate is 25 percent for most liquor sold, but small sellers pay a lower rate: 5 percent if their gross revenue is less than \$500,000 and 10 percent if gross revenue is between \$500,000 and \$750,000. The excise tax on beer and wine is paid at the wholesale level; liquor sales are state-controlled. The Vermont Sales Tax is also applied to beer and wine and was applied to liquor sales beginning in 2009.

**Table 18. Spirituous Liquor Tax Table**

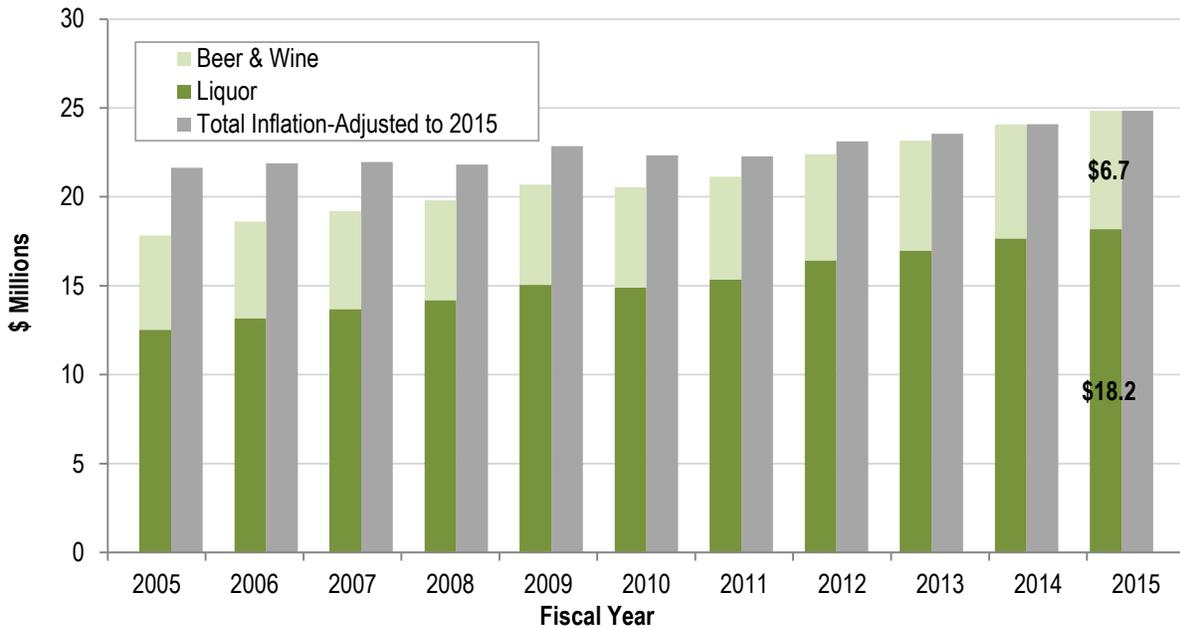
Gross Revenue	Tax Rate (%)
\$0-500,000	5.00
\$500,000-\$750,000	10.00
\$750,000 and over	25.00

**1). Tax Rates and Revenue**

Excise tax rates on alcohol in Vermont have not changed since 1981 and remain on a per-gallon basis for beer and wine. Therefore, changes in revenue for beer and wine would reflect both higher consumption and population growth. Because liquor taxes are price-based, the liquor excise tax captures inflation growth as well. Beer and wine excise tax revenues have remained relatively flat over the 10-year study period, while liquor excise taxes have grown modestly (see Figure 31).

In fiscal year 2015, the excise tax from beer raised \$4.9 million and the wine tax raised \$1.8 million, indicating that many fewer gallons of wine are sold annually. Different tax rates on beer by alcohol content affects only a small amount of sales annually. But further analysis of recent sales indicates that the portion of beer sales with high alcohol content has risen dramatically — 21.9 percent between fiscal year 2015 and fiscal year 2016 — in line with the small, but growing, craft-beer industry in Vermont.

**Figure 31. Alcohol Excise Tax Revenue, FY 2005 to FY2015**



**2) State Comparisons**

Among the New England states, Vermont’s excise tax rates on beer and wine are neither the highest nor the lowest (see Table 19). Other factors affect sales, such as the sales tax in addition to the excise tax and the business model of a state that controls sales. Vermont’s taxation of liquor is difficult to compare because the average price per gallon must be estimated.

**Table 19. Beer, Wine and Liquor Taxes in New England and New York as of January 1, 2016**

State	Beer (\$)	Wine (\$)	Liquor (\$)
Connecticut	0.23	0.7	5.40
Maine	0.35	0.6	5.82
Massachusetts	0.11	0.6	4.05
New Hampshire	0.30	*	*
New York	0.14	0.3	6.44
Rhode Island	0.12	1.4	5.40
<b>Vermont</b>	<b>0.27</b>	<b>0.6</b>	<b>7.71</b>

\* Revenue generated from taxes, fees, price markups and liquor profits  
 ME and VT rates calculated by the Distilled Spirits Council of the United States  
<http://taxfoundation.org/blog/how-high-are-taxes-distilled-spirits-your-state-2016>

**c. Motor Fuel Excise Taxes on Gasoline and Diesel Fuel**

Vermont levies excise taxes on motor fuels, both gasoline and diesel. The revenues support the state transportation programs and are deposited into three funds: the Transportation Fund, the Transportation Infrastructure Bond (TIB) Fund (a sub-fund with revenues dedicated to long-standing transportation infrastructures), and the Petroleum Clean-Up Fund.

## 1) Tax Rates and Revenue

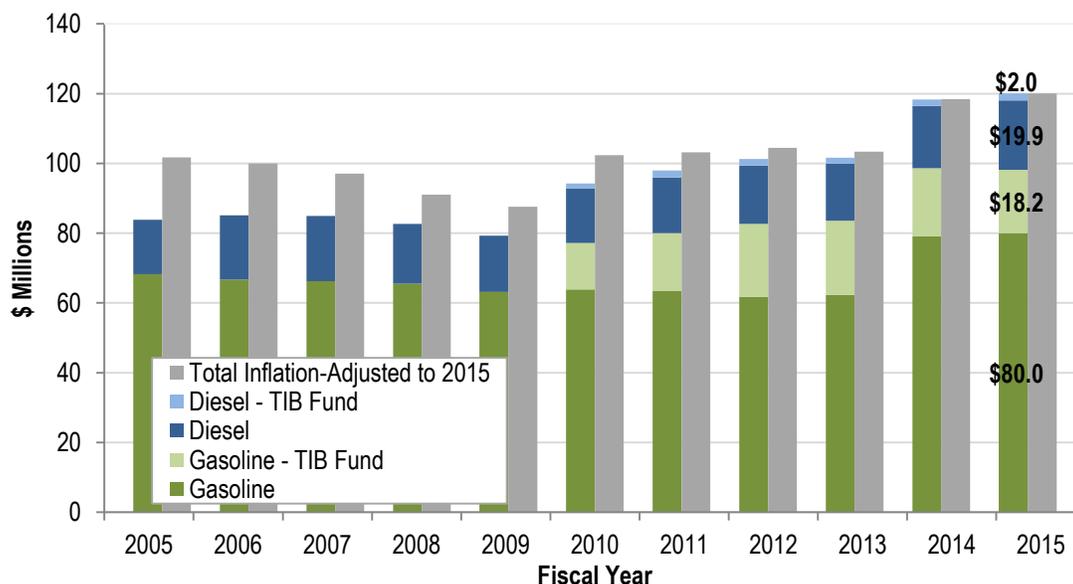
Historically from 1997 to 2009, the gas and diesel tax remained at 19 cents and 25 cents per gallon, respectively, each with an additional petroleum cleanup fund (PCF) fee of 1 cent per gallon. In 2010, an assessment dedicated to the Transportation Infrastructure Bond Fund was levied on both gasoline and diesel. The gasoline assessment is 2 percent of the retail price excluding all taxes, and the diesel assessment is a fixed 3 cents per gallon (cpg). In its 2013 session, the Vermont Legislature extensively revised the motor fuel taxes and phased in the changes with the current levies becoming effective on July 1, 2014 (see Table 20). All motor fuel levies are assessed and collected at the wholesale level.

**Table 20. Motor Fuel Taxes**

Motor Fuel	Fixed Cents Per Gallon (TF)	Price Assessment (TF)	TIB Assessment	PCF Fee	Total (minimum)
Gasoline	12.1 cpg	4% of price with minimum (13.4 cpg) and maximum (18 cpg)	2% assessment with 3.96 cpg minimum	1 cpg	30.46 cpg
Diesel	28 cpg		3 cpg	1 cpg	32.0 cpg

Over the 10-year period of study, gasoline and diesel excise revenues, adjusted for inflation, have increased 1.7 percent and 1.5 percent per year, respectively (see Figure 32). Those growth rates include the TIB fund revenues, which since their inception in 2010 have generated \$124 million in 2015 dollars to support Vermont infrastructure. Without the change to price-based assessments, the state's gasoline and diesel tax revenues would not keep pace with the costs of transportation projects.

**Figure 32. Motor Fuel Excise Tax Revenues, FY 2005 to FY 2015**



## 2) State Comparisons

Among the New England states, Vermont's excise taxes on gasoline are competitive, but the overall rate depends on the price of gasoline. The unit-based excise taxes on gasoline are third highest in the region, and those on diesel are second highest in the region (see Table 21). For purposes of comparison, the fuel assessment based on price has been converted to the equivalent amount as cents per gallon.

**Table 21. Unit-Based Excise Taxes on Gasoline and Diesel Fuel in New England and New York, EIA 2016**

State	Gasoline		Diesel	
	Amount (cpg)	Rank	Amount (cpg)	Rank
Federal	0.18	-	0.24	-
US Average	0.27	-	0.27	-
Connecticut	0.25	6	0.42	1
Massachusetts	0.27	5	0.27	6
Maine	0.31	3	0.32	4
New Hampshire	0.24	7	0.24	7
New York	0.33	2	0.32	5
Rhode Island	0.34	1	0.34	2
<b>Vermont</b>	<b>0.31</b>	<b>4</b>	<b>0.32</b>	<b>3</b>

All 50 states impose gasoline excise taxes that are unit-based, and most have dedicated gasoline fees. More states have moved to sales or price-based taxes as well. The US Energy Information Administration (EIA) ranks Vermont’s state gasoline and diesel taxes 17th and 14th respectively.

### 3. Sales and Excise Tax Rates and Revenues at the Borders

During the past 47 years, Vermont’s steadily increasing sales tax rate, now at 6 percent, has contributed to a shift in retail activity toward New Hampshire, which has no sales tax. Yet this tax differential alone is hardly the single — or perhaps even the most significant — factor in Vermont’s retail competitiveness with New Hampshire, or with other neighboring states. Additional factors, working at times to Vermont’s advantage, include: the rise of “big box” stores and internet sales, historic settlement patterns and population growth, land use laws, as well as the location of interstate highways, colleges, medical centers, and even Lake Champlain.

Summarized below are major points from a study of retail sales tax rate differentials, the so-called “cross-border issue.” Although these tax differentials also exist between Vermont’s other bordering states, Massachusetts and New York, the analysis focused primarily on cross-border impacts with New Hampshire, which shares a 255-mile border with Vermont. The complete analysis is in Appendix E.

#### a. Retailing Trends

Trends in retailing during the past 50 years — including “big box” retail and the rise of the internet and its tax-free shopping and quick home delivery — have transformed retailing, warehousing, delivery and the relative importance of state tax policies. The growth of large retail chains such as Walmart, Home Depot, Costco, Lowe’s, and Staples has driven many smaller retailers out of business and concentrated sales in smaller geographic areas. E-commerce retailing, growing rapidly, now represents more than 8 percent of all retail sales and an even higher share of the Vermont sales tax base. Although the avoidance of taxes through internet purchases has affected Vermont Sales and Use Tax revenues, it has also removed some of the incentive to shop in other states.

### **b. State Policies and Population Shifts**

State policies, particularly those affecting commercial development (such as Act 250 and local opposition to Walmart and other “big box” stores), may have done more to affect retail store development along the New Hampshire-Vermont border than the sales tax rate differential. Employment impacts from this pattern of development are of consequence as well. Retail development close enough to a border to attract shoppers also attracts out-of-state workers. The net flows of commuting workers are higher into Vermont along the southern part of the border and higher into New Hampshire in the middle and northern sections. In total, about 8,900 workers travel from New Hampshire to Vermont to work and about 13,400 workers from Vermont to New Hampshire. Regardless of the sales tax rate, these flows affect shopping patterns in the two states and reinforce the existing population advantage of the largest border communities. Settlement patterns affecting the growth of communities on both sides of the Connecticut River have persisted for hundreds of years — well before any sales tax existed. Since retail sales are closely linked to population, it would not be surprising to find that retail development would follow such population shifts and not necessarily cause them.

### **c. Relative Personal Incomes Per Capita**

The demand for most goods increases as income rises, and per capita personal income in New Hampshire border counties has been higher than in Vermont border counties during the last 40 years. The difference in per capita incomes has exceeded 20 percent during most of the last 10 years. Consequently, part of the difference in sales per capita likely stems from differences in incomes, not differences in sales tax rates.

### **d. Retail Sales Per Capita**

Even though Vermont loses some sales tax revenue to New Hampshire, those losses may be offset entirely or in part by substantial sales tax gains from out-of-state visitors, particularly in communities hosting or near ski resorts. Although further research is required to estimate this component of the retail trade sector in Vermont, per capita retail trade in the three border states was only higher in New Hampshire (at \$19,690 in 2012), with New York (\$12,810) and Massachusetts (\$13,956) below Vermont’s level of \$15,859.

### **e. Analysis of Excise Taxes**

While not the primary focus of this analysis, tax rate differentials on cigarettes, liquor, and motor fuels also raise cross-border issues.

- Vermont’s tax on a pack of cigarettes, now \$3.08, is lower than that in New York and Massachusetts but higher than that in New Hampshire. One short-lived decrease in the cigarette tax in New Hampshire revealed another important aspect of tax rate differentials and their impact on cross-border sales: tax rate changes are not always passed on to the consumer at the retail level. For that reason, it is important to measure the effects of retail price differentials, when possible, and not just tax rate variations.
- Gasoline prices along the Vermont-New Hampshire border also reflect this phenomenon. Despite lower effective gasoline tax rates in New Hampshire, retail prices at stations in New Hampshire near the border are close to or often above those at nearby Vermont stations. Farther from the Vermont border, New Hampshire prices tend to be lower. The location of Interstate 91 on the Vermont side of the Connecticut River gives Vermont an advantage in attracting gasoline sales from both local and through traffic. For this reason, per capita measures of gasoline sales have not exhibited the same kind of cross-border variation seen in other retail sales sectors.

- Finally, few states are as aggressive in marketing liquor to bordering state residents as New Hampshire. State liquor stores are strategically placed near state borders with convenient access from major transportation arteries. The New Hampshire state monopoly on liquor sales does not allow the release of detailed industry statistics from the federal sources used for other retail sales analyses. Although it is possible to access and organize this information from public sources at the New Hampshire State Liquor Commission, it would require data development work beyond the means of this study.

#### **4. Other Taxes**

Vermont levies a variety of other consumption taxes. Taxes on providers, payers, and some consumers of health care are one of the fastest-growing categories of revenues, in part because the price of health care has grown faster than other prices in the economy. A few other categories of goods are subject to a mixture of sales taxes and excise taxes – one example is the fuel tax. Finally, the Insurance Premium Tax and the Bank Franchise Tax are substitutes for the Corporate Income Tax in those two sectors but are sometimes classified as consumption taxes.

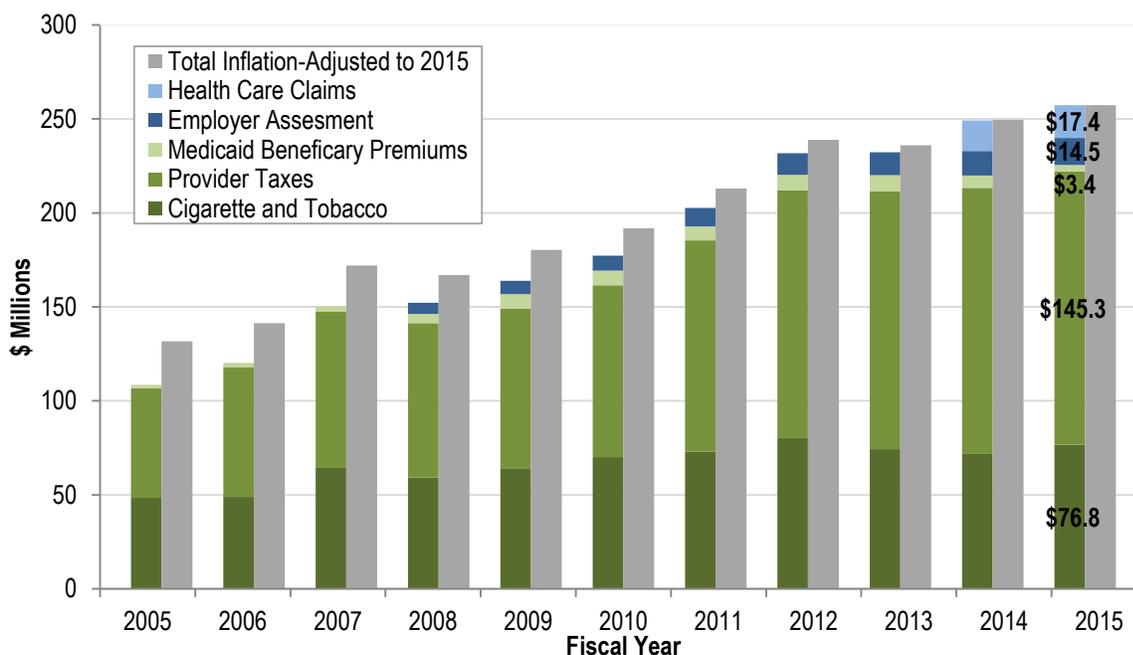
##### **a. Health Care Taxes**

In Vermont, revenues based on health care services come from three groups: providers of care (doctors and hospitals), payers (commercial insurance companies) and consumers. The providers of care and insurance companies are subject to taxes, and consumers who obtain health insurance from the state are liable for premiums. Additionally, the funds from the cigarette and tobacco excise taxes are used to pay for government health care programs. All of the taxes related to health care listed below are deposited into the State Health Care Resources Fund, which pays for state health care programs, including Medicaid.

Over the study period, fiscal year 2005 to fiscal year 2015, revenues based on health care have more than doubled (see Figure 33) and represent the fastest growing category of taxes in Vermont. Much of the increase was in hospital provider tax revenues, which reached \$145.3 million in fiscal year 2015. In 2015, Vermont hospitals had over \$2.2 billion in net patient revenues; they increased between 1.5 percent and 7.1 percent per year (between \$32 million and \$142 million) from 2010 to 2015. Revenues from hospital provider taxes have seen similar increases, growing between 4 percent and 5 percent per year, or between \$4.5 million and \$6.4 million in the last three years.

Three factors explain the increases: the volume of health care services in the state has risen, the price of health care services has increased faster than general consumer prices, and tax policy changes have created some new revenue sources and increased revenues from existing sources.

**Figure 33. Health Care Revenues, FY 2005 to 2015**



### 1) Provider Taxes

Federal law permits states to collect health-care-related taxes from 19 specified classes of health care providers or services. However, states must meet strict federal requirements when implementing health-care-related taxes (“provider taxes”). All providers or services in a class must be taxed – for example, the tax cannot be limited to Medicaid providers only – and a similar methodology must apply to all providers or services in that class — for example, the same rate or amount of tax must be applied. According to the Henry J. Kaiser Family Foundation, all but one state (Alaska) reported using provider taxes in fiscal year 2015, and no state implemented taxes on more than five classes of providers.<sup>12</sup> In 2016, Vermont added a provider tax on ambulance providers to bring the total number of provider classes taxed to six. The revenues from these provider taxes are deposited into the state health care resources fund along with other revenues, such as cigarette taxes and the claims assessment. The state health care resources fund is used to draw federal matching dollars for the Medicaid program.

Vermont provider taxes include the following:

- **Hospital Provider Tax** – The current tax rate is 6 percent of net patient revenues, up from 5.9 percent in 2012. Tax rates were 3.6 percent in 2005. Psychiatric hospitals are assessed at a rate of 4.21 percent.
- **Nursing Home Tax** – The tax is assessed on a per bed basis, which cannot exceed the corresponding rate based on net patient revenues. The current rate is 6 percent of net patient revenues, or \$4,919.53 per bed. From 2009 to 2011, the per bed rate was \$4,509.5, or 5.5 percent of net patient revenues.

<sup>12</sup><http://kff.org/medicaid/fact-sheet/states-and-medicaid-provider-taxes-or-fees/>

- **Intermediate Care Facilities for Individuals with Developmental Disabilities (ICF/DD)** – The tax is assessed as a percentage of total direct and indirect expenses based on the most recent facility audit. The current rate is 5.9 percent and has been in place since 2012. From 2009 to 2011, the tax rate was 5.5 percent of total and indirect expenses.
- **Home Health Agency Tax** – Prior to 2017, the tax was assessed as a percentage of net operating revenue from core services rather than of patient revenues. From 2009 to 2011, the assessment was 17.69 percent of net operating revenues. From 2012 to 2016, the rate was 19.3 percent of net operating revenues, which was equivalent to 3.9 percent of net patient revenues. For fiscal year 2017 and 2018, the tax rate will be 3.63 percent of annual net patient revenue.
- **Pharmacy Prescription Tax** – The tax is \$0.10 for every prescription filled and refilled and is assessed on pharmacies monthly. The tax began in 2005.
- **Ambulance Providers** – Beginning in fiscal year 2017, the tax will be assessed at 3.3 percent of an agency’s annual net patient revenue for services delivered to patients in Vermont during the most recent fiscal year.

## 2) Payer Taxes on Commercial Insurance Companies

- **Health Care Fund Contribution Assessment (“Employer Assessment”)** – The tax is a quarterly health care fund contribution paid by employers for every “uncovered” full-time equivalent employee in excess of four. The rate is adjusted by a percentage equal to any percent change in premiums for the second lowest cost “silver plan” in Vermont Health Benefits Exchange. The current rate is \$151.12 per quarter per uncovered employee but will increase to \$158.77 in calendar year 2017.
- **Health Care Claims Tax** – The tax is imposed at a rate of 0.999 percent on the value of all health insurance claims (including dental) paid by health insurers for their Vermont members for the previous fiscal year. The tax was initially created in 2008 to help fund health information technology initiatives but was expanded in 2011 to help fund state health programs such as Medicaid. Currently, 0.199 percent of claims are set aside to fund health information technology initiatives; after that part of the tax sunsets on July 1, 2017, the claims tax rate will be 0.8 percent of claims. Michigan and Oklahoma have similar health insurance claims taxes of 1 percent.

## 3) Revenues from Consumers

Vermonters with Medicaid coverage pay a small premium for that insurance coverage to the state of Vermont.

### b. Other Consumption Taxes

#### 1) Fuel Tax

The Fuel Tax (formerly known as the Fuel Gross Receipts Tax) is paid by retailers of heating oil, propane, kerosene, dyed diesel fuels, natural gas, electricity, and coal. Some taxes apply per gallon and others as a percentage of the retail price (see Table 22).

**Table 22. Taxes on Fuels, Effective July 1, 2016.**

Fuel Type	Rate
Heating oil, propane, kerosene, dyed diesel fuels delivered to residence or business	\$0.02/gallon
Natural gas and coal	0.75% (0.5% in 2015) of retail price
Electricity	0.5% of retail price

A 1-cent additional fee for the Petroleum Clean-up Fund applies to bulk sales of kerosene, heating oil, and dyed diesel. Tax revenues were \$7.5 million in fiscal year 2005 and \$8.2 million in fiscal year 2015; revenues for the clean-up fund were \$0.6 and \$1.3 million.

## **2) Solid Waste Franchise Tax**

The tax is paid by municipalities and facilities certified by the Vermont Agency of Natural Resources on waste delivered for disposal or incineration, and by haulers to out-of-state facilities. The tax is computed on a monthly basis at a rate of \$6 per ton. Revenues were relatively constant, \$3.3 million in fiscal year 2005 and \$3.1 million in fiscal year 2015.

## **3) Electric Generating Tax**

The tax, which is applied to only one entity, Entergy Corporation's Vermont Yankee, increased substantially over the study period due to legislative activity. Revenue in fiscal year 2005 was \$2.6 million, growing to \$9.4 million in fiscal year 2015. The facility closed in December 2014, however, and revenues in subsequent years are reduced to zero.

## **4) Solar Energy Capacity Tax**

The tax is paid by the owners of solar plants with a nameplate capacity over 50 kilowatts. The tax is imposed at a rate of \$4.0/kW of plant capacity. Solar plants subject to the capacity tax are exempt from the Education Property Tax. Municipalities may also choose to exempt solar plants from municipal property taxes. The tax became effective January 1, 2015.

## **c. Bank Franchise Tax**

Banking institutions have a long history of alternative tax treatment in Vermont and other states. Differences among state tax structures for banks and other corporations result from: a combination of shifting federal legislation and jurisdiction over federally chartered-banks, historical developments including judicially imposed restrictions on state taxation, and unique characteristics of the banking industry. Banking institutions in Vermont are exempt from the Corporate Income Tax, but are taxed under the alternative Bank Franchise Tax at a flat rate of 0.0096 percent of average monthly deposits. Fewer than 30 banking institutions, both large multi-state and smaller local institutions, fall under the Bank Franchise Tax system. Deposits and shares in credit unions are not subject to the tax. There have been no changes to the tax rate since 1997.

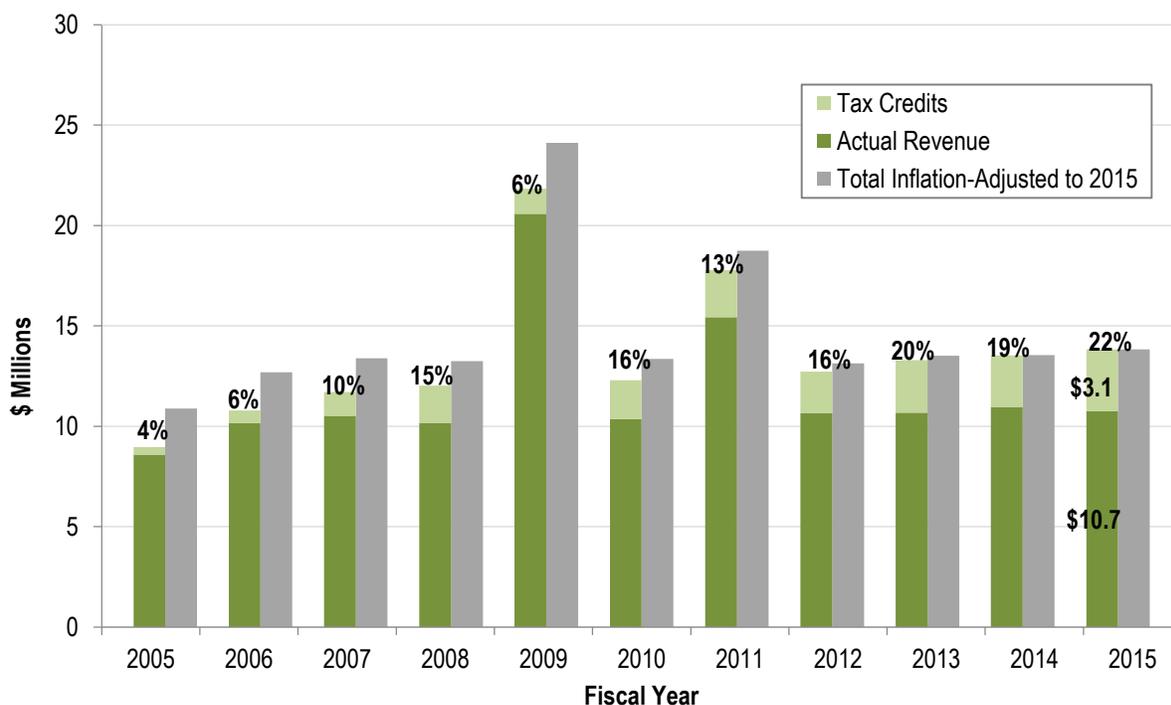
## **1) Bank Franchise Revenue and Tax Expenditures**

Bank franchise tax revenues have remained flat over the past 10 years. The inflation-adjusted compound growth rate was 0.2 percent between fiscal year 2005 and fiscal year 2015, and the annual revenue was just over \$13.0 million in fiscal year 2015 dollars. The bank franchise tax structure makes it an extremely reliable revenue source, especially compared to income-based tax sources, but also one with slow revenue growth potential. A number of factors affect the

performance of bank franchise tax revenues including: national trends in savings and deposit rates, banking alternatives for consumers including non-deposit types of accounts, utilization of non-Vermont based banking institutions, increase in the market share of credit unions, and the growth in tax credits used by banking institutions.

The bank franchise tax revenue collected in fiscal year 2005 and fiscal year 2015 was \$8.6 million and \$10.7 million respectively, with an inflation-adjusted growth of 0.3%. The amount of tax credits has grown by over 20 percent, from less than \$500,000 in FY 2005 to over \$3 million in fiscal year 2015 (see Figure 34). Tax credits reduced state bank franchise tax revenue collections by 3 percent in fiscal year 2005 and have increased to 22 percent in fiscal year 2015. The two main tax credits purchased by banking institutions and redeemed against bank franchise tax liability are the affordable housing tax credit and the suite of downtown and village center program tax credits for historic rehabilitation, façade improvement, and building code standards improvements. The charitable housing tax credit may also rarely be used.

**Figure 34. Bank Franchise Tax Revenue, FY 2005 to 2015**



## 2) State Comparisons

The changing federal and judicial landscape around the taxation of banking institutions has let states to impose dissimilar tax structures, making comparisons between states difficult. The differences between banks and other financial corporations have diminished over time, leading to a trend in recent years to apply the corporate income tax, or a modified corporate income tax to banking institutions (see Table 23). Of the 50 states and D.C., six have no tax on banking institutions; 25 have the same tax treatment as other corporations; 18 have a bank-specific tax based on capital, income, or assets; and two — Alabama and Vermont — have taxes based on deposits.

**Table 23. New England State Comparisons of the Taxation of Banking Institutions**

State	Tax Structure
Maine	Financial institutions must elect one of the following methods of determining the tax due: <ul style="list-style-type: none"> <li>• pay a two-part tax of 1 percent of Maine net income and 0.008 percent of assets, or</li> <li>• pay a tax on Maine assets only at 0.039 percent.</li> </ul>
New Hampshire	Corporate Income Tax
New York	Corporate Income Tax with bank-specific rules
<b>Vermont</b>	<b>Bank Franchise Tax of 0.0096% of deposits</b>
Massachusetts	Financial Institutions Excise Tax rate of 9% of net income with at \$457 minimum tax.
Connecticut	Corporate Income Tax
Rhode Island	Specific tax rate of 9.0% on net income, or at the rate of \$2.50 for each \$10,000, or fractional part, of authorized capital stock, whichever yields the greater amount of tax.

**d. Insurance Premiums Taxes**

Vermont has two taxes on insurance premiums, the traditional insurance premiums tax and the captive insurance premiums tax.

**1). Traditional Insurance Premiums Tax**

Traditional insurance companies pay 2 percent per annum on gross premiums written in the state, exclusive of premiums written for reinsurance. This is an alternative to the Corporate Income Tax for insurance companies. The 2.0 percent Insurance Premiums Tax applies to domestic (in-state) and foreign (out-of-state) insurers on premium revenue for property and casualty, fire, life, and accident insurance. Annuities and certain health insurers are excluded from the Insurance Premiums Tax. Vermont taxes all types of insurance premiums at the same rate.

A unique feature of the tax is the interstate retaliatory tax. This feature, used in 49 states (except Hawaii), requires the company to pay tax difference, if it is higher, imposed by the company’s state of domicile compared to the tax in the state where the premium is written. Retaliatory taxes are constitutional so long as their primary purpose is to discourage other states from imposing higher taxes on a state’s domestic insurers. In practice, retaliatory taxes make it difficult to raise tax rates because in-state insurance companies may face a competitive disadvantage. This may serve to keep tax rates low across the insurance industry.

**2). Captive Insurance Premiums Tax**

Captive insurance is a specialized type of alternative insurance. Captive insurance companies are created and have a limited purpose to finance risks from the parent group(s) and in some cases the parent company’s customers. The types of risk a captive may underwrite include property damage, public and products liability, professional indemnity, employee benefits, employers’ liability, and medical aid expenses among others. Vermont was among the first states to allow on-shore captive insurance company domiciles in 1981. Now 28 states and Washington, D.C., allow captive registrations, but Vermont remains the largest domestic captive insurance domicile in the country. The Captive Insurance Premiums Tax rates in Vermont decrease with the volume of premiums written (see Table 24). These rates were last changed in 2004.

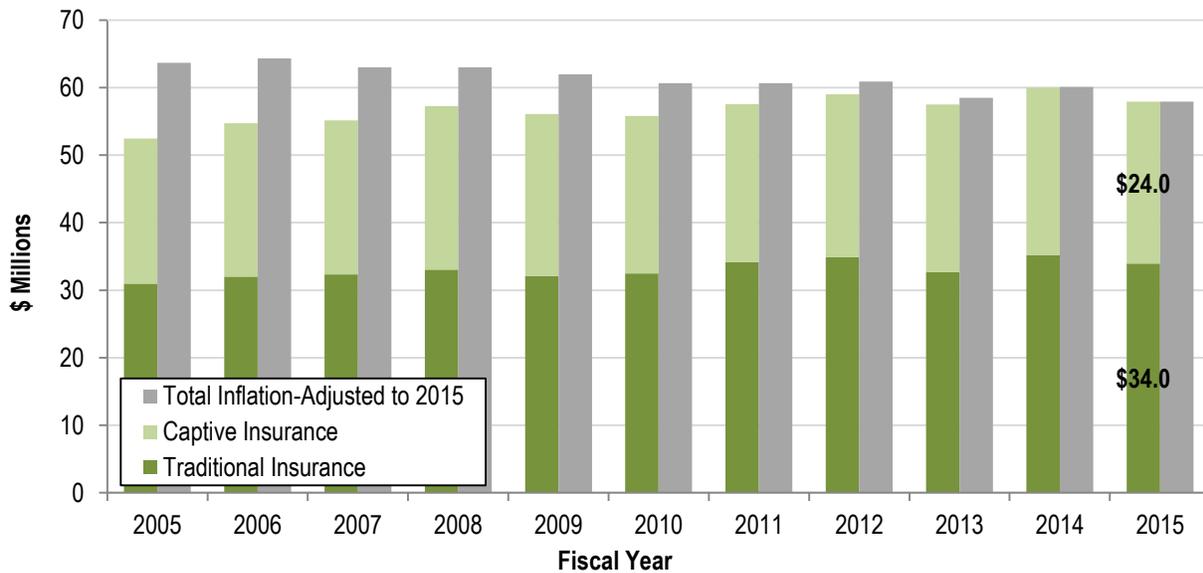
**Table 24. Captive Insurance Premiums Tax Rates**

\$ Millions	Direct Premiums Tax Rate (%)	Assumed Premiums Tax Rate (%)
0 - 20	0.38	0.214
20 - 40	0.285	0.143
40 - 60	0.19	0.048
60 or more	0.072	0.024

**3) Insurance Tax Revenues**

After adjusting for inflation, insurance premiums tax revenues have declined slightly over the past 10 years (see Figure 35). The inflation-adjusted compound growth rate was - 0.9 percent between fiscal year 2005 and fiscal year 2015. Both traditional and captive insurance revenues have declined. Total revenue was just over \$57.9 million in fiscal year 2015. Traditional insurance premiums comprise 59 percent and captives making up 41 percent of the total revenue consistently over this period.

**Figure 35. Revenue from the Insurance Premiums Tax on Traditional and Captive Insurance, FY 2005 to 2015**



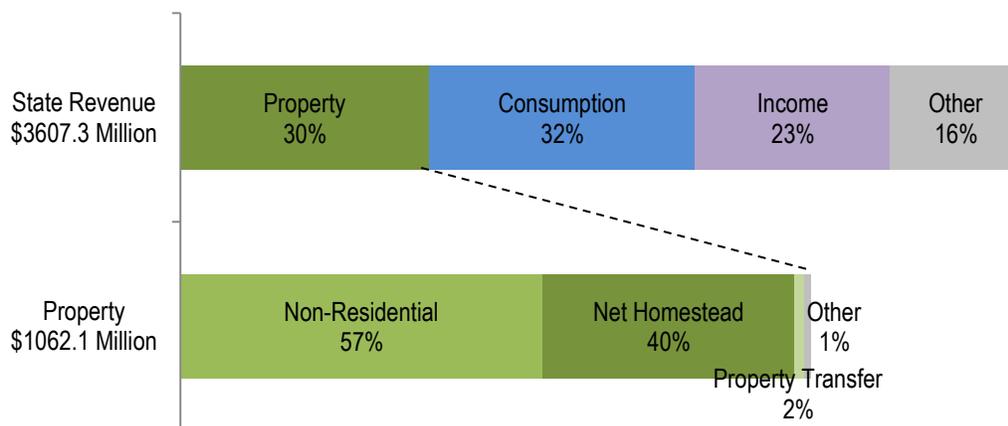
## C. Property-Based Taxes

In the United States, property tax on real estate is usually levied by local government at the municipal or county level. The assessment is made up of two components: the value of the land and the value of the building, or improvements. Personal property is also taxed in some jurisdictions, but in Vermont only a handful of municipalities include it in the local property tax.

Local governments in Vermont collect two types of property taxes: municipal property taxes, which stay in the local jurisdiction, and education property taxes, which go to the state and are redistributed to fund education statewide. Vermont also imposes other types of property-based taxes, including the Property Transfer Tax, Land Gains Tax, and taxes on land use change. The vast majority of property tax revenue came from the state Education Property Tax.

In fiscal year 2015, all property taxes in Vermont generated \$1,062 million. About 57 percent came from non-residential property, 40 percent from homesteads, and another 3 percent from property transfer fees and other sources (see Figure 36). In 2005, property taxes were \$677.3 million. The real rate of growth per year from 2005 to 2015 was 2.6 percent

**Figure 36. Property-Based Taxes in Vermont, 2015**



### 1. Statewide Education Property Tax

Vermont has a unique education funding system and statewide property tax structure. The Education Property Tax in Vermont is a hybrid state and local funding system that is administered by both levels of government. Most property tax revenues fund education statewide and are assessed on the fair market value of property across the state. The state portion of the property tax takes two forms:

- The **Homestead Education Tax** applies to “homestead property”— a primary residence and contiguous land. The statewide tax rate is adjusted in each community based on local per pupil education spending and further adjusted to equalize property tax obligation statewide. In fiscal year 2017, the base Homestead Education Tax rate was \$1.00 per \$100 of property value. The average Homestead Education Tax rate in fiscal year 2017 was \$1.527.

- The **Non-residential Education Tax** applies to other types of property, including second homes and rental, commercial, and industrial properties. In fiscal year 2017, the base Non-Residential Education Tax rate was \$1.535 per \$100 of property value.

The total education property tax base consisted of 322,512 parcels valued at \$77,918.4 million in fiscal year 2015 (see Table 25). Homestead property made up 52 percent of the parcels, just over 48 percent of the property value, and 41 percent of the tax paid. The remainder was nonresidential property. In addition, 8,743 parcels worth \$6,403.3 million were exempt from the education property tax. Vermont is unusual among states in the extent to which it adjusts property taxes based on household income, lowering the tax due for many low- and middle-income resident households (analyzed below).

**Table 25. Statewide Education Property Values and Tax, FY 2015**

FY 2015	Number of Parcels	Property Value (\$M)	Education Tax (\$M)
Homestead (net tax)	167,025	37,503.4	423.8
Non-Residential	155,487	40,415	610.2
Total	322,512	77,918.4	1,034.0

#### **a. Education Property Tax Rates**

The Non-residential Education Tax is uniform statewide and is set every year based on revenue and spending projections for the Education Fund. The fiscal year 2015 nonresidential property tax rate was \$1.515 per \$100 of fair market value.

The Homestead Education Tax is more complex. Homeowners may pay the tax based on their household income or the value of their homestead property, or a combination of both. In any case, the Education Property Tax rate on homesteads or on household incomes is adjusted across school districts directly in proportion to per-pupil education spending. The valuation of property, definition of household income, and calculation of property tax adjustments involve a large number of details and nuances that are beyond the scope of this report.

In fiscal year 2015, the base homestead property tax rate was \$0.98 per \$100 of value; the base percentage of household income was 1.8 percent. The average equalized pupil-weighted homestead rates were \$1.50 for the homestead property tax rate and 2.75 percent of household income, or 53 percent higher than the base rates. The base homestead rate and household income percentage are set annually based on statewide education spending and revenue projections.

#### **b. Recent Changes in the Administration of the Education Property Tax**

The current education funding system has been in place since 1997. Numerous changes or adjustments to the system have taken place over the past decade, but the Education Property Tax structure has remained largely the same since fiscal year 2005. The parameters for calculating the property tax adjustments have changed, both expanding and reducing the program and the number of households that qualify for an adjustment. Remarkably, the overall percentage of households receiving a benefit has remained constant.

The largest changes since 2005 have occurred in the administration of the Education Property Tax. In particular, starting in 2007 checks for the property tax adjustment were no longer mailed to households but instead were reflected on the next year's property tax bill. That change requires more coordination of valuation, data, and information between the state and the towns.

### c. Education Property Tax Revenue

Education property tax revenue was \$1,034.0 million in fiscal year 2015<sup>13</sup>. It is the largest single type of state tax revenue.

**Figure 37. FY 2015 Education Property Tax Paid**



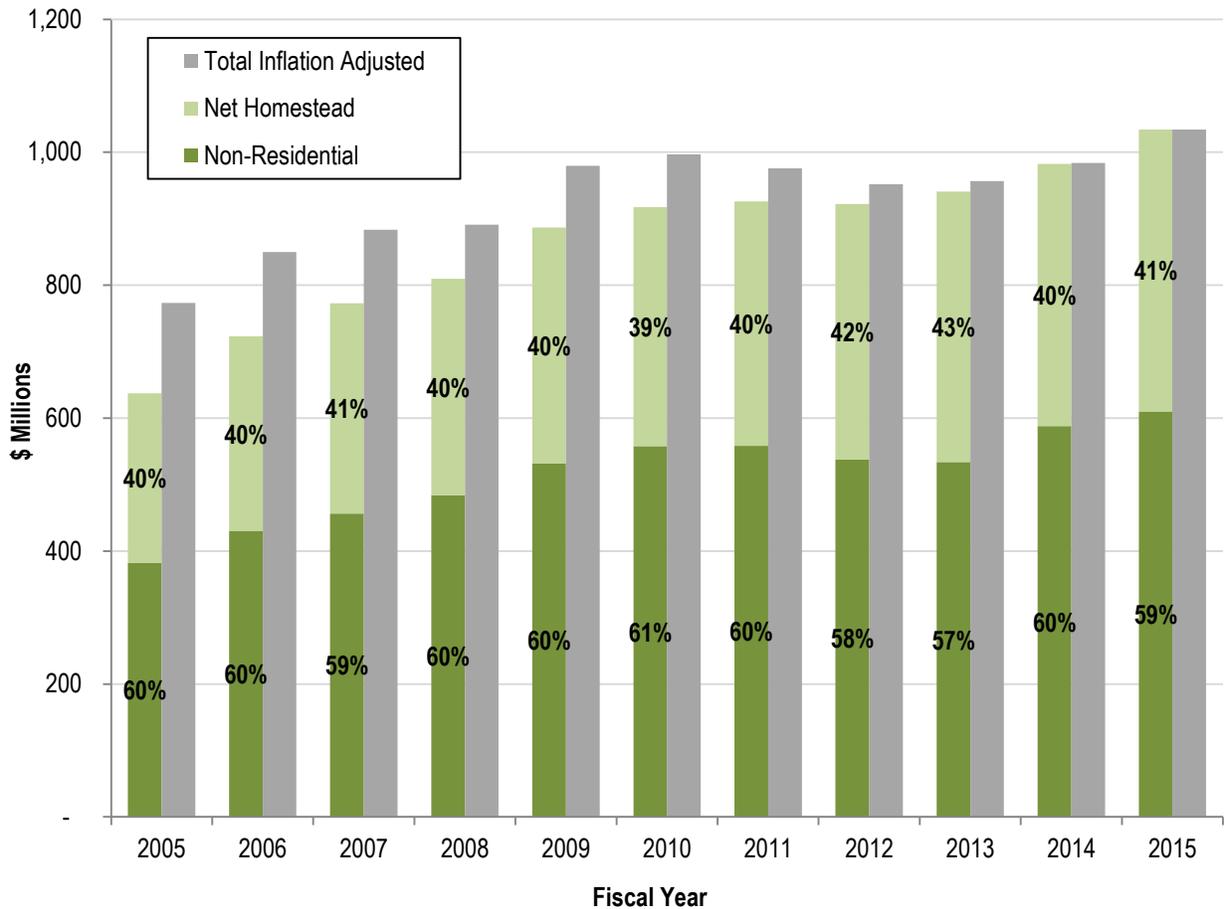
Of the total education property tax revenue in fiscal year 2015, 59 percent (\$610.2 million) came from the non-residential property tax and 41 percent (\$423.8 million) was collected from homestead taxpayers (see Figure 37). Of the total homestead portion, 65.2 percent (\$276.4 million) was based on the value of the homestead property and 34.8 percent (\$147.4 million) was based on household income. Overall, 14.3 percent of total education property tax revenue was based on household income and the remaining 85.7 percent on the fair market value of property.

That breakdown is especially important because it shows that the majority of the tax is paid based on property values. Property values depend on the real estate market cycle, which is not always coincident with general economic cycles, providing diversity in sources of state revenue over time. The delay caused by using three years' of sales to determine current property tax values also helps to make the Education Property Tax a more predictable and stable revenue source, as it dampens short-term fluctuations in value. It is worth noting, however, that property tax rates increase to meet the need for education funding as requested by local school districts.

Inflation-adjusted revenues from the Education Property Tax increased 2.9 percent per year over the 10-year study period — from \$773 million in 2005 to \$1,034 million in 2015 (see Figure 38). The portion of the total that comes from homestead taxpayers fluctuated only slightly around 40 percent. Reliance on property tax revenue has grown due to a combination of increased spending for education — despite the 14 percent decline in the number of children under 18 years of age in the state — and slower growth in non-property revenues to the education funding system.

<sup>13</sup> The \$1,034 million property tax revenue does not include the education portion of the circuit breaker Homeowner Rebate program. This program depends on both the municipal and education property tax bill and limits the total property tax burden to 5 percent of household incomes under \$47,000. See the section *Property Tax Circuit Breaker Programs*. The municipal portion of the tax above the circuit breaker cap is refunded from the general fund.

**Figure 38. Statewide Education Property Tax Revenue, FY 2005 – 2015**



**d. Adjustments to the Education Property Tax**

In fiscal year 2015, 110,358 households — 66 percent of the 167,025 homestead parcels — received some type of property tax adjustment. The adjustments are based on the tax as a percentage of household income, but a number of exceptions lead to many households paying both on income and value, resulting in the high portion paid at least partially on value.

- The tax based on household income is only for the tax due on the house site (house and adjoining 2 acres), not the entire homestead parcel. Homeowners with larger parcels pay the Education Property Tax on the value of the property beyond the house site. Such households make up approximately 30 percent of those qualifying for an adjustment or just over 33,000 households.
- The property tax adjustment is capped at \$8,000 per year. Homesteads pay the tax based on property value for any amount over this threshold.
- If household income is less than \$90,000, the portion of the tax that may be subject to income sensitivity tax is limited to the tax due on the first \$500,000 of house site value. Households pay the Education Property Tax on values greater than the threshold. In fiscal year 2015, there were 1,213 of those households. Households with incomes greater than \$90,000 but less than about \$108,889 in fiscal year 2015 receive a partial benefit, paying

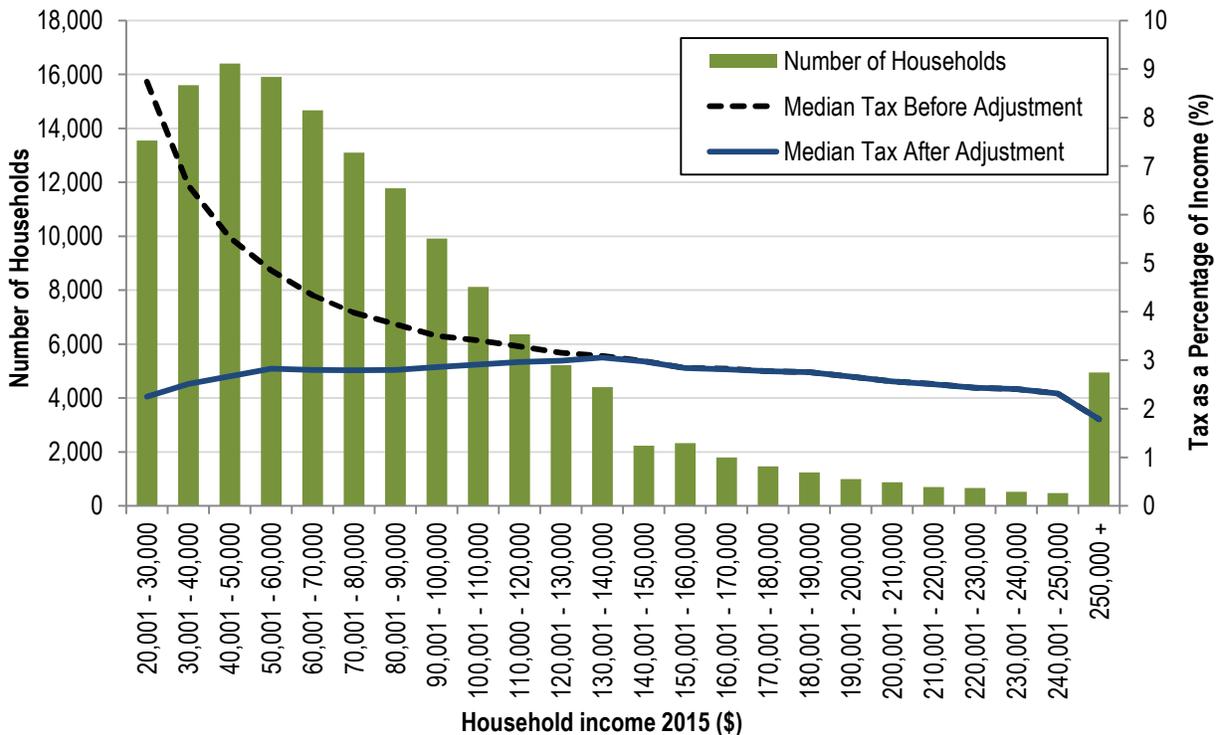
property tax based on income for the first \$200,000 of house-site value,<sup>14</sup> and paying the remainder above the threshold based on value. As a result, 5,211 households pay education property taxes based on both income and property value. The limits on household income for partial adjustment fluctuate from year to year based on the relationship between the income and property value based rates.

- Taxpayers with household income less than \$47,000 may reduce their house site value by a flat \$15,000 if it is more advantageous than paying based on household income. In fiscal year 2015, 7,425 households used this method.

The several types of adjustments demonstrate the complex nature of the system. It is likely that between 40 percent and 50 percent of homesteads pay the Education Property Tax exclusively as a percentage of their household income, and up to 20 percent pay a hybrid tax based on income and value. The remaining 34 percent of homesteads pay based on value alone.

The Education Property Tax adjustments have a noticeable impact on the net homestead property tax paid relative to the gross property tax (see Figure 39). The bars in the figure represent the number of homesteads in each household income category. The two lines show the education tax as a percentage of household income before and after the application of the property tax adjustment. The difference between the two lines is the effect of the education property tax adjustments. The statewide Education Property Tax is relatively proportional, or flat, across the income distribution.

**Figure 39. Education Tax as a Percentage of Household Income, CY 2015**



<sup>14</sup> The house-site value eligible for taxation based on income was increased to \$250,000 in fiscal year 2016.

#### **e. Property Tax Circuit Breaker Programs**

In addition to the income sensitivity provisions for the Education Property Tax, the state has two additional programs intended to offer property tax relief to homeowners and renters on their total property tax bill (consisting of the statewide Education Property Tax and municipal property taxes). These are the Homeowner Rebate Program and the Renter Rebate Program that cap property taxes for households with incomes below \$47,000 (see Table 26).

**Table 26. Homeowner and Renter Rebate Program Thresholds**

Household Income	Property Tax Cap (%)
\$0 to \$9,999	2
\$10,000 to \$24,999	4.5
\$25,000 to \$47,000	5

The Homeowner Rebate program is a tiered cap for total property taxes, both education and municipal. The 35,548 households who qualify for this benefit are a subset of those who pay based on household income for the statewide education property tax.

The Renter Rebate program uses the same household income tiers and caps applied to the portion of rent (21 percent) deemed to be property tax annually. In theory, landlords pass along the full amount of property tax to tenants in the rental rate. In fiscal year 2015, 13,505 households received this benefit. The renter rebate program is administered through the state income tax return in which renters apply for a rebate check.

#### **f. Education Property Tax Expenditures**

In addition to the property tax exemptions valued at \$125.2 million, a number of property tax expenditures occur through programs such as Tax Increment Financing (TIF) districts (\$3.8 million) and the Use Value Appraisal Program (Current Use) (\$45 million) that reduce education property tax revenues. As of October 2016, the Current Use program in Vermont applied to 18,400 parcels comprising 2.4 million acres of land, 40 percent of the total acreage in Vermont. Together these programs reduced education property tax revenues by \$174 million in fiscal year 2015 or 17 percent of the amount collected.

#### **g. State Comparisons**

The unique nature of the statewide Education Property Tax makes it difficult to compare Vermont's system to that of other states. Contained in this report are two approaches to multistate comparisons. The first approach ranks the tax by state on a per capita basis and per \$1,000 of personal income using survey data of all the states from the Census Bureau. Since fiscal year 2008 when the Census Bureau began reporting net property tax bills, the income-sensitized education property taxes have been reflected in the aggregate Census data. This vastly improves the comparability of the data. The second approach uses representative taxpayers to calculate tax liabilities for hypothetical households. Those full results are presented in Appendix D.

Among the New England states and New York, property taxes rank on the high side compared to the rest of the nation. Vermont ranks sixth nationally in terms of net property taxes paid per person; Connecticut, New Hampshire, and New York rank higher. Vermont ranks third nationally

in terms of net property tax paid per \$1,000 of personal income; only New Hampshire ranks higher among the New England states and New York (see Table 27).

Another concept to consider when reviewing property taxes is land use. States whose populations are similar to Vermont's, including Wyoming, Montana, North Dakota, and South Dakota, have large stores of natural resources, the extraction of which is taxed, enabling an offset of taxes on income, sales and property for citizens in these states.

**Table 27. National Property Tax Rank across New England and New York**

State	Property Tax Rank	
	Per Capita	Per \$1,000
Connecticut	3	9
Maine	12	5
Massachusetts	9	13
New Hampshire	4	2
New York	5	6
Rhode Island	7	4
<b>Vermont</b>	<b>6</b>	<b>3</b>

## 2. Other Statewide Property Taxes

### a. Property Transfer Tax

Vermont imposes a tax on the transfer of real property located within the state. The tax only applies to an “arms-length” sale from a buyer to a seller. The tax is on the value of the transfer, or the price paid. In Vermont, the purchaser is responsible for remitting the tax to the state.

#### 1). Tax Rate

The Property Transfer Tax rate is a flat 1.25 percent of the value of the sale, with exceptions for primary residences and special types of mortgage assistance. If the property is a primary residence, a lower 0.5 percent tax rate applies to the first \$100,000 of property value, and the 1.25 percent applies to any greater value (see Table 28). Purchases made with government mortgage assistance have an exemption for the first \$110,000 of property purchased. Any property value over the threshold is taxed at the flat rate of 1.25 percent.

In fiscal year 2017, a Clean Water Fund Surcharge of 0.2 percent was temporarily added to the Property Transfer Tax. The surcharge applies to the value of primary residences and government mortgage assistance greater than the existing thresholds as well as all other types of transfers.

**Table 28. The Structure of the Property Transfer Tax**

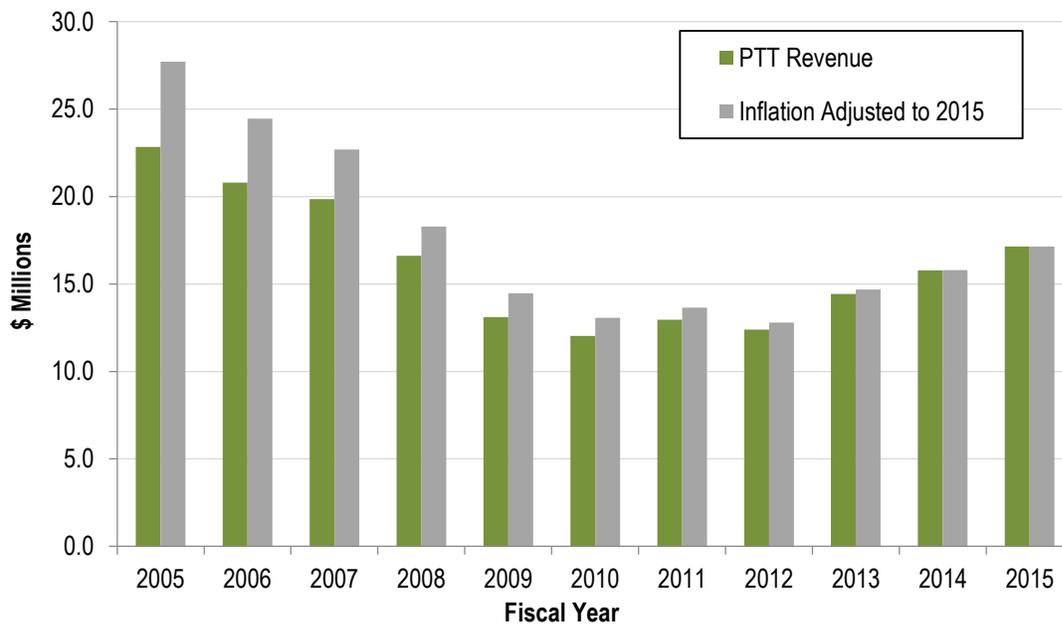
Property Type	Threshold and Rate	Rate over and Clean Water Surcharge (0.2%)*
Principal Residence	0.50% first \$100K	1.25% + 0.2%
VHFA, VCTF, USDA mortgage assistance	No tax first \$110K	1.25% plus (0.2%* over \$200k)
All Other		1.25% + 0.2%

\*Clean Water Surcharge added in FY 2017

**2). Revenue**

Revenue in fiscal year 2015 from the Property Transfer Tax was \$17.2 million, a decline in both actual and inflation-adjusted dollars from the amounts collected in fiscal year 2005 (see Figure 40). The decline and more recent slight recovery of property transfer tax revenues reflects the declining real estate sales leading up to — and during — the Great Recession. Part of the property transfer tax revenue in Vermont goes to the General Fund, and some goes to the Vermont Housing and Conservation Trust Fund.

**Figure 40. Revenue from the Property Transfer Tax, FY 2005 to 2015**



**3). State Comparisons**

Thirty-seven states and D.C. have real estate transfer taxes ranging from 0.01 percent to 2.625 percent, assessed at the local, county or state level. Among the New England states and New York, all states have a property transfer tax at the state level, and both Massachusetts and New York impose a county-level tax as well (see Table 29). Only Connecticut and New Hampshire have transfer tax rates as high as or higher than Vermont.

**Table 29. Property Transfer Tax Rates in the New England States and New York**

State	State Tax
Connecticut	Residential Property = 0.75% up to \$800K and 1.25% over, Non-Residential = 1.25%
Maine	0.44%
Massachusetts	0.456%, plus county tax
New Hampshire	1.5% on each the buyer and seller
New York	0.4% up to \$1 million and 1.4% over, Plus county and local tax
Rhode Island	0.40%
Vermont	Primary Residence = 0.5% first \$100K and 1.25% over All other = 1.25%

### c. Other Property Taxes

Other property taxes consist of the Land Gains Tax, the Land Use Change Tax, the Telephone Business Tax, and a few others noted below. Revenues from other property taxes fell from \$40.0 million in fiscal year 2005 to \$28.1 million in fiscal year 2015, or by 0.5 percent per year after adjusting for inflation.

#### 1) Land Gains Tax

The Land Gains Tax is imposed on the gain made from the sale of land located in Vermont and held by the seller for less than six years. The rate is inversely proportional to the holding period and ranges between 5 percent and 80 percent of the gain. Revenue has declined from \$5.7 million in fiscal year 2005 to \$1.5 million in fiscal year 2015.

#### 2) Land Use Change Tax

The Land Use Change tax is applied when land enrolled in the Use Value Appraisal Program (“Current Use”) is developed. The tax is imposed at a rate of 10 percent of the full fair market value of the land that is developed. The tax is due when the land is removed from the program and the owner removes the lien. When an owner withdraws land but does not remove the lien, the tax is due later, when the lien is removed or the land is developed. Land will be valued at the time it is withdrawn, even if the tax is not imminently due. If only a portion of land is withdrawn, the portion will be valued as a separate parcel. Revenues in fiscal year 2005 and fiscal year 2015 were \$0.8 and \$0.5 million respectively.

#### 3) Solar Property Tax

Solar photovoltaic plants in Vermont are potentially subject to a tax on plant capacity and municipal property tax. Depending on several factors, a plant can be subject to both taxes, one of the taxes, or be exempt from both taxes. The Solar Energy Capacity Tax is on operating solar plants with a plant capacity of 50 kW or more. The tax is imposed at a rate of \$4.00 per kW of plant capacity. Solar plants with a plant capacity of less than 50 kW and are (1) on a net-metered system, or (2) off grid and only provide power to one property, are exempt from both municipal and education property taxes. Municipalities may also vote to exempt some solar plants from municipal property tax. State revenue in fiscal year 2015 was \$0.2 million but is forecasted to grow with the growth in photovoltaics.

#### **4) Wind-Powered Electric Generating Tax**

The tax is an alternative education property tax on buildings and fixtures used directly and exclusively in the generation of electrical energy from wind power with a capacity of at least one megawatt. The tax rate is \$0.003 per kilowatt of electrical energy produced. Buildings and fixtures taxed under this section will be exempt from the common level of appraisal for the municipality. Revenue in fiscal year 2015 was \$0.9 million. Growth is anticipated.

#### **5) Railroad Tax**

The tax is assessed on the appraised value of property and corporate franchise of each railroad company located in whole or in part within Vermont. Revenue is split between the state and the town where the property is located. State revenue has been constant at \$0.1 million from fiscal year 2005 to fiscal year 2015.

#### **6) Telephone Business Taxes**

The Telephone Personal Property Tax, sometimes called the “telephone gross receipts tax,” is paid by telephone companies. The tax is 2.37 percent of the net value of all telephone personal property in Vermont. The Telephone Company Receipts Tax is an alternative tax that may be elected in lieu of the property tax for companies with less than \$50 million in gross operating receipts. The tax is 2.25 percent to 5.25 percent of gross operating revenue. Revenues generated in fiscal year 2005 and fiscal year 2015, revenues were \$10.1 and \$7.5 million from the Telephone Property Tax respectively and \$0.4 and \$0.2 million from the Telephone Company Receipts Tax. Revenues have decreased over the 10-year study period.

## **IV. HOW DEMOGRAPHICS AFFECT TAXES PAID IN VERMONT**

Vermont's population is older than that of every other state in the country except Maine. Going forward, population projections suggest that Vermont will continue to have an older population than most other states. That age distribution has implications for state revenues, particularly over the next 10 to 15 years as baby boomers move from being active workers who pay substantial taxes to retirees who pay less in taxes.

Middle-aged and older workers provide the bulk of Vermont taxes and revenues because they generally are in the peak years for earnings and housing values, and their consumption is relatively high as well. A large part of Vermont's tax revenue comes from the income taxes, property taxes, and consumption taxes paid by people in their late 40s to early 60s.

Changing demographics, however, suggest that middle-aged and older workers will shrink as a share of the population in Vermont over the coming decades. According to population estimates from the U.S. Department of the Census, people in the age group 45 to 64 made up almost 29 percent of Vermont's population in 2005 and almost 30 percent of Vermont's population in 2015. By 2020, however, people 45 to 64 years of age are projected to have declined to 27 percent of the population, dropping further to about 23 percent by 2030.<sup>15</sup>

The current bulge in people 45 to 64 years of age, driven by the baby boomers, provided almost 56 percent of total Vermont income taxes paid by Vermont residents in 2014, the most recent year for which data are available on the age of tax filers. In addition, they paid almost 49 percent of total net property taxes of homesteaders in 2015. Because that age group — particularly households of people 45 to 54 — spends relatively large amounts on taxable items such as housing, cars, and meals away from home, they also provide a good amount of consumption tax revenue.

### **A. Vermont Income Taxes by Age Group**

In 2014, the Vermont Department of Taxes received 320,447 tax returns from Vermont residents. Of those, 61,906, or about 19 percent, came from tax filers in the age group 45-54, and another 59,569, or almost 19 percent, came from tax filers in the age group 55 to 64 (see Figure 41). (The age of the primary tax filer determines the age group in which the tax return is placed.) Federal adjusted gross income (AGI), on average, was largest for the 33,104 tax filers in the age group 65 to 74 at about \$88,000. Filers age 45 to 64 have federal AGI of about \$77,000 on average.

#### **1. Progressivity of Income Taxes Paid Across Age Groups**

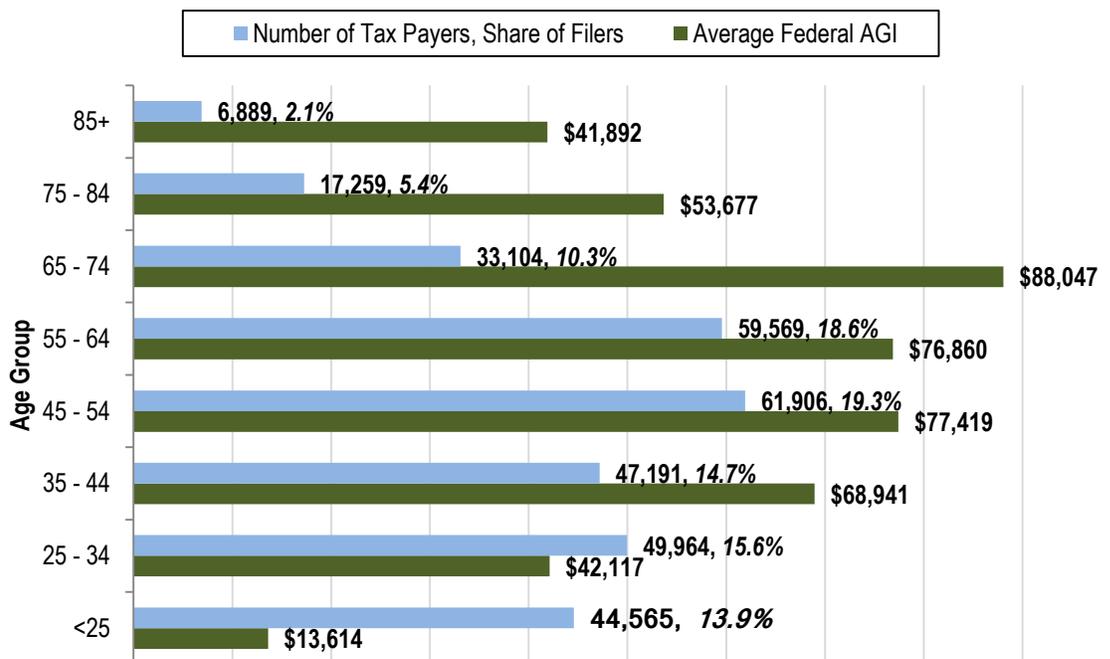
Vermont's progressive income tax leads to higher-income tax filers paying a greater share of income in taxes than lower-income tax filers, but federal AGI is not the tax base for the Vermont income tax. Instead, federal AGI is adjusted to account for different rules applying to some deductions as well as state of residency when the income was earned. For the age group 65 to 74, for example, a greater share of federal AGI comes from income earned when the taxpayer resided out-of-state and is not subject to Vermont income tax. As a result, tax filers age 65 to 74 received 15 percent of federal AGI in Vermont in 2014 but paid only 12.8 percent of the total Vermont income tax (see Figure 42). On average, they paid about \$2,400 in income taxes, and

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<sup>15</sup> Consensus JFO-Administration estimates, fall 2016.

their average effective tax rate was 2.7 percent. The many tax filers in the age group 45 to 54 received almost 25 percent of federal AGI in Vermont, and paid about \$2,900 in state income taxes at an average effective tax rate of 3.7 percent. Similar statistics apply to tax filers age 55 to 64.

**Figure 41. Share and Number of Tax Filers and Average Federal AGI by Age Group, 2014**



Source: Vermont Department of Taxes, Chainbridge model

Another age group of tax filers had relatively high average federal AGI in 2014: tax filers 35 to 44 years of age. Their average federal AGI was about \$69,000, and they paid about 17 percent of all Vermont income taxes in 2014. Their average effective tax rate — taxes paid divided by federal AGI — was 3.2 percent. Tax filers 35 to 44 years of age likely have more deductions because they have children living at home and larger mortgage payments, reducing their effective tax rate and resulting revenues to the state.

As people age out of their working years, fewer of them have income that is large enough to require filing income tax returns. Moreover, some of them die or move out of state. Nevertheless, almost one-fifth of income taxes come from people age 65 and older. The share of income tax revenues paid by tax filers age 65 to 74 was about 13 percent in 2014; the group was about 10 percent of filers. Income taxes from the age group 75 to 84 represented almost 5 percent of total income taxes and just over 5 percent of tax filers. Tax returns from the age group 85 years old and older represented 1.4 percent of total Vermont income taxes paid by Vermont residents and 2.1 percent of tax filers.

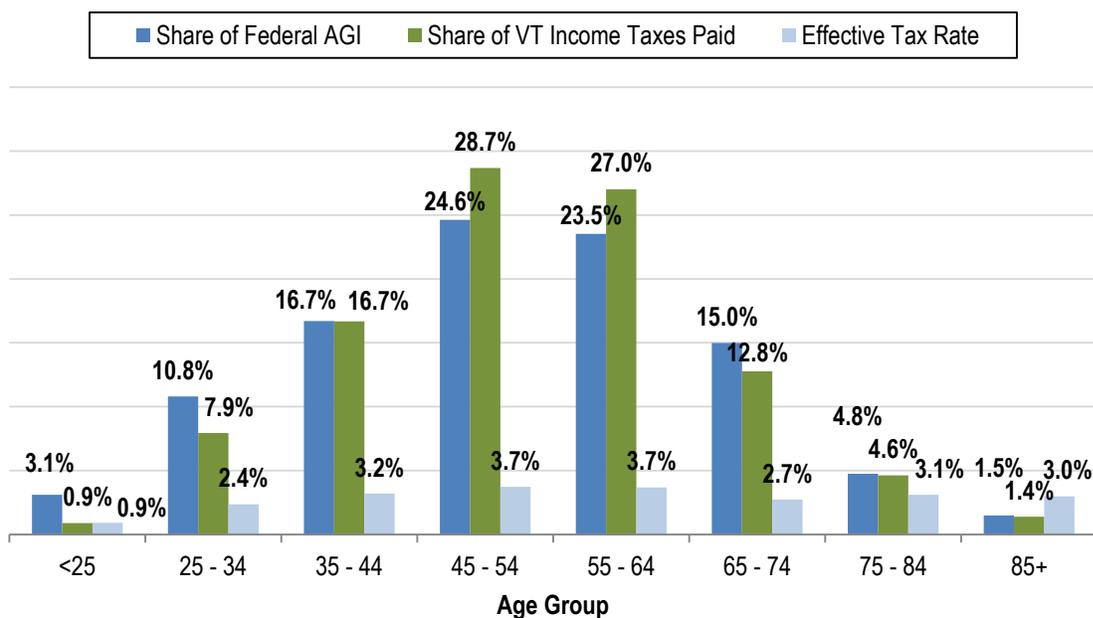
The average effective tax rate — 3.2 percent across all tax filers in 2014 — generally varies over the age groups as expected given the rise and fall in total income over a lifetime and Vermont’s progressive income tax structure. For example, the average effective Vermont income tax rate paid by tax filers who were younger than 25 in 2013 was 0.9 percent (again see Figure 42). The average effective rate rises to 3.7 percent for tax filers who were 45 to 54 years

of age and 55 to 64 years of age. The rate dropped a bit to 3.1 percent for tax filers age 75 to 84 years of age and to 3.0 percent for tax filers age 85 or older. The one age group that does not fit the pattern is the group age 65 to 74 with their significant share of AGI earned as out-of-state residents, with an average effective rate of 2.7 percent.

The marginal rate paid on the last dollar of income by tax filers in the highest tax bracket is 8.95 percent. That rate would apply to income greater than \$411,500 in 2015 for tax filers who were married and filed a joint tax return. Only a small number of the tax filers in the top decile would pay the top marginal rate on some of their income.

As discussed in the Overview of the Economic Climate and Vermont’s Demography, the expected large increase in the number and percentage of people 65 years of age and older will have notable implications for income tax revenue in coming years. To the extent that older people stay in the workforce longer and remain active participants in Vermont’s economy, however, they will continue to contribute income taxes to state revenues at higher levels.

**Figure 42. Shares of Federal AGI and Vermont Income Taxes Paid by Age Group, 2014**



Source: Vermont Department of Taxes, Chainbridge model

## 2. Diversity within Each Age Group

Income from wages, assets, and pensions varies over the life cycle, generally starting low and reaching a peak in the years prior to retirement. The distribution of the comprehensive measure of income — federal AGI — illustrates that diversity across the age groups.

To describe the distribution of households across the income spectrum, resident households are arranged from low income to high income. Then the number of tax filing households is divided into 10 equal parts, each representing one-tenth of the resident income tax filers in Vermont. Income cut-offs for each of the federal AGI deciles are in Table 30.

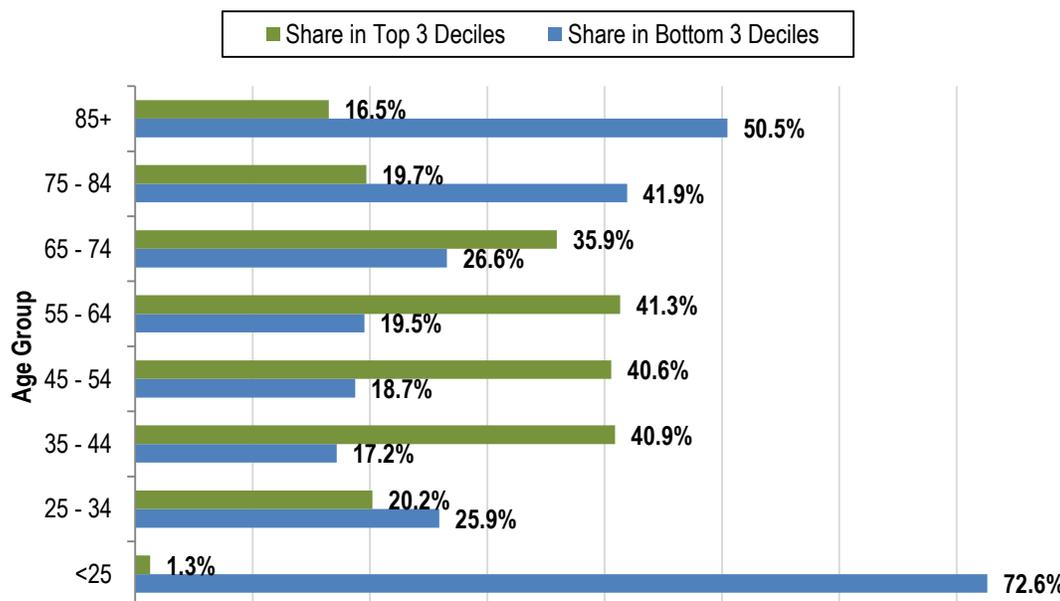
**Table 30. Income Corresponding to Deciles, 2014**

Decile	AGI Grouping
1	<\$4,797
2	\$4,798 - \$11,216
3	\$11,217 - \$18,330
4	\$18,331 - \$26,024
5	\$26,025 - \$34,407
6	\$34,408 - \$45,243
7	\$45,244 - \$60,166
8	\$60,167 - \$80,750
9	\$80,751 - \$113,957
10	>\$113,958

Federal AGI includes all sources of income such as earnings, payments from pensions or Social Security, income from rental property, interest and dividend income, and any capital gains on assets. It is not limited to income derived from Vermont alone but refers to income received by Vermont tax filers.

Across Vermont tax filers of all ages, 30 percent fall into the lowest three deciles and 30 percent fall into the top three deciles, but the share of tax filers with income in the lower and upper deciles of federal AGI varies across age groups (see Figure 43). As expected, younger tax filers tend to be concentrated in the lower income deciles, middle-aged tax filers generally in their top earnings years tend to be concentrated in the upper deciles, and older tax filers increasingly fall into the lowest deciles or no longer file tax returns. Among tax filers who were age 25 to 34 in 2014, 73 percent had federal AGI in the lowest three deciles, and only about 1 percent had income in the top three deciles.

**Figure 43. Shares of Vermont Tax Filers in the Bottom Three and Top Three Deciles of Federal AGI by Age Group, 2014**



Source: Vermont Department of Taxes, Chainbridge model

Among tax filers in their prime earning years from age 35 to 64, about 18 percent were in the lowest three deciles and about 41 percent were in the top three deciles.

The snapshot in 2014 of the income of older taxpayers, age 65 and above, illustrates how income falls as people age. About 27 percent of tax filers age 65 to 74 were in the lowest three deciles, but that share was about 50 percent for tax filers age 85 and up. Similarly, 36 percent of tax filers age 65 to 74 were in the top three deciles, but only about 17 percent of tax filers age 85 and above. Part of that decline in income may occur as one member of the household dies and no longer receives Social Security benefits or pension income.

## **B. Consumption Taxes Paid by Age Group**

Consumption taxes in Vermont fall on both residents and non-residents when they purchase certain goods in the state. The focus here is on consumption taxes paid by Vermont residents. The Consumer Expenditure Survey is a nationwide survey administered by the U.S. Bureau of Labor Statistics that provides information on the buying habits of America's consumers. To illustrate how consumption taxes vary across age groups, this analysis looked at nationwide consumption by age group and then noted some overall differences between consumption patterns in the U.S. as a whole and consumption patterns in the Northeastern U.S.

The categories examined in the Consumer Expenditure Survey do not capture all the different types of goods subject to Vermont consumption taxes. The following categories correspond to some degree to the items that are taxed in Vermont:

- Food away from home
- Owned dwellings
- Utilities, fuels, and public services
- Vehicle purchases
- Gasoline and motor oil
- Health care
- Tobacco products and smoking supplies
- Life and other personal insurance

Comparing amounts spent on different categories of consumption goods relative to after-tax income by age group indicates which age groups pay more in consumption taxes as a share of income. Comparing the share of after-tax income spent on different categories of consumption goods by age group suggests whether the consumption taxes paid hit some age groups more than others.

The amount spent on different categories of goods by age group as reported in the Consumer Expenditure Survey suggests that households with a head 35 to 44 years of age spend the most on food away from home. Households in that age group spent \$3,643 on food away from home in 2014, whereas households age 65 and older spent \$2,088 and households headed by a person under age 25 spent \$2,128.

As a percentage of income, however, households in the youngest age group spent the most on food away from home at 7.3 percent (see Table 31). The proportion spent by households age 55 to 64 was lowest at 4.3 percent, perhaps because their incomes are relatively high and most no longer have children to feed. Older households age 65 years or above spent 4.9 percent of their after-tax income on food away from home. Younger households also spend more on vehicle purchases and gasoline as a share of income than do older households.

A different pattern emerges for spending on health care. Health care spending includes health insurance, medical services and supplies, and drugs. As expected, older households spent the most on health care in 2014 at \$5,796, and younger households under 25 years of age spent the least at \$1,047. As a share of after-tax income, older households spent about 13.6 percent on health care, much higher than the average for any other age group. Older households also spend a greater share of their income on utilities, fuels, and public services than do younger households.

Spending on food away from home and health care illustrate two different patterns in consumption spending by age of household head (see Figure 44). Consumption taxes on food away from home will be a greater portion of after-tax income for the youngest households, whereas consumption taxes on health care will be a greater portion of after-tax income for the oldest households.

**Spending on Owned Dwellings.** Spending on owned dwellings is one of the larger expenditures among the categories of interest. It is not subject to a consumption tax or property tax directly, but it does indicate household spending on housing and related goods in general. Nationwide, the portion of after-tax income spent on owned dwellings is largest for households with a head 65 years of age or older at 12.9 percent. The property tax would likely be highly regressive if Vermont did not use income adjustments to reduce those taxes for low- and middle-income people. Spending on utilities, fuels, and public services is a relatively large share of after-tax income for those older households as well.

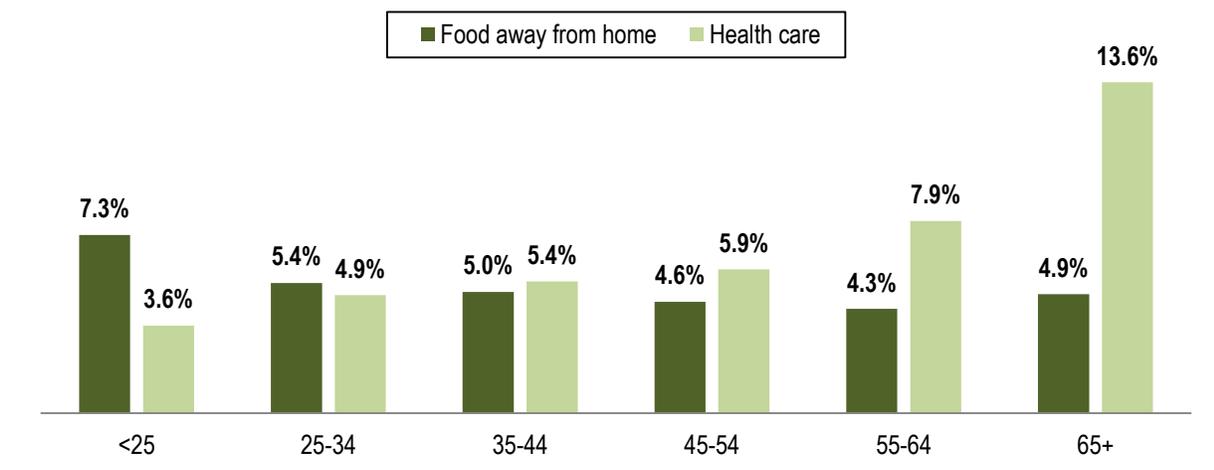
**Table 31. Share of After-Tax Income in the U.S. Spent on Consumption Categories by Age Group, 2014**

Household Income	<25	25-34	35-44	45-54	55-64	65+
Income after taxes	\$28,986	\$56,052	\$72,891	\$77,125	\$63,815	\$42,509
Shares of after-tax income spent (%)						
Food away from home	7.3	5.4	5.0	4.6	4.3	4.9
Alcoholic beverages	1.0	1.0	0.7	0.7	0.8	1.3
Owned dwellings	3.9	7.6	10.6	10.8	10.8	12.9
Utilities, fuels, and public services	6.9	5.9	5.9	6.0	6.7	8.6
Vehicle purchases (net outlay)	9.7	7.3	5.9	5.9	5.6	5.7
Gasoline and motor oil	5.4	4.1	3.8	3.7	3.7	3.8
<b>Healthcare</b>	<b>3.6</b>	<b>4.9</b>	<b>5.4</b>	<b>5.9</b>	<b>7.9</b>	<b>13.6</b>
Tobacco products and smoking supplies	0.8	0.6	0.5	0.6	0.6	0.5
Life and other personal insurance	0.1	0.2	0.4	0.6	0.8	0.8

Sources: Consumer Expenditure Survey, 2014; JFO calculations

Of course, those data on spending apply to households across the United States. Information provided by the Bureau of Labor Statistics suggests that households in the Northeastern U.S. on average differ somewhat from the national average in income as well as some consumption categories. Unfortunately, the data do not specify differences between Vermont and the rest of the region.

**Figure 44. Shares of After-Tax Income in the U.S. Spent on Food Away from Home and Health Care by Age Group, 2014**



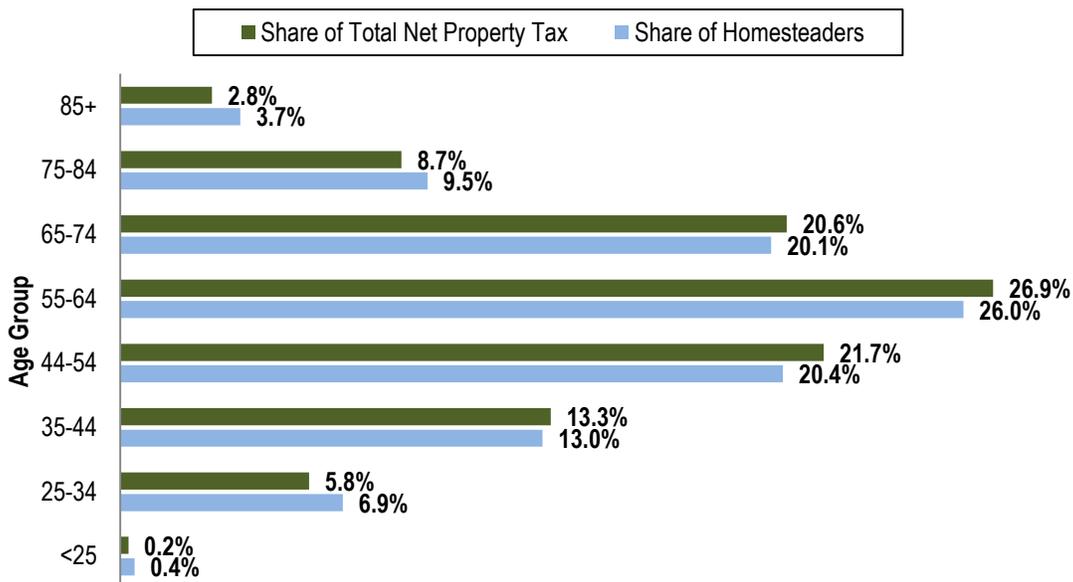
Source: Consumer Expenditure Survey, 2014; Joint Fiscal Office

Applying differences for the Northeast relative to the U.S. average may offer some insight. First, households in the Northeastern U.S. spend between 6 percent and 21 percent more on housing in general than average spending by households across the country. Households in the Northeast tend to spend a bit more on alcoholic beverages and a bit less on transportation and tobacco products. Spending in many other categories does not differ much from the national average. In any case, the results presented here are intended to be illustrative rather than precise.

### **C. Property Taxes Paid by Age Group**

To examine property taxes paid by age group, data on property taxes paid were matched to federal income tax returns to learn the age of the head of household. Not all property taxes could be matched to data on age and income, but the overall results should be representative. Matched data represent about \$579 million paid in total net property taxes in 2015. Total net property taxes include net municipal taxes as well as net homestead property taxes. Of that sum, households 45 to 64 years of age paid 48.6 percent of the total and represented 46.4 percent of homesteaders (see Figure 45). Older homesteaders 65 to 74 years of age paid 20.6 percent of total net property taxes and represented 20.1 percent of homesteaders.

**Figure 45. Shares of Homesteaders and Total Net Property Tax Paid by Age Group, 2015**

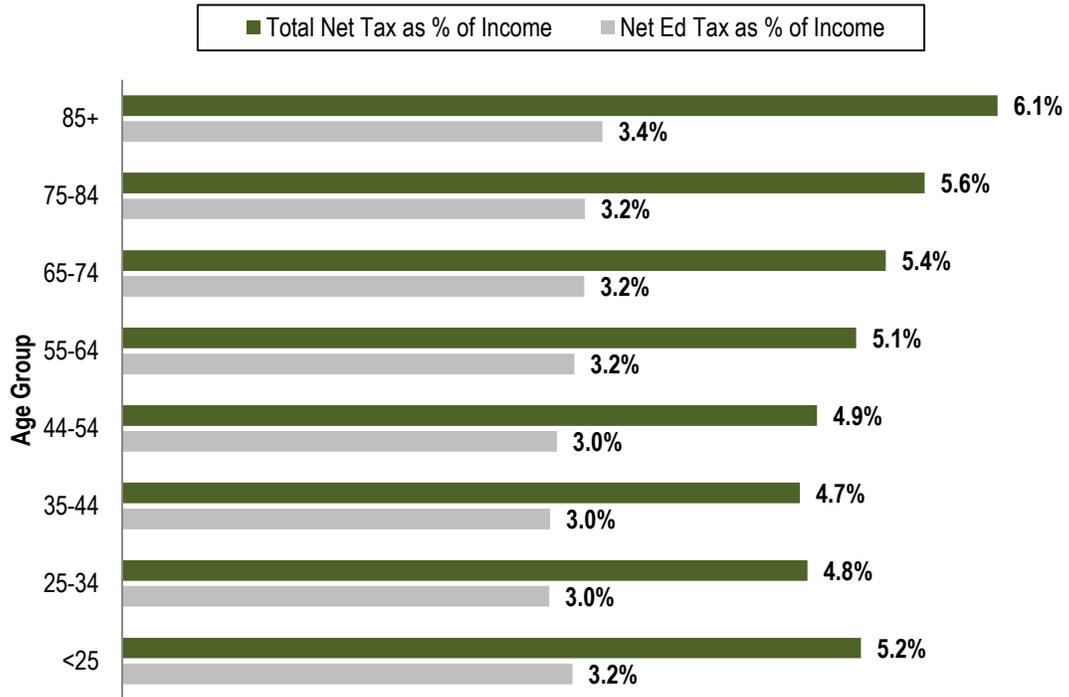


Source: Vermont Department of Taxes, Deb Brighton

As a share of income, the oldest homesteaders age 85 or older pay a slightly higher share of their income in total net property taxes than do younger and middle-age homesteaders. Homesteaders 85 years of age or older pay 3.4 percent of their income to net homestead property taxes (see Figure 46). Including net municipal property taxes as well raises that share to 6.1 percent. In contrast, homesteaders 45 to 54 years of age pay 3.0 percent of their income to net homestead property taxes and 4.9 percent to total net property taxes. Despite the income sensitivity provisions in Vermont’s property tax, older people pay a greater share of income to property taxes than do middle-aged people.

Overall, the net education property tax in Vermont is relatively flat as a share of income across age groups. But adding the municipal property tax to focus on the total net property tax unveils the perhaps less desirable result that the oldest and youngest homesteaders pay slightly higher shares of income than do middle-aged homesteaders.

**Figure 46. Average Homestead Property Tax as a Share of Income, By Age Group, 2015**



Source: Vermont Department of Taxes, Ad Hoc Associates

## V. REPRESENTATIVE HOUSEHOLD CASE STUDIES: SUMMARY FINDINGS

To analyze taxes for typical families across the 51 states and jurisdictions, seven representative households were created. The case studies are meant to reflect common household configurations and circumstances.

These hypothetical families represent various income levels, ages, family sizes, and living situations. They are made up of single individuals, married couples with dependent children, couples without children, and single-parent families. Retired and working-age households are included both with and without dependents. The income levels range from \$14,000 to over \$1.0 million with all but two under \$100,000 in total income. Many types of income are represented, including salaries and wages, Social Security income, rentals, capital gains, and retirement benefits. Some households are homeowners, and others are renters. The full details of these components are included in Tables 32 and 33.

**Table 32. Summary of Case Study Profiles**

Case Number	Filing Status	Number of Exemptions	Age	AGI (\$)
1	S	1	>65	14,000
2	S	1	<65	80,000
3	S	1	<65	130,000
4	MFS	3	<65	170,000
5	MFJ	2	<65	100,000
6	MFJ	4	<65	1,000,000
7	HOH	3	<65	25,000

This section compares the three significant areas of direct tax that affect families: the personal income tax, consumption taxes, and property taxes for the representative households in each of the 50 states and Washington D.C. The analysis does not include every tax levied in each jurisdiction, but rather focuses on the majority of direct taxes paid by most households. The goal for the representative case studies is to consistently capture and measure the major components of state and local taxes across the United States, thereby enabling a relative comparison.

### A. Income Tax

Income tax returns were prepared for all 44 states and jurisdictions with an income tax.<sup>16</sup> (Alaska, Florida, Nevada, Texas, Washington, and Wyoming do not tax personal income.) Taxes were calculated in New Hampshire and Tennessee for households with interest and dividend income, which are taxed in those states.

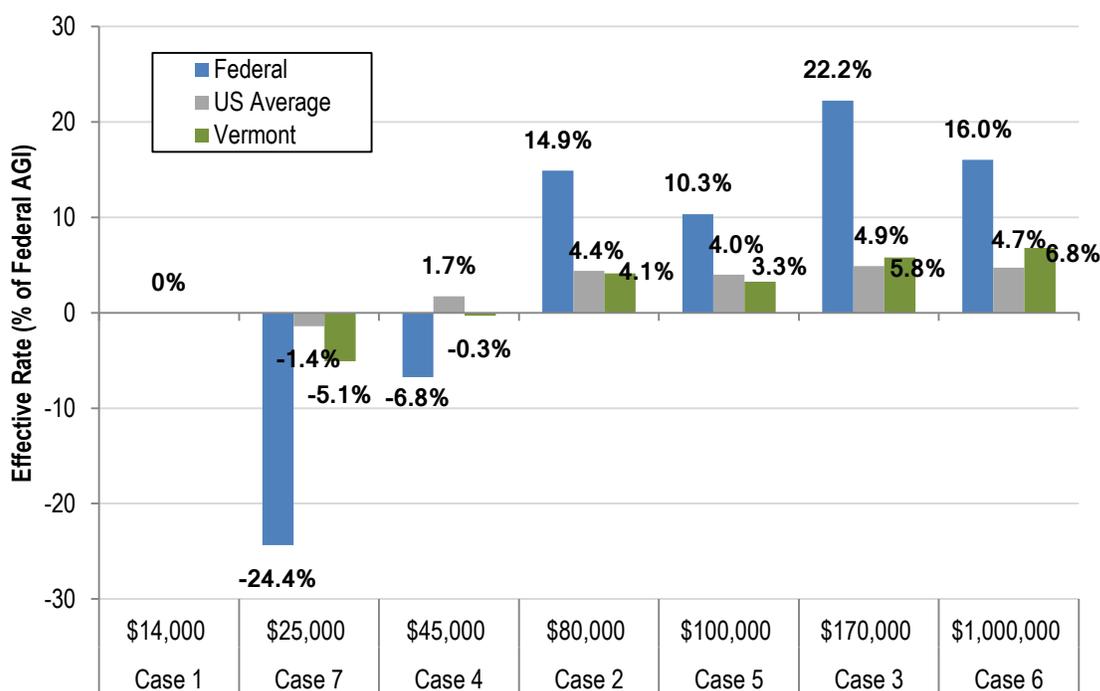
The full income tax return for each state enables detailed study of how states calculate taxable income, including exemptions and deductions — both standard and itemized — and how states treat typical income cases, such as the presence of 529 saving plans, Social Security income,

<sup>16</sup> Income taxes for the seven representative households in this study were calculated using Intuit ProSeries ® software.

child care expenses, and the earned income tax credit (EITC). Effective tax rates are calculated as total tax liability, including credits, divided by federal adjusted gross income (AGI). Only state-level taxes were analyzed. Property tax credits were not included in order to isolate income taxes from the other tax types.

The results reflect Vermont's highly progressive tax structure. Vermont ranks 38th and 41st for the low-income households: Case 7 (\$25,000) and Case 4 (\$45,000). The tax liabilities for the high-income households in Vermont were significantly greater than the U.S. average. Vermont ranks 11th and 8th respectively in income tax levels for these cases. For the middle-income cases, Vermont ranks slightly below the national average (see Figure 47).

**Figure 47. Variation in Income Tax Rates: Federal, U.S. State Average and Vermont's Effective Tax Rate**



**Table 33. Effective Income Tax Rates for Federal, U.S. Average, Vermont and the Highest and Lowest Ranking States across the Income Cases**

Case	AGI (\$)	Federal Rate (%)	Highest Ranking State		US Average Rate (%)	Lowest Ranking State		Vermont	
			State	Rate (%)		State	Rate (%)	Rate (%)	Rank
Case 7	25,000	-24.4	PA	2.8	-1.4	OR	-14.1	-5.1	38
Case 4	45,000	-6.8	KY	5.0	1.7	NY	-0.9	-0.3	41
Case 2	80,000	14.9	OR	6.7	4.4	ND	1.2	4.1	27
Case 5	100,000	10.3	OR	6.3	4.0	ND	0.9	3.3	32
Case 3	170,000	22.2	OR	8.1	4.9	ND	1.6	5.8	11
Case 6	1,000,000	16.0	CA	7.9	4.7	ND	0.7	6.8	8

The highest taxes are often found in Oregon, which does not levy a general sales tax; a larger portion of the revenue must be raised from income taxes. The lowest taxes are found in North Dakota, which raises 42 percent of tax revenue from license and other fees mainly on the energy industry and only 13 percent from property and income taxes. Variation in the states' performance across the cases is subsequently due to the treatment of the components analyzed; New York offers generous tax credits to low-income filers with children, as does Oregon. California heavily taxes high-income earners, by reducing itemized deductions, limiting exemptions, and applying high marginal rates at the top.

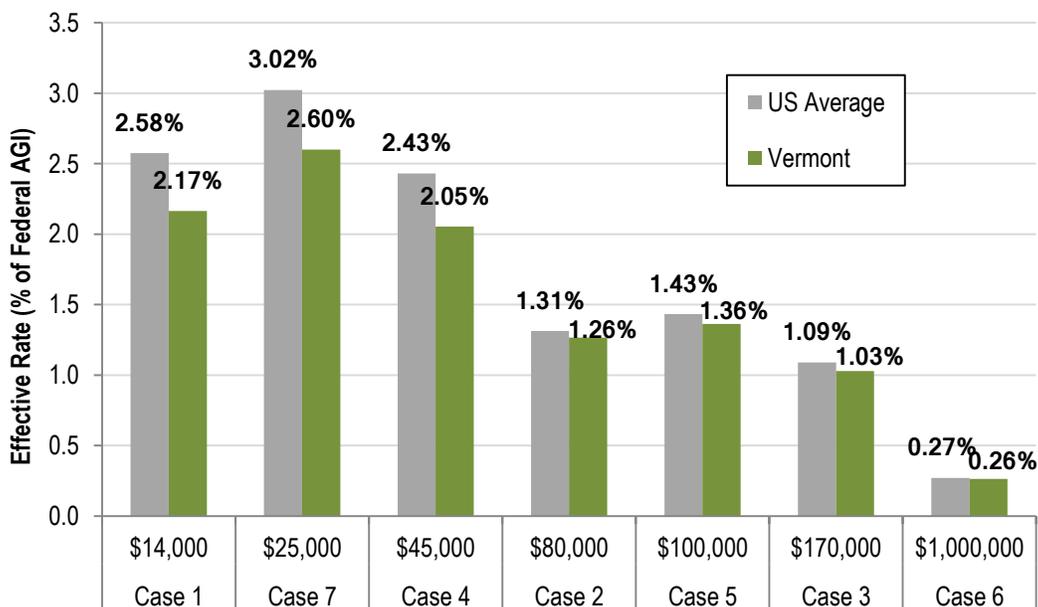
## B. Consumption Taxes

Consumption taxes levied by the 51 states and jurisdictions were compared by analyzing the tax rates and allowable exemptions in each taxing jurisdiction on the most commonly taxed purchased goods and services related to tangible personal property. In order to capture both local and state sales tax, a population-weighted local average rate was incorporated to yield an overall sales tax rate.

The consumption exemptions included are grocery, candy, soda, prepared food and meals, clothing, prescription and non-prescription drugs, alcohol, rooms and lodging, communication/telephone services, motor fuel, heating fuel, and electricity. The study does include differential tax rates for the identified tax categories (local differential rates were not captured).

The identified tax rates and exemptions were applied to an estimate of the items purchased annually by each type of household using the 2015 Consumer Expenditure Survey. Finally, to further investigate the level of sales tax on the individual cases, taxes paid are tabulated as a percentage of federal AGI

**Figure 48. Variation of Effective Sales Taxes as a Percentage of Federal AGI**



The results highlight the regressive nature of sales-based taxation (see Figure 48). Lower-income families spend a larger portion of their income on taxable consumption goods, and applying a flat tax to this consumption results in a regressive tax. As highlighted in Appendix D and summarized in Table 34, the majority of consumption by low-income households is spent on food, household expenses such as electricity, and vehicle expenses.

**Table 34. Summary of the Percentage of Federal AGI Spent on Taxable Expenditures across the Incomes Analyzed in the Case Study**

Consumption	Over 65	Low	Middle	High
	(14,000)	(\$25,000, \$45,000)	(\$80,000-170,000)	(1,000,000)
Grocery Food	16.4	12.9	3.7	0.7
Food Away From Home	6.2	6.2	3.4	0.7
Household Expenses	21.6	15.3	6.2	1.1
Clothing Footwear	2.8	4.9	1.5	0.4
Vehicle Expenses	8.2	16.3	7.1	1.2
Medicine/Personal Care	4.6	2.0	1.2	0.2

Vermont exempts significant necessities such as grocery food, clothing, and medications. This contributes to an effective sales tax rate lower than the national average. For higher-income payers who spend only about 1 percent of their AGI on exempt goods such as grocery items and clothing, the difference is not as striking. For those households, Vermont’s effective sales tax rate closely resembles the national average.

### C. Property Tax

All 51 jurisdictions levy property taxes on residential property. Property taxes depend on housing value, real estate tax rates, assessment levels, homeowner exemptions and credits. This study compares the average property tax as a percentage of the average owner-occupied house value in each state as derived from the U.S. Census data.

Because the analysis looks at averages, the effect of property tax exemptions and credits are distributed equally to households across the spectrum of all homeowners. In most states these benefits, which are primarily for low-income or elderly households, are a small percentage of the total tax. Vermont is an outlier both in the scope and scale of the property tax adjustments, and therefore the results were compared to calculations of actual Vermont property tax liability in fiscal year 2015 as well. The use of averages also prevents JFO from calculating a property tax amount for each of the case-study households in each state because it would be inaccurate.

The data indicate that effective average property tax rates range from 2.13 percent of home value in New Jersey to a low of 0.28 percent in Hawaii (see Table 35). The U.S. average rate is 1.08 percent. Vermont ranks 5<sup>th</sup> nationally with an effective average tax rate of 1.71 percent of home value across all “owner-occupied housing units.” This is a slightly different perspective than the usual Vermont analysis based on household income. Census data from fiscal year 2015, available for all 50 states, is the basis for this comparison. The Census data are net of the property tax adjustments and some of the circuit breaker payments for lower-income households. Vermont data do not reflect any direct payments to the households.

Because home values are fixed across the nation for the purposes of this comparison, property tax rates are reflective of the monetary tax on each home. The highest effective average property tax rates are found in New Jersey, New Hampshire, Illinois, and Wisconsin; the lowest in Hawaii, Alabama, Louisiana, and West Virginia. Complete national rankings can be found in Appendix D.

**Table 35. National Ranking of Average Effective Property Tax Rate**

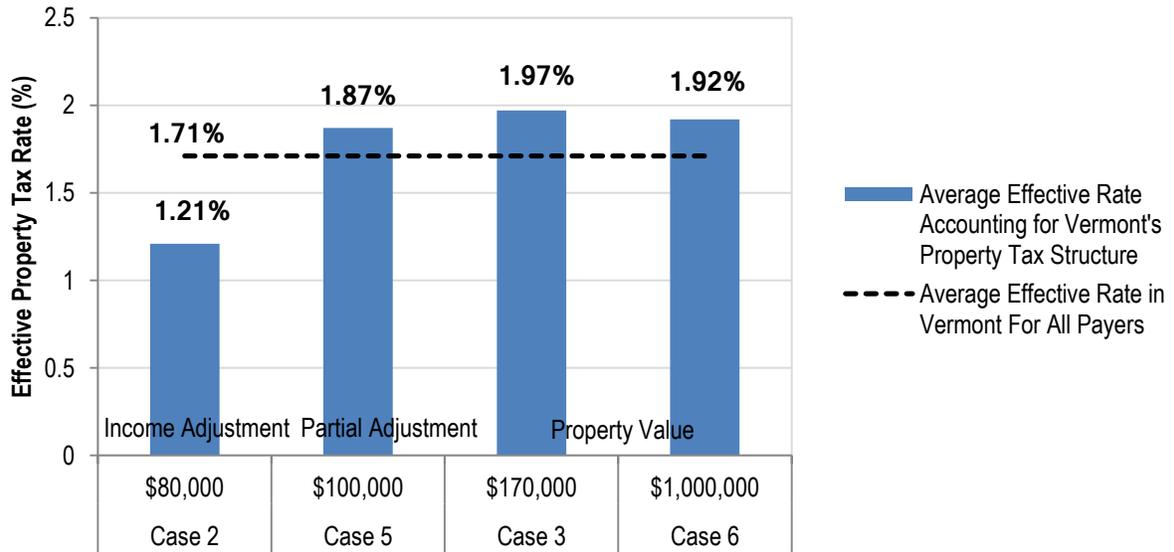
	State	Rate (%)	Rank
United States Average		1.08	-
Top	New Jersey	2.13	1
	Illinois	1.97	3
New England and New York State	Connecticut	1.65	6
	Massachusetts	1.13	18
	Maine	1.24	16
	New Hampshire	1.99	2
	New York	1.38	14
	Rhode Island	1.51	10
	<b>Vermont</b>	<b>1.71</b>	<b>5</b>
Lowest	Louisiana	0.48	49
	Alabama	0.38	50
	Hawaii	0.28	51

The Vermont property tax is income sensitized to ensure that lower income families do not pay property taxes exceeding a certain percentage of household income. The 2015 household income break point was \$90,000; households with income less than \$90,000 paid property tax based exclusively on their income. Households with income between \$90,000 and \$108,890 in 2015 paid tax on the first \$200,000 of home value based on their household income and tax on the remaining value based on the homestead property tax rate. Households with income above \$108,890 paid traditional property taxes based solely on home value. Vermont also identifies a non-resident household rate, but as this case study uses owner-occupied housing units, second homes are not included in the analysis.

Accounting for income sensitivity adjustments, the average effective property tax rate decreases to 1.21 percent of home value. Among homeowners for whom income sensitivity does not apply, the average rate is approximately 1.9 percent of home value (see Figure 49). Details on the calculation of the property tax paid by the individual taxpayers can be found in Appendix D.

As expected with averaging, taxes on homes of low-income households were overestimated, and taxes paid by higher-income owners of homes were underestimated. Overall, analysis based on aggregate real estate taxes and home values from the U.S. Census provides a reasonable metric for comparison of property tax levels across the cases and throughout the 51 states and jurisdictions.

**Figure 49. Average Effective Rate of Property Tax Paid Compared to Calculated Vermont Education and Municipal Property Tax in FY 2015**



## VI. LOOKING FORWARD

The Vermont Tax Study represents 10 years of tax and revenue policy during a period of economic change. Between 2005 and 2015, the nation fell into a deep recession, states took on a greater role in social service programs (most notably health care), and a significant portion of the population (baby-boomers) began to move into retirement.

Vermont would continue to benefit from regular analyses of its tax structure, including sustainability and competitiveness. At least three other subject areas warrant greater or continuing analysis:

- **Tax Incidence** – Tax and economic policy can improve with greater knowledge of who pays Vermont’s taxes, including how a tax relates to taxpayer income, type of household, and place of residence. Questions to be asked include whether producers or consumers pay business taxes, for example, or which households pay particular consumption taxes.
- **Changing Demographics** – Although this study begins to look at how the aging of Vermont’s population affects tax revenues, this continuing demographic trend warrants additional research, including its impacts on the state’s overall economy.
- **Business Cycle Fluctuation** – Policy makers in Vermont could benefit from better understanding how rising or falling GDP – the business cycle – affects taxpayers, revenues from particular taxes, total state revenues and Vermont’s economy.

## Acknowledgements

### Legislative Joint Fiscal Office

Stephen Klein, Chief Fiscal Officer  
Stephanie Barrett, Associate Fiscal Officer  
Maria Belliveau, Associate Fiscal Officer  
Catherine Benham, Associate Fiscal Officer  
Rebecca Buck, Staff Associate  
Dan Dickerson, Business Manager and Fiscal Analyst  
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Mark Perrault, Senior Fiscal Analyst  
Neil Schickner, Senior Fiscal Analyst  
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Stephanie Hume, Revenue Policy Analyst, Rhode Island Department of Revenue  
Tom Kavet, Kavet Rochler and Associates  
Tim Newcomb, Designer, Newcomb Studios  
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## Enabling Legislation

### 2016 Act No. 157 Sec. Q.2. VERMONT TAX STUDY

(a) The Joint Fiscal Office, with assistance from the Office of Legislative Council, and under the direction of the Joint Fiscal Committee, shall conduct a study of Vermont State taxes.

(b) The study shall:

(1) Analyze historical trends since 2005 in Vermont taxes as compared to other states, and compare the percentage of Vermont revenue from each State-level source to the percentage of revenue from each state-level source in other states.

(2) Analyze State tax levels per capita, per income level, or by incidence on typical Vermont families of a variety of incomes, and on typical Vermont business enterprises of a variety of sizes and types, and analyze trends in the taxpayer revenue base.

(3) Analyze cross-border tax policies and competitiveness with neighboring states, including:

(A) impacts on the pattern of retailing, the location of retail activity, and retail market share;

(B) impacts of retail sales tax rates and other related excise taxes, including on tobacco products, and to the extent data is available, on alcohol and gasoline; and

(C) the impact by business size, to the extent data is available.

(c) Based upon the data resulting from the study in subsection (b) of this section, the Joint Fiscal Office shall, as part of the study or separately, review the future Vermont economic and demographic trends and implications for Vermont's tax structure and performance of the major State revenue sources, including simplicity, equity, stability, and competitiveness.

(d) The Vermont Department of Taxes shall cooperate with and provide assistance as needed to the Joint Fiscal Office.

(e) The Joint Fiscal Office shall submit the study, including recommendations for further research or analysis, to the General Assembly on or before January 15, 2017.

# **APPENDICES**

## **APPENDIX A**

### **MULTISTATE COMPARISONS**

Comparisons of tax systems across states are fraught with difficulties as each state's tax structure is a complex, layered system of local, county and state taxes that affect individuals and businesses in a variety of ways. State tax rankings are simple synopses to provide a quick overview and comparison of state tax levels, but lack many essential details. State and local tax systems in the United States are as diverse as the 50 states. All states and the District of Columbia employ a range of taxes and fees to fund state and local government operations. The combination of taxes and fees utilized by a particular state or district depends on revenue requirements, available tax base, the relationship between state and local governments, constitutional limitations on taxation, and the state's tax philosophy. The data on local and state tax revenues analyzed here only begin to tell the story of each state's tax system.

#### **State Survey Data**

It is important that national comparisons utilize both the state and local data and not the state-only data that are incomplete and can be misleading. Each state funds its activities from a different mix of state, county, and local government revenue. Any measurement of the tax levels within a state should include all of the taxes paid by the residents; comparisons that exclude local government leave out a major share of taxes and fail to present the true nature of state tax burdens. In Vermont, most revenue is collected at the state level of government; nationally, county and local governments serve a substantial role in the collection of taxes and delivery of services. Because of this method of collections, Vermont will invariably rank as one of the highest taxed states in the country if local taxes in other states are omitted. In order to get a full accounting, the state and local tax collections among all states must be utilized. The U.S. Census survey of state and local government tax revenue, usually released with a two-year time lag, is the only comprehensive source of tax information compiled in a consistent manner over a substantial time period.

#### **National Rankings**

Rankings on a per capita basis, per \$1,000 of personal income, or as a percentage of state gross domestic product (GDP) are a common method of comparing tax levels in the 50 states. Population, personal income or GDP are used to normalize the data to enable direct comparisons between the jurisdictions. The analysis shows the average annual state and local tax paid per person and how much of every \$1,000 of income is taxed by state and local governments. While these comparisons give an indication of the aggregate levels of taxation, they are uninformative as to the balance of choices made in each state concerning the emphasis on different tax sources, distribution or equity of the tax burden, economic incidence of the taxes, volatility of the revenue, or the government services provided. More detailed studies attempt to take into account some of these other factors.

#### **Economic Tax Incidence**

Presenting aggregate tax collections on a per capita basis or per \$1,000 of personal income, while consistent in multi-state comparisons, assumes that all taxes are paid by state residents. Some states are far more successful at exporting their taxes to taxpayers in other states. Alaska, which has one of the more unusual tax systems, uses severance taxes (on crude oil and other natural resources) for most of its revenue. The "economic incidence" of these types of taxes falls more on the consumers of these resources than the residents of the state. This is far different than states utilizing more mainstream mixes of income, sales, and property taxes, which are more predictably divided. Each state is unique and identifying these anomalies is

difficult. For example, Vermont may be more effective at exporting its property taxes because it has the second highest percentage of second homes in the country, and hosts an active captive insurance market, whose taxes are more likely paid by foreign multinational corporations. More comprehensive studies employ the use of an economic model to attempt to account for these types of issues prior to assigning a tax ranking. Ad hoc adjustments to the data, especially for an individual state, should be avoided in order to prevent biased or skewed results. A balanced approach to the decisions of which taxes to attribute and how to calculate the incidence is essential for these studies to have credibility.

### **Equity**

Tax rankings also do not measure the distribution of the tax burden among taxpayers of various income levels. Each tax system comprises a mix of progressive, regressive, and flat taxes. While measuring the outcome of this balance is not easy (hence the reliance on average rankings), it is important to consider when comparing tax liabilities. Because Vermont has one of the most progressive income tax structures, meaning that a taxpayer's income corresponds with the level of income tax, average tax estimates are somewhat inaccurate. Lower income taxpayers pay a smaller percentage of their income in tax than higher income taxpayers. Two types of methodologies, tax incidence analysis and the representative taxpayer approach, are usually used to evaluate the progressivity of state taxes, which cannot be captured using aggregate averages.

### **2013 Tax Rankings Summary**

The 2013 U.S. Census Bureau data<sup>1</sup> generate a broad overview of the tax and revenue structures across the District of Columbia and 50 states. Population and income data and rankings in 2013 and 2015 are also provided for context.

### **Population and Income**

Vermont has the smallest population of any state and Washington D.C. Washington D.C., Connecticut, and Massachusetts have the highest per capita incomes, with Mississippi and West Virginia at the bottom. Vermont's personal income per capita ranks above the average at 18th nationally, 19th if D.C. is included.

### **Total Tax Collections**

Washington D.C., Alaska, and North Dakota generate the most revenue per capita while Tennessee and Alabama generate the least. Vermont ranks 12th in state and local taxes per capita, 13th including D.C.

Vermont ranked 7th in terms of taxes paid per \$1,000 of personal income. Vermont's tax levels per person (\$5,420) and per \$1,000 of personal income (\$119) were each 15 percent above the national average.

### **Personal Income Taxes**

Considering the personal income tax alone, Vermont's state income taxes ranked 22nd per capita and 27th per \$1,000 of personal income nationally in 2013. Seven states including Florida, Nevada, South Dakota, Texas, Washington, Wyoming, and Alaska do not have a personal income tax. Tennessee and New Hampshire tax only personal income from dividends and interest.

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<sup>1</sup> Source: US Census Bureau: State & Local Government Finance, <https://www.census.gov/govs/local/>

Looking at states with average personal income per person similar to that in Vermont provides a useful comparison group. Average personal income per person in Vermont is similar to that in Pennsylvania, Rhode Island, Delaware, Nebraska, and South Dakota. South Dakota does not use standard income taxes; only financial institutions are taxed. Nebraska ranks 20th and 25th for state income taxes per capita and per \$1,000 of personal income, respectively. Pennsylvania ranks 14th and 18th, Rhode Island 26th and 31st and Delaware 10th and 8th. Even though each state uses different tax brackets, Vermont is within the range of income taxes for states with a similarly affluent average individual.

### **Consumption Taxes**

Tax collections on consumption or spending in Vermont were on par with the national average in 2013. Vermont ranked 21st and 22nd for gross sales taxes per person and per \$1,000 of personal income. Again, comparison to Pennsylvania (29th, 37th), Delaware (50th, 50th), Rhode Island (26th, 34rd), South Dakota (9th, 13th) and Nebraska (30th,39th) — states where the average individual has similar personal income — indicates that Vermont falls within the expected range of sales taxes. Delaware and South Dakota are outliers in that group. Delaware does not have a general sales tax. South Dakota does not tax income; therefore, they must raise more funds from taxing consumption, using a moderate rate on a large tax base. Similar to Hawaii and New Mexico, South Dakota taxes a variety of services with a use tax.

### **Property Taxes**

Property taxes are high across all of the New England states and New York; all seven states are ranked within the top 13 nationally. Vermont ranks 6th in property taxes per capita and 3rd per \$1,000 of personal income. Ahead of Vermont on a per capita basis are DC (1), New Jersey (2), Connecticut (3), New Hampshire (4) and New York (5). Per \$1,000 of personal income first is New Jersey (1), New Hampshire (2), Vermont (3), Rhode Island (4), Maine (5), New York (6), and DC (7). Of course this does not account for Vermont's property tax adjustments based on household income.

Comparatively, Vermont falls within 2 percent of the national average for both income- and consumption-based taxation. Vermont nationally ranks 6th and 3rd with respect to property taxes paid per person and per \$1,000 of personal income, approximately 35 percent above the national average. The tables on the following pages include the comparisons.

## Comparisons 50 States and DC: Population, Aggregate Personal Income, Personal Income Per Capita

State	Population				Aggregate Personal Income				Personal Income per Capita			
	2013		2015		2013		2015		2013		2015	
	Number	Rank	Number	Rank	Dollars	Rank	Dollars	Rank	\$ per capita	Rank	\$ per capita	Rank
AL	4,830,533	23	4,858,979	24	172,789,879	25	184,784,917	26	35,770	45	38,030	48
AK	737,442	47	738,432	48	37,916,014	48	41,460,746	48	51,416	10	56,147	6
AZ	6,630,799	15	6,828,065	14	242,181,504	21	267,361,132	20	36,524	42	39,156	43
AR	2,957,957	32	2,978,204	33	106,466,207	33	113,923,539	34	35,993	44	38,252	47
CA	38,414,128	1	39,144,818	1	1,861,956,514	1	2,103,669,473	1	48,471	11	53,741	11
CO	5,271,132	22	5,456,574	22	246,648,165	19	277,731,754	18	46,792	15	50,899	14
CT	3,597,168	29	3,590,886	29	230,614,799	23	246,709,339	23	64,110	2	68,704	2
DE	925,353	45	945,934	45	40,565,882	45	45,057,962	45	43,838	24	47,633	23
DC	649,540	49	672,228	49	43,195,599	44	49,275,917	44	66,502	1	73,302	1
FL	19,594,467	4	20,271,272	3	798,885,890	4	900,636,248	4	40,771	29	44,429	29
GA	9,991,562	8	10,214,860	8	371,155,912	13	411,721,423	12	37,147	41	40,306	41
HI	1,408,765	40	1,431,603	40	62,784,498	40	69,129,101	39	44,567	23	48,288	21
ID	1,612,785	39	1,654,930	39	57,581,151	41	63,535,406	41	35,703	46	38,392	45
IL	12,889,580	5	12,859,995	5	600,782,652	5	646,789,116	5	46,610	16	50,295	16
IN	6,570,518	16	6,619,680	16	257,170,310	16	277,628,668	19	39,140	37	41,940	37
IA	3,092,224	30	3,123,899	30	133,536,267	30	143,393,977	30	43,185	26	45,902	27
KS	2,894,630	34	2,911,641	34	132,683,659	31	137,316,497	31	45,838	20	47,161	24
KY	4,398,500	26	4,425,092	26	156,589,351	28	170,755,826	29	35,601	47	38,588	44
LA	4,627,491	25	4,670,724	25	185,533,619	24	200,594,438	24	40,094	31	42,947	32
ME	1,328,778	41	1,329,328	42	52,724,616	42	56,893,803	42	39,679	33	42,799	34
MD	5,936,040	19	6,006,401	19	312,369,522	15	336,187,435	15	52,623	8	55,972	8
MA	6,708,810	14	6,794,422	15	383,509,900	11	425,352,524	10	57,165	3	62,603	3
MI	9,900,506	9	9,922,576	10	388,175,044	10	424,807,490	11	39,208	36	42,812	33
MN	5,420,541	21	5,489,594	21	256,039,772	17	279,262,704	16	47,235	14	50,871	15
MS	2,990,976	31	2,992,333	32	99,663,477	35	104,045,259	35	33,321	51	34,771	51
MO	6,043,708	18	6,083,672	18	240,825,428	22	257,338,334	22	39,847	32	42,300	35
MT	1,014,402	44	1,032,949	44	40,074,179	47	43,186,928	46	39,505	34	41,809	39
NE	1,869,300	37	1,896,190	37	85,722,866	36	92,048,473	36	45,858	19	48,544	20
NV	2,790,366	35	2,890,845	35	108,503,500	32	121,095,970	32	38,885	38	41,889	38
NH	1,322,660	42	1,330,608	41	68,261,645	38	74,388,007	38	51,609	9	55,905	10
NJ	8,907,384	11	8,958,013	11	494,040,279	7	537,026,391	7	55,464	5	59,949	4
NM	2,086,890	36	2,085,109	36	72,465,608	37	79,104,093	37	34,724	49	37,938	49
NY	19,691,032	3	19,795,791	4	1,072,125,105	3	1,161,414,144	3	54,447	6	58,670	5
NC	9,845,432	10	10,042,802	9	372,140,736	12	409,338,338	13	37,798	40	40,759	40
ND	723,626	48	756,927	47	40,296,443	46	42,349,688	47	55,687	4	55,950	9
OH	11,572,232	7	11,613,423	7	470,745,086	8	505,950,314	8	40,679	30	43,566	31
OK	3,853,405	28	3,911,338	28	164,437,285	27	178,250,475	27	42,673	28	45,573	28
OR	3,928,030	27	4,028,977	27	155,147,986	29	176,401,260	28	39,498	35	43,783	30
PA	12,783,536	6	12,802,503	6	589,491,588	6	636,857,158	6	46,113	18	49,745	18
RI	1,052,856	43	1,056,298	43	48,771,792	43	52,833,501	43	46,323	17	50,018	17
SC	4,768,498	24	4,896,146	23	168,267,898	26	187,532,342	25	35,287	48	38,302	46
SD	845,270	46	858,469	46	37,709,126	49	41,104,237	49	44,612	22	47,881	22
TN	6,496,130	17	6,600,299	17	252,091,031	18	277,832,327	17	38,806	39	42,094	36
TX	26,500,674	2	27,469,114	2	1,148,928,546	2	1,289,603,627	2	43,355	25	46,947	25
UT	2,903,685	33	2,995,919	31	104,664,413	34	117,763,901	33	36,045	43	39,308	42
<b>VT</b>	<b>627,129</b>	<b>50</b>	<b>626,042</b>	<b>50</b>	<b>28,592,608</b>	<b>51</b>	<b>30,417,564</b>	<b>51</b>	<b>45,593</b>	<b>21</b>	<b>48,587</b>	<b>19</b>
VA	8,267,875	12	8,382,993	12	400,660,395	9	436,349,531	9	48,460	12	52,052	12
WA	6,973,281	13	7,170,351	13	333,168,842	14	372,125,338	14	47,778	13	51,898	13
WV	1,852,985	38	1,844,128	38	64,207,088	39	67,787,227	40	34,651	50	36,758	50
WI	5,743,653	20	5,771,337	20	245,382,484	20	264,987,588	21	42,722	27	45,914	26
WY	583,131	51	586,107	51	30,717,840	50	32,869,550	50	52,677	7	56,081	7
<b>US Total</b>	<b>316,427,395</b>	<b>-</b>	<b>321,418,820</b>	<b>-</b>	<b>14,068,960,000</b>	<b>-</b>	<b>15,463,981,000</b>	<b>-</b>	<b>44,462</b>	<b>-</b>	<b>48,112</b>	<b>-</b>

Source: Bureau of Economic Analysis, [www.bea.gov](http://www.bea.gov)

## Comparisons 50 States and DC: 2013 State and Local Tax per Capita by Tax Type

State	Personal Income		Corporate Income		Total Income Tax		Property Tax		Consumption Tax		Licenses & Other		Total Taxes	
	\$ per capita	Rank	\$ per capita	Rank	\$ per capita	Rank	\$ per capita	Rank	\$ per capita	Rank	\$ per capita	Rank	\$ per capita	Rank
AL	687	38	79	43	766	39	548	51	1,449	28	285	33	3,048	51
AK	-	45	856	1	856	37	1,913	11	744	47	5,698	1	9,211	2
AZ	512	42	100	37	612	43	1,009	34	1,665	19	131	50	3,417	45
AR	896	31	136	25	1,032	31	659	49	1,769	13	179	48	3,639	37
CA	1,739	6	194	12	1,933	6	1,365	23	1,666	18	363	19	5,328	14
CO	1,049	23	124	33	1,173	25	1,333	25	1,588	22	245	37	4,339	24
CT	2,172	3	159	19	2,331	3	2,726	3	1,884	8	322	25	7,263	5
DE	1,283	12	341	6	1,623	10	825	45	542	50	1,620	4	4,611	20
DC	2,526	2	698	2	3,224	1	3,032	1	2,326	4	931	5	9,514	1
FL	-	45	106	36	106	46	1,216	29	1,769	14	288	32	3,378	46
GA	878	33	80	42	958	33	1,011	33	1,239	42	117	51	3,324	47
HI	1,232	15	88	40	1,320	15	943	39	3,082	1	363	18	5,708	9
ID	801	35	124	32	926	35	888	42	1,116	44	236	39	3,165	49
IL	1,283	11	346	5	1,629	9	1,982	10	1,475	25	288	31	5,374	13
IN	941	30	119	34	1,060	30	968	37	1,603	20	163	49	3,793	34
IA	1,145	18	139	23	1,283	18	1,515	17	1,343	35	317	26	4,459	21
KS	1,022	26	133	26	1,155	27	1,425	20	1,681	17	197	46	4,457	22
KY	1,111	21	175	14	1,286	17	732	47	1,288	37	202	45	3,508	41
LA	592	40	55	45	647	42	849	43	2,000	6	300	28	3,796	33
ME	1,153	17	129	30	1,282	19	1,907	12	1,344	34	285	34	4,818	16
MD	2,061	4	160	18	2,222	4	1,504	18	1,369	33	375	16	5,470	11
MA	1,919	5	281	8	2,201	5	2,069	9	1,161	43	292	30	5,723	8
MI	866	34	90	39	957	34	1,320	26	1,270	39	203	43	3,750	35
MN	1,651	7	251	10	1,903	7	1,547	16	1,763	15	335	21	5,548	10
MS	587	41	139	22	726	40	899	41	1,566	24	240	38	3,431	44
MO	942	29	75	44	1,016	32	977	35	1,264	40	203	44	3,460	43
MT	1,031	25	169	15	1,199	23	1,407	21	560	49	632	6	3,798	32
NE	1,124	19	147	21	1,272	20	1,649	14	1,410	30	323	24	4,653	18
NV	-	45	-	48	-	48	972	36	2,312	5	593	7	3,877	30
NH	75	43	418	4	493	44	2,690	4	715	48	299	29	4,197	27
NJ	1,359	9	256	9	1,616	11	2,989	2	1,388	31	317	27	6,309	6
NM	595	39	128	31	723	41	685	48	1,776	11	490	10	3,673	36
NY	2,550	1	591	3	3,141	2	2,494	5	1,987	7	428	12	8,049	4
NC	1,124	20	131	29	1,255	21	903	40	1,242	41	209	42	3,610	38
ND	887	32	312	7	1,199	24	1,140	31	2,745	2	3,739	2	8,823	3
OH	1,268	13	44	47	1,311	16	1,215	30	1,382	32	366	17	4,274	25
OK	757	36	152	20	909	36	595	50	1,567	23	421	13	3,492	42
OR	1,594	8	132	27	1,726	8	1,285	27	453	51	445	11	3,909	28
PA	1,201	16	201	11	1,402	14	1,376	22	1,440	29	408	14	4,626	19
RI	1,034	24	137	24	1,171	26	2,282	7	1,466	26	211	41	5,131	15
SC	704	37	81	41	785	38	1,077	32	1,070	46	264	36	3,196	48
SD	-	45	44	46	44	47	1,231	28	1,877	9	357	20	3,509	40
TN	40	44	193	13	234	45	838	44	1,704	16	330	22	3,106	50
TX	-	45	-	48	-	48	1,560	15	1,800	10	503	9	3,863	31
UT	982	27	114	35	1,096	29	952	38	1,278	38	183	47	3,509	39
<b>VT</b>	<b>1,057</b>	<b>22</b>	<b>168</b>	<b>16</b>	<b>1,226</b>	<b>22</b>	<b>2,331</b>	<b>6</b>	<b>1,599</b>	<b>21</b>	<b>264</b>	<b>35</b>	<b>5,420</b>	<b>12</b>
VA	1,318	10	93	38	1,412	13	1,430	19	1,071	45	325	23	4,239	26
WA	-	45	-	48	-	48	1,350	24	2,661	3	404	15	4,416	23
WV	969	28	131	28	1,100	28	798	46	1,462	27	539	8	3,899	29
WI	1,258	14	166	17	1,425	12	1,843	13	1,313	36	223	40	4,803	17
WY	-	45	-	48	-	48	2,173	8	1,774	12	1,848	3	5,795	7
<b>US</b>	<b>1,070</b>	<b>-</b>	<b>168</b>	<b>-</b>	<b>1,237</b>	<b>-</b>	<b>1,439</b>	<b>-</b>	<b>1,569</b>	<b>-</b>	<b>354</b>	<b>-</b>	<b>4,600</b>	<b>-</b>

Source: US Census State and Local Government Finances 2013, BEA Population and Personal Income 2013

## Comparisons 50 States and DC: 2013 State and Local Tax per \$1,000 of Personal Income by Tax Type

State	Personal Income		Corporate Income		Total Income Tax		Property Tax		Consumption Tax		Licenses & Other		Total Taxes	
	Per \$1,000	Rank	Per \$1,000	Rank	Per \$1,000	Rank	Per \$1,000	Rank	Per \$1,000	Rank	Per \$1,000	Rank	Per \$1,000	Rank
AL	19	36	2	40	21	38	15	50	41	16	8	19	85	46
AK	-	45	17	1	17	42	37	12	14	47	111	1	179	1
AZ	14	42	3	34	17	41	28	31	46	9	4	50	94	37
AR	25	23	4	18	29	24	18	49	49	7	5	46	101	24
CA	36	5	4	16	40	6	28	30	34	25	7	21	110	16
CO	22	31	3	35	25	33	28	28	34	27	5	39	93	38
CT	34	7	2	37	36	9	43	9	29	42	5	45	113	11
DE	29	13	8	5	37	8	19	48	12	50	37	3	105	18
DC	38	4	10	3	48	2	46	7	35	24	14	9	143	4
FL	-	45	3	36	3	46	30	25	43	11	7	29	83	47
GA	24	27	2	41	26	29	27	33	33	30	3	51	89	41
HI	28	16	2	42	30	21	21	44	69	1	8	17	128	5
ID	22	30	3	23	26	28	25	37	31	36	7	32	89	43
IL	28	17	7	6	35	11	43	10	32	35	6	33	115	9
IN	24	26	3	31	27	26	25	38	41	15	4	49	97	32
IA	27	20	3	28	30	20	35	17	31	38	7	24	103	21
KS	22	33	3	33	25	32	31	21	37	19	4	48	97	31
KY	31	9	5	11	36	10	21	45	36	21	6	37	99	29
LA	15	41	1	45	16	43	21	43	50	5	7	22	95	36
ME	29	14	3	26	32	14	48	5	34	28	7	26	121	6
MD	39	3	3	30	42	4	29	27	26	43	7	27	104	20
MA	34	8	5	10	38	7	36	13	20	46	5	42	100	26
MI	22	34	2	38	24	34	34	18	32	32	5	41	96	34
MN	35	6	5	8	40	5	33	19	37	17	7	28	117	8
MS	18	38	4	15	22	36	27	34	47	8	7	25	103	22
MO	24	28	2	44	26	30	25	39	32	33	5	43	87	45
MT	26	21	4	14	30	19	36	16	14	48	16	5	96	33
NE	25	24	3	27	28	25	36	15	31	39	7	30	101	23
NV	-	45	-	48	-	48	25	36	59	2	15	7	100	27
NH	1	43	8	4	10	44	52	2	14	49	6	35	81	49
NJ	25	25	5	12	29	23	54	1	25	44	6	36	114	10
NM	17	39	4	21	21	40	20	47	51	4	14	8	106	17
NY	47	1	11	2	58	1	46	6	36	20	8	20	148	3
NC	30	11	3	24	33	13	24	40	33	31	6	38	95	35
ND	16	40	6	7	22	37	20	46	49	6	67	2	158	2
OH	31	10	1	46	32	15	30	23	34	26	9	13	105	19
OK	18	37	4	22	21	39	14	51	37	18	10	12	82	48
OR	40	2	3	25	44	3	33	20	11	51	11	11	99	28
PA	26	22	4	13	30	18	30	24	31	37	9	14	100	25
RI	22	32	3	32	25	31	49	4	32	34	5	47	111	14
SC	20	35	2	39	22	35	31	22	30	41	7	23	91	40
SD	-	45	1	47	1	47	28	32	42	13	8	18	79	51
TN	1	44	5	9	6	45	22	42	44	10	8	15	80	50
TX	-	45	-	48	-	48	36	14	42	14	12	10	89	42
UT	27	18	3	29	30	17	26	35	35	22	5	44	97	30
<b>VT</b>	<b>23</b>	<b>29</b>	<b>4</b>	<b>20</b>	<b>27</b>	<b>27</b>	<b>51</b>	<b>3</b>	<b>35</b>	<b>23</b>	<b>6</b>	<b>34</b>	<b>119</b>	<b>7</b>
VA	27	19	2	43	29	22	30	26	22	45	7	31	87	44
WA	-	45	-	48	-	48	28	29	56	3	8	16	92	39
WV	28	15	4	19	32	16	23	41	42	12	16	6	113	12
WI	29	12	4	17	33	12	43	8	31	40	5	40	112	13
WY	-	45	-	48	-	48	41	11	34	29	35	4	110	15
<b>US</b>	<b>24</b>	<b>-</b>	<b>4</b>	<b>-</b>	<b>28</b>	<b>-</b>	<b>32</b>	<b>-</b>	<b>35</b>	<b>-</b>	<b>8</b>	<b>-</b>	<b>103</b>	

Source: US Census State and Local Government Finances 2013, BEA Population and Personal Income 2013

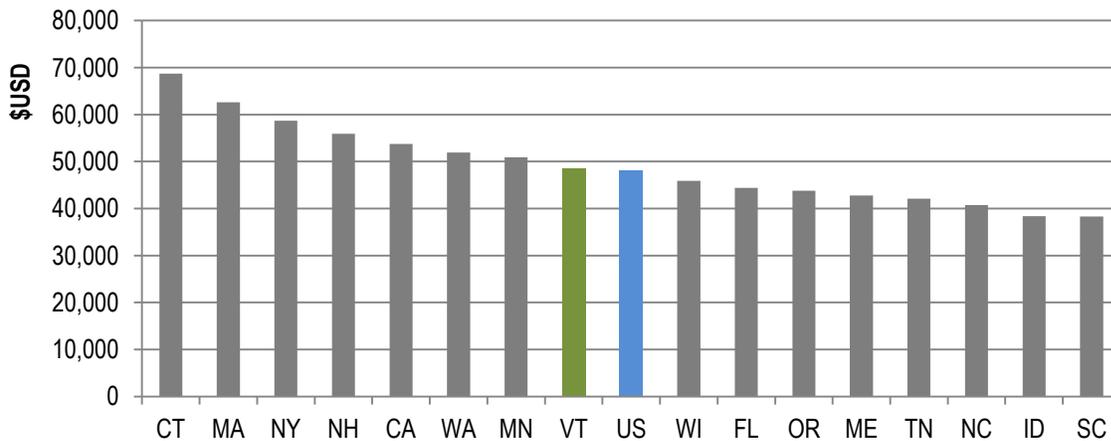
## APPENDIX B KEY COMPETITOR STATES

In 1993, the Economic Development Committee of Vermont Business Roundtable sought to develop insight into Vermont’s key competitor states, initially including the states bordering Vermont on all sides: New Hampshire, Massachusetts and New York. Two other New England states, Maine and Connecticut, were included based on geographic proximity. The remaining 44 states were evaluated in a competitiveness matrix with 23 current and future oriented data variables. The weighted analysis yielded the following states as non-regional competitors: North Carolina, California, Washington, Oregon, Minnesota, Idaho, Florida, South Carolina, Tennessee, and Wisconsin. The level of taxation in these select states is outlined in respect to overall rating within the group and their associated national ranks. Similar to the 50 state analyses, tax levels are a function of state population and personal income.

### Personal Income

An analysis of personal income per capita within the competitive states indicates that Vermont ranked 8th in 2015, just above the national average. The competitive states represent a wide range of state incomes. The personal income per capita in Connecticut is the second highest in the nation, 41 percent above Vermont. Personal income per capita in South Carolina is the 5th lowest nationally, 21 percent lower than in Vermont.

**2015 Personal Income Per Capita**

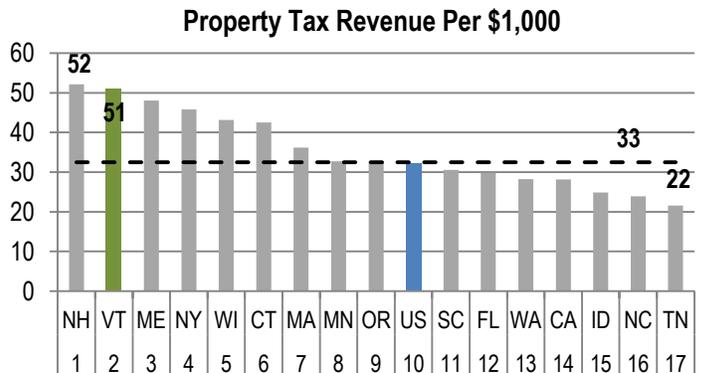
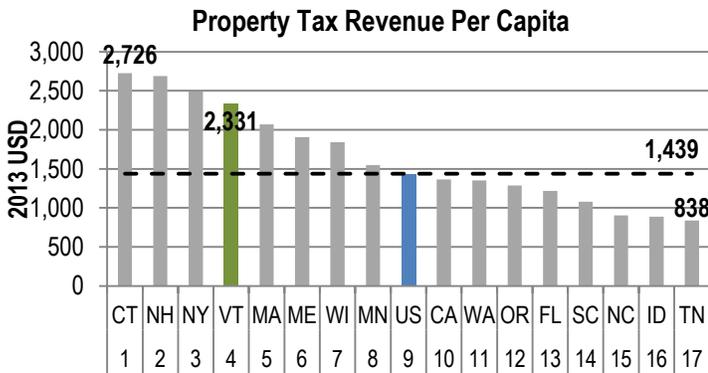
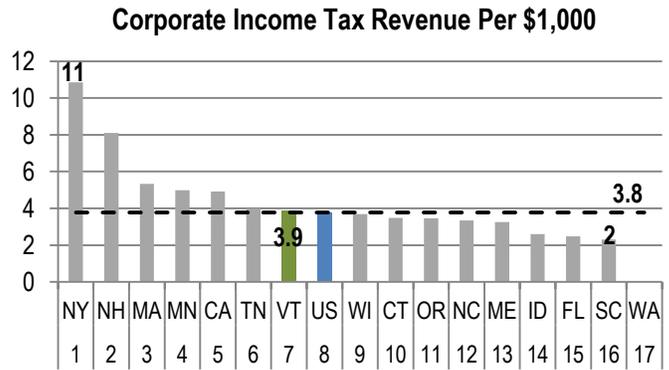
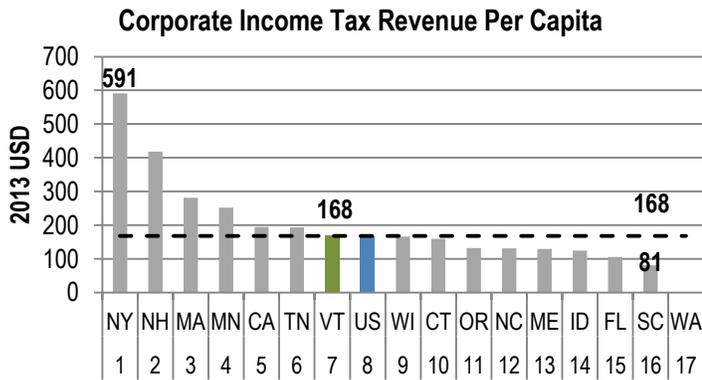
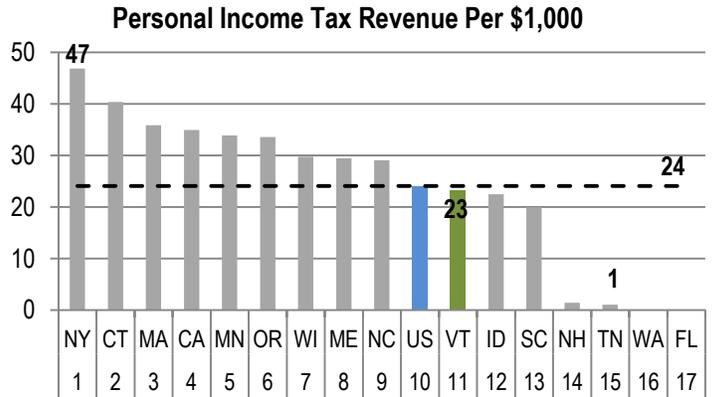
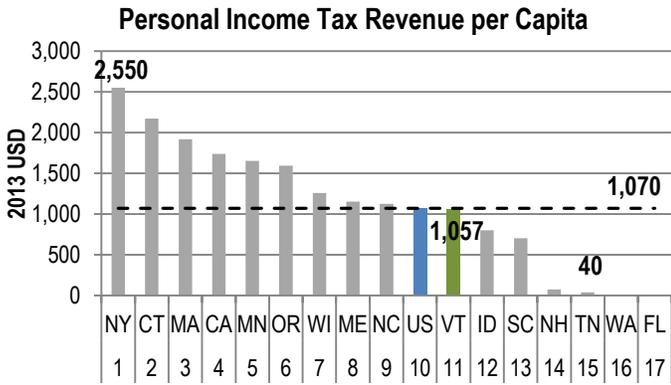


### Tax Rankings

Among the 16 comparison states above, Vermont ranked 5th in terms of total state and local tax level per capita and per \$1,000 of personal income. The U.S. average lies in the middle of the sample of competitive states, effectively ranking 9th in respect to total tax per capita and per \$1,000 dollars of personal income.

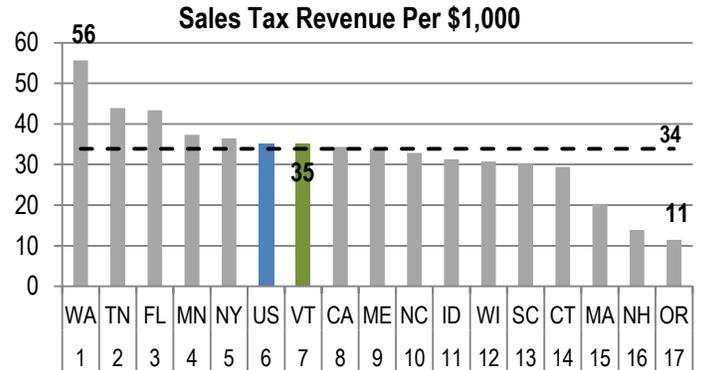
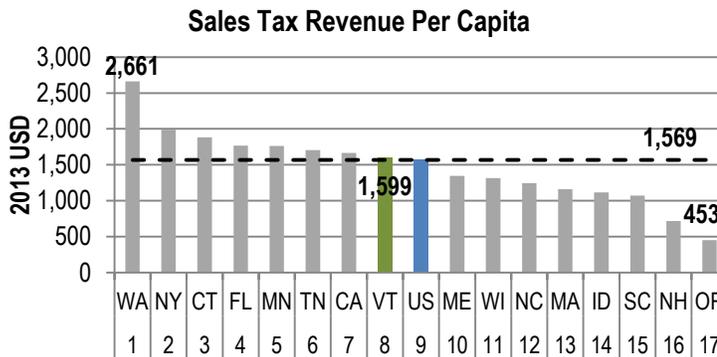
Vermont ranks 11th per capita and per \$1,000 in respect to personal income tax level, slightly below the national average. Vermont is the lowest per capita among the New England states with a personal income tax. Based on corporate income tax level per capita and per \$1000 of personal income; Vermont ranks 7th, slightly above the US average.

**2013 State and Local Tax Rankings for the 16 Competitive States  
(Dotted line is the 16-state average, \$ dollars)**



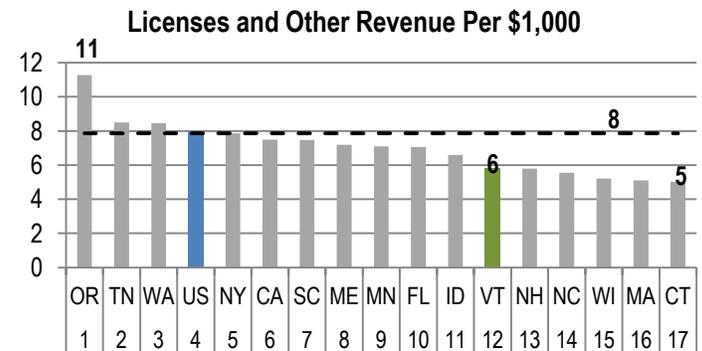
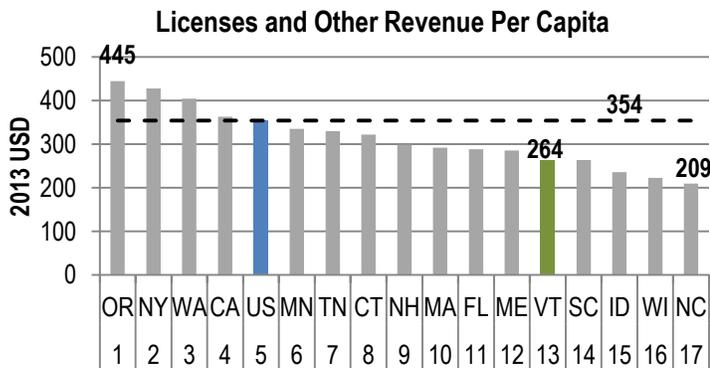
Vermont ranks 4th in property tax level per capita among the 16 comparison states. All of the top 6 states per capita in the comparison group are in New England with the inclusion of neighbor New York. Therefore when property taxes in Vermont are compared they must be analyzed with the knowledge that property taxes across the region are higher on average per person. It is noted that even with the unique structure of the Vermont property tax: it is the only substantial statewide property tax in the country, within the New England/New York subset, Vermont is below the per capita average.

In respect to property taxes per \$1,000 of personal income, Vermont ranks second behind New Hampshire. This is largely due to the fact that proportionately personal income levels in Vermont and New Hampshire are lower than the incomes achieved in New York and Connecticut, which feed off the economic prosperity of New York City. To account for this, the property taxes in Vermont are income sensitized, to ensure that level of taxation based on home value does not exceed a proportionate rate based on personal income.



The average state sales tax rate across the US is 5.09%; the median rate is 6%. The state sales tax in Vermont is 6%. Accounting for local taxes the US average increases to 6.44% with a median rate of 6.87%.

In Vermont 14 municipalities leverage the additional local option sales tax of 1%, yielding a combined average local and state rate of 6.17%. Among the comparison states Vermont ranks 12th in terms of combined local and state sales tax rate and 8th and 7th in terms of tax level per capita and per \$1000 of personal income.



The final metric for the comparison states is licenses and other tax revenue. None of the comparison states have a particularly large contribution of other tax revenue, which generally stems from natural resource extraction. Oregon has the largest contribution of licenses and fees which it uses to offset and maintain a low level of sales tax (no general sales tax).

### Roundtable Comparison States - Average State and Local Tax Per Capita 2013 State and Local Government Tax Collections

	State	Personal Income		Corporate Income		Total Income Tax		Property Tax		Sales Tax		Licenses & Other		Total Taxes	
		\$ Per Capita	Rank	\$ Per Capita	Rank	\$ Per Capita	Rank	\$ Per Capita	Rank	\$ Per Capita	Rank	\$ Per Capita	Rank	\$ Per Capita	Rank
1	CA	1,739	6	194	12	1,933	6	1,365	23	1,666	18	363	19	5,328	14
2	CT	2,172	3	159	19	2,331	3	2,726	3	1,884	8	322	25	7,263	5
3	FL	-	45	106	36	106	46	1,216	29	1,769	14	288	32	3,378	46
4	ID	801	35	124	32	926	35	888	42	1,116	44	236	39	3,165	49
5	MA	1,919	5	281	8	2,201	5	2,069	9	1,161	43	292	30	5,723	8
6	ME	1,153	17	129	30	1,282	19	1,907	12	1,344	34	285	34	4,818	16
7	MN	1,651	7	251	10	1,903	7	1,547	16	1,763	15	335	21	5,548	10
8	NC	1,124	20	131	29	1,255	21	903	40	1,242	41	209	42	3,610	38
9	NH	75	43	418	4	493	44	2,690	4	715	48	299	29	4,197	27
10	NY	2,550	1	591	3	3,141	2	2,494	5	1,987	7	428	12	8,049	4
11	OR	1,594	8	132	27	1,726	8	1,285	27	453	51	445	11	3,909	28
12	SC	704	37	81	41	785	38	1,077	32	1,070	46	264	36	3,196	48
13	TN	40	44	193	13	234	45	838	44	1,704	16	330	22	3,106	50
14	VT	1,057	22	168	16	1,226	22	2,331	6	1,599	21	264	35	5,420	12
15	WA	-	45	-	48	-	48	1,350	24	2,661	3	404	15	4,416	23
16	WI	1,258	14	166	17	1,425	12	1,843	13	1,313	36	223	40	4,803	17
17	US	1,070	-	168	-	1,237	-	1,439	-	1,569	-	354	-	4,600	-

Source: US Census State and Local Government Finances 2013, BEA Population and Personal Income 2013

### Roundtable Comparison States - Average State and Local Tax per \$1,000 of Personal Income 2013 State and Local Government Tax Collections

	State	Personal Income		Corporate Income		Total Income Tax		Property Tax		Sales Tax		Licenses & Other		Total Taxes	
		Per \$1,000	Rank	Per \$1,000	Rank	Per \$1,000	Rank	Per \$1,000	Rank	Per \$1,000	Rank	Per \$1,000	Rank	Per \$1,000	Rank
1	CA	36	5	4	16	40	6	28	30	34	25	7	21	110	16
2	CT	34	7	2	37	36	9	43	9	29	42	5	45	113	11
3	FL	-	45	3	36	3	46	30	25	43	11	7	29	83	47
4	ID	22	30	3	23	26	28	25	37	31	36	7	32	89	43
5	MA	34	8	5	10	38	7	36	13	20	46	5	42	100	26
6	ME	29	14	3	26	32	14	48	5	34	28	7	26	121	6
7	MN	35	6	5	8	40	5	33	19	37	17	7	28	117	8
8	NC	30	11	3	24	33	13	24	40	33	31	6	38	95	35
9	NH	1	43	8	4	10	44	52	2	14	49	6	35	81	49
10	NY	47	1	11	2	58	1	46	6	36	20	8	20	148	3
11	OR	40	2	3	25	44	3	33	20	11	51	11	11	99	28
12	SC	20	35	2	39	22	35	31	22	30	41	7	23	91	40
13	TN	1	44	5	9	6	45	22	42	44	10	8	15	80	50
14	VT	23	29	4	20	27	27	51	3	35	23	6	34	119	7
15	WA	-	45	-	48	-	48	28	29	56	3	8	16	92	39
16	WI	29	12	4	17	33	12	43	8	31	40	5	40	112	13
17	US	24	-	4	-	28	-	32	-	35	-	8	-	103	-

Source: US Census State and Local Government Finances 2013, BEA Population and Personal Income 2013

### Roundtable Comparison States - State and Local Sales Tax Rates

	State	State Rate	Rank	Maximum Local Rate	Average Local Rate*	Combined S&L Rate	Combined Rank
1	TN	7	2	5	2.46	9.46	1
2	WA	6.5	9	3.1	2.39	8.89	5
3	NY	4	39	4.88	4.49	8.49	9
4	CA	7.5	1	2.5	0.98	8.48	10
5	MN	6.88	7	1.5	0.39	7.27	17
6	SC	6	16	2.5	1.22	7.22	18
7	NC	4.75	36	2.75	2.15	6.9	25
8	FL	6	16	1.5	0.66	6.66	30
<b>9</b>	<b>US Ave.</b>	<b>5.09</b>	<b>-</b>	<b>-</b>	<b>1.35</b>	<b>6.44</b>	<b>-</b>
10	CT	6.35	12	0	0	6.35	31
11	MA	6.25	13	0	0	6.25	33
<b>12</b>	<b>VT</b>	<b>6</b>	<b>16</b>	<b>1</b>	<b>0.17</b>	<b>6.17</b>	<b>35</b>
13	ID	6	16	3	0.03	6.03	36
14	ME	5.5	30	0	0	5.5	43
15	WI	5	34	1.75	0.41	5.41	45
16	NH	0	47	0	0	0	48
17	OR	0	47	0	0	0	48

Source: Sales Tax Clearinghouse, Tax Foundation

\* City and county municipal rates vary; rates are population weighted to yield an average local rate.

## APPENDIX C TAX RATE COMPARISONS

### Individual Income Taxes in Tax Year 2016

State	Tax Range (in percent)		Number of Brackets	Income Brackets		Personal Exemptions			Fed Income Tax Deductible	Federal Starting Point
	Low	High		Lowest	Highest	Single	Married	Dependents		
AL	2	- 5	3	500	- 3,001 (b)	1,500	3,000	500	Yes	---
AK	No State Income Tax									N/A
AZ (a)	2.59	- 4.54	5	10,163	- 152,434 (b)	2,100	4,200	2,300		AGI
AR (a)	0.9	- 6.9	6	4,299	- 35,100	26	52	26		---
CA (a)	1	- 12.3	9	7,850	- 526,443 (b)	109	218	337		AGI
CO	4.63		1	----Flat rate----		4,050	8,100	4,050		Taxable
CT	3	- 6.99	7	10,000	- 500,000 (b)	14,500	24,000	0		AGI
DE	0	- 6.6	7	2,000	- 60,001	110	220	110		AGI
DC	4	- 8.95	4	10,000	- 350,000	1,775	3,550	1,775		AGI
FL	No State Income Tax									N/A
GA	1	- 6	6	750	- 7,001 (h)	2,700	5,400	3,000		AGI
HI	1.4	- 8.25	9	2,400	- 48,000 (b)	1,144	2,288	1,144		AGI
ID (a)	1.6	- 7.4	7	1,452	- 10,890 (b)	4,050	8,100	4,050		Taxable
IL	3.75		1	----Flat rate----		2,000	4,000	2,000		AGI
IN	3.3		1	----Flat rate----		1,000	2,000	2,500		AGI
IA (a)	0.36	- 8.98	9	1,554	- 69,930	40	80	40	Yes	AGI
KS	2.7	- 4.6	2	15,000		2,250	4,500	2,250		AGI
KY	2	- 6	6	3,000	- 75,001	20	40	20		AGI
LA	2	- 6	3	12,500	- 50,001 (b)	4,500	9,000	1,000	Yes	AGI
ME (a)	5.8	- 7.15	3	21,050	- 37,500 (b)	4,050	8,100	4,050		AGI
MD	2	- 5.75	8	1,000	- 250,000 (k)	3,200	6,400	3,200		AGI
MA	5.1		1	----Flat rate----		4,400	8,800	1,000		AGI
MI (a)	4.25		1	----Flat rate----		3,950	7,900	3,950		AGI
MN (a)	5.35	- 9.85	4	25,180	- 155,651 (l)	4,050	8,100	4,050		Taxable
MI	3	- 5	3	5,000	- 10,001	6,000	12,000	1,500		---
MO	1.5	- 6	10	1,000	- 9,001	2,100	4,200	1,200	Yes	AGI
MT (a)	1	- 6.9	7	2,300	- 17,100	2,330	4,660	2,330	Yes	AGI
NE (a)	2.46	- 6.84	4	3,050	- 29,460 (b)	131	262	131		AGI
NV	No State Income Tax									N/A
NH	State Income Tax of 5% on Dividends and Interest Income Only									N/A
NJ	1.4	- 8.97	6	20,000	- 500,000 (n)	1,000	2,000	1,500		---
NM	1.7	- 4.9	4	5,500	- 16,001 (o)	4,050	8,100	4,050		AGI
NY (a)	4	- 8.82	8	8,450	- 1,070,350 (b)	0	0	1,000		AGI
NC	5.75		1	----Flat rate----			None			AGI
ND (a)	1.1	- 2.9	5	37,650	- 413,350 (p)	4,050	8,100	4,050		Taxable
OH (a)	0.495	- 4.997	9	5,200	- 208,500	2,200	4,400	1,700		AGI
OK	0.5	- 5	6	1,000	- 7,200 (r)	1,000	2,000	1,000		AGI
OR (a)	5	- 9.9	4	3,350	- 125,000 (b)	195	390	195	Yes	Taxable
PA	3.07		1	----Flat rate----			None			---
RI (a)	3.75	- 5.99	3	60,850	- 138,300	3,900	7,800	3,900		AGI
SC (a)	0	- 7	6	2,920	- 14,600	4,050	8,100	4,050		Taxable
SD	No State Income Tax									N/A
TN	State Income Tax of 6% on Dividends and Interest Income Only					1,250	2,500	0		N/A
TX	No State Income Tax									N/A
UT	5		1	----Flat rate----		(s)	(s)	(s)		AGI
VT (a)	3.55	- 8.95	5	37,450	- 411,500 (t)	4,050	8,100	4,050		Taxable
VA	2	- 5.75	4	3,000	- 17,001	930	1,860	930		AGI
WA	No State Income Tax									N/A
WV	3	- 6.5	5	10,000	- 60,000	2,000	4,000	2,000		AGI
WI (a)	4	- 7.65	4	11,090	- 244,270 (u)	700	1,400	700		AGI
WY	No State Income Tax									N/A

Source: Federation of Tax Administrators, <http://www.taxadmin.org/tax-rates>

## Tax Rate Comparisons: Corporate Income Taxes in Tax Year 2016

STATE	Tax Rate (% percent)	Number of Brackets	Tax Brackets			Tax Rate (a) (% percent)	Federal Income Tax Deductible
			Lowest		Highest	Financial Inst.	
AL	6.5	1	---Flat Rate---			6.5	Yes
AK	0 - 9.4	10	25,000		222,000	0 - 9.4	
AZ	5.5	1	---Flat Rate---			5.5	
AR	1.0 - 6.5	6	3,000		100,001	1.0 - 6.5	
CA	8.84	1	---Flat Rate---			10.84	
CO	4.63	1	---Flat Rate---			4.63	
CT	7.5	1	---Flat Rate---			7.5	
DE	8.7	1	---Flat Rate---			8.7-1.7	
DC	9.4	1	---Flat Rate---			9.4	
FL	5.5	1	---Flat Rate---			5.5	
GA	6	1	---Flat Rate---			6	
HI	4.4 - 6.4	3	25,000		100,001	7.92	
ID	7.4	1	---Flat Rate---			7.4	
IL	7.75	1	---Flat Rate---			7.75	
IN	6.5	1	---Flat Rate---			8.5	
IA	6.0 - 12.0	4	25,000		250,001	5	Yes
KS	4	1	---Flat Rate---			2.25	
KY	4.0 - 6.0	3	50,000		100,001	---	
LA	4.0 - 8.0	5	25,000		200,001	4.0 - 8.0	Yes
ME	3.5 - 8.93	4	25,000		250,000	1	
MD	8.25	1	---Flat Rate---			8.25	
MA	8	1	---Flat Rate---			9	
MI	6	1	---Flat Rate---			---	
MN	9.8	1	---Flat Rate---			9.8	
MI	3.0 - 5.0	3	5,000		10,001	3.0 - 5.0	
MO	6.25	1	---Flat Rate---			7	Yes
MT	6.75	1	---Flat Rate---			6.75	
NE	5.58 - 7.81	2		100,000		---	
NV	--		No corporate income tax				
NH	8.5	1	---			8.5	
NJ	9	1	---Flat Rate---			9	
NM	4.8 - 6.6	3	500,000		1 million	4.8 - 6.6	
NY	6.5	1	---Flat Rate---			6.5	
NC	4	1	---Flat Rate---			6	
ND	1.41 - 4.31	3	25,000		50,001	---	
OH			---			---	
OK	6	1	---Flat Rate---			6	
OR	6.6 - 7.6	2		1 million		6.6 - 7.6	
PA	9.99	1	---Flat Rate---			---	
RI	7	1	---Flat Rate---			7	
SC	5	1	---Flat Rate---			4.5	
SD	--		No corporate income tax			6.0-0.25	
TN	6.5	1	---			6.5	
TX			---			---	
UT	5		---Flat Rate---			5	
VT	6.0 - 8.5	3	10,000		25,000	---	
VA	6	1	---Flat Rate---			6	
WA	--		No corporate income tax				
WV	6.5	1	---Flat Rate---			6.5	
WI	7.9	1	---Flat Rate---			7.9	
WY	--		No corporate income tax				

Source: Federation of Tax Administrators, <http://www.taxadmin.org/tax-rate>

## State and Local Sales Tax Rates, 2016

State	State Rate	Rank	Maximum Local Rate	Average Local Rate*	Combined S&L Rate	Combined Rank
Alabama	4	39	7	4.97	8.97	4
Alaska	0	47	7.5	1.78	1.78	47
Arizona	5.6	29	5.3	2.65	8.25	11
Arkansas	6.5	9	5.13	2.8	9.3	2
California	7.5	1	2.5	0.98	8.48	10
Colorado	2.9	46	8	4.62	7.52	15
Connecticut	6.35	12	0	0	6.35	31
Delaware	0	47	0	0	0	48
D.C.	5.75	27	0	0	5.75	41
Florida	6	16	1.5	0.66	6.66	30
Georgia	4	39	4	3.01	7.01	21
Hawaii	4	39	0.5	0.35	4.35	46
Idaho	6	16	3	0.03	6.03	36
Illinois	6.25	13	4.75	2.39	8.64	7
Indiana	7	2	0	0	7	22
Iowa	6	16	1	0.79	6.79	28
Kansas	6.5	9	4	2.1	8.6	8
Kentucky	6	16	0	0	6	37
Louisiana	4	39	7	5	9	3
Maine	5.5	30	0	0	5.5	43
Maryland	6	16	0	0	6	37
Massachusetts	6.25	13	0	0	6.25	33
Michigan	6	16	0	0	6	37
Minnesota	6.875	7	1.5	0.39	7.27	17
Mississippi	7	2	1	0.07	7.07	20
Missouri	4.225	38	5	3.64	7.86	14
Montana	0	47	0	0	0	48
Nebraska	5.5	30	2	1.37	6.87	26
Nevada	6.85	8	1.3	1.13	7.98	13
New Hampshire	0	47	0	0	0	48
New Jersey	7	2	3.5	-0.03	6.97	24
New Mexico	5.125	33	3.56	2.38	7.51	16
New York	4	39	4.88	4.49	8.49	9
North Carolina	4.75	36	2.75	2.15	6.9	25
North Dakota	5	34	3.5	1.82	6.82	27
Ohio	5.75	27	2.25	1.39	7.14	19
Oklahoma	4.5	37	6.5	4.32	8.82	6
Oregon	0	47	0	0	0	48
Pennsylvania	6	16	2	0.34	6.34	32
Rhode Island	7	2	0	0	7	22
South Carolina	6	16	2.5	1.22	7.22	18
South Dakota	4	39	2	1.84	5.84	40
Tennessee	7	2	5	2.46	9.46	1
Texas	6.25	13	2	1.92	8.17	12
Utah	5.95	26	2.1	0.74	6.69	29
<b>Vermont</b>	<b>6</b>	<b>16</b>	<b>1</b>	<b>0.17</b>	<b>6.17</b>	<b>35</b>
Virginia	5.3	32	0.7	0.33	5.63	42
Washington	6.5	9	3.1	2.39	8.89	5
West Virginia	6	16	1	0.2	6.2	34
Wisconsin	5	34	1.75	0.41	5.41	45
Wyoming	4	39	2	1.42	5.42	44
<b>US Ave.</b>	<b>5.09</b>	<b>-</b>	<b>-</b>	<b>1.35</b>	<b>6.44</b>	<b>-</b>

Source: Sales Tax Clearinghouse, Tax Foundation

\* City and county municipal rates vary; rates are population weighted to yield an average local rate.

## Tax Rate Comparisons: Excise Tax Rates in Tax Year 2016

State	Gasoline		Diesel		Liquor		Wine		Beer		Cigarettes	
	¢ per gallon	Rank	Per Pack	Rank								
AL	0.209	41	0.208	40	18.25	4	1.70	4	0.530	6	0.675	39
AK	0.123	51	0.090	51	12.80	5	2.50	1	1.070	2	2.000	12
AR	0.190	44	0.228	35	6.88	19	0.84	22	0.230	23	1.150	32
AZ	0.190	44	0.190	42	3.00	42	0.75	23	0.160	31	2.000	12
CA	0.382	7	0.407	4	3.30	40	0.20	48	0.200	24	0.870	35
CO	0.220	39	0.218	37	2.28	47	0.28	44	0.080	45	0.840	37
CT	0.383	6	0.417	3	5.40	29	0.72	24	0.240	21	3.650	3
DE	0.230	37	0.220	36	3.75	37	0.97	15	0.160	31	1.600	23
DC	0.235	35	0.235	31	5.69	25	0.72	24	0.090	43	2.500	11
FL	0.366	8	0.338	9	6.50	20	2.25	2	0.480	7	1.339	29
GA	0.265	29	0.295	20	3.79	36	1.51	6	0.320	13	0.370	49
HI	0.440	3	0.185	43	5.98	23	1.38	10	0.930	3	3.200	5
ID	0.320	16	0.330	12	10.94	10	0.45	36	0.150	35	0.570	44
IL	0.320	16	0.356	5	8.55	14	1.39	9	0.231	22	1.980	17
IN	0.312	19	0.170	48	2.68	43	0.47	35	0.115	40	0.995	34
IA	0.317	18	0.335	10	12.52	7	1.75	3	0.190	27	1.360	28
KS	0.240	32	0.270	26	2.50	44	0.30	41	0.180	28	1.290	31
KY	0.260	30	0.230	33	7.54	17	0.50	33	0.080	45	0.600	42
LA	0.200	42	0.209	38	2.50	44	0.11	49	0.320	13	0.860	36
ME	0.300	21	0.319	15	5.82	24	0.60	29	0.350	12	2.000	12
MD	0.335	12	0.343	6	4.64	32	0.40	38	0.090	43	2.000	12
MA	0.267	28	0.267	27	4.05	35	0.55	30	0.110	41	3.510	4
MI	0.321	15	0.281	23	11.94	9	0.51	32	0.200	24	2.000	12
MN	0.286	24	0.286	21	8.67	13	0.30	41	0.150	35	3.000	8
MS	0.188	47	0.184	45	7.74	15	0.35	39	0.427	8	0.680	38
MO	0.173	48	0.173	47	2.00	49	0.42	37	0.060	49	0.170	51
MT	0.278	26	0.285	22	9.77	12	1.06	12	0.140	37	1.700	20
NE	0.267	27	0.261	28	3.75	37	0.95	16	0.310	15	0.640	40
NV	0.335	11	0.278	25	3.60	39	0.70	27	0.160	31	1.800	18
NH	0.238	34	0.238	30	State	N/A	0.95	16	0.300	16	1.780	19
NJ	0.411	5	0.176	46	5.50	27	0.88	20	0.120	39	2.700	9
NM	0.189	46	0.229	34	6.06	22	1.70	4	0.410	9	1.660	22
NY	0.433	4	0.315	16	6.44	21	0.30	41	0.140	37	4.350	1
NC	0.343	9	0.343	7	12.48	8	1.00	13	0.617	5	0.450	47
ND	0.230	36	0.230	32	4.66	31	0.50	33	0.160	31	0.440	48
OH	0.280	25	0.280	24	9.86	11	0.32	40	0.180	28	1.600	23
OK	0.170	49	0.140	50	5.56	26	0.72	24	0.400	11	1.030	33
OR	0.300	23	0.300	19	22.74	2	0.67	28	0.080	45	1.320	30
PA	0.503	1	0.651	1	7.23	18	State	N/A	0.080	45	1.600	23
RI	0.340	10	0.341	8	5.40	29	1.40	8	0.100	42	3.750	2
SC	0.168	50	0.168	49	5.42	28	0.90	19	0.770	4	0.570	44
SD	0.300	22	0.300	18	4.63	33	0.93	18	0.270	17	1.530	26
TN	0.214	40	0.184	44	4.46	34	1.21	11	1.290	1	0.620	41
TX	0.200	43	0.200	41	2.40	46	0.20	47	0.200	24	1.410	27
UT	0.245	31	0.301	17	12.75	6	State	N/A	0.410	9	1.700	20
VA	0.223	38	0.208	39	19.86	3	1.51	6	0.260	19	3.080	6
<b>VT</b>	<b>0.305</b>	<b>20</b>	<b>0.320</b>	<b>14</b>	<b>7.71</b>	<b>16</b>	<b>0.550</b>	<b>30</b>	<b>0.265</b>	<b>18</b>	<b>0.300</b>	<b>50</b>
WA	0.495	2	0.495	2	33.54	1	0.87	21	0.260	19	3.025	7
WV	0.332	13	0.332	11	2.11	48	1.00	13	0.180	28	0.550	46
WI	0.329	14	0.329	13	3.25	41	0.25	46	0.060	49	2.520	10
WY	0.240	33	0.2400	29	State	N/A	0.28	N/A	0.020	51	0.600	42

Sources: Gas & Diesel eia.org; Liquor-Distilled Spirits Council; Wine, Beer and Cigarettes- FTA [www.taxadmin.org](http://www.taxadmin.org)

### Vermont Cigarette and Tobacco Products Tax Changes 2005 – 2015

Year	Cigarettes		Tobacco		Snuff & Smokeless Tobacco	
	\$ per pack	Increase (¢)	% of Wholesale	Increase (%)	\$ per ounce	Increase (¢)
2005	1.19		41			
2006	1.79	0.6	41		1.49	
2007	1.79	0	41		1.49	
2008	1.99	0.2	41		1.69	0.2
2009	2.24	0.25	92	51	1.69	
2010	2.24	0.25	92		1.69	
2011	2.62	0.38	92		1.69	
2012	2.62		92		1.69	
2013	2.62		92		1.69	
2014	2.75	0.13	92		2.29	
2015	3.08	0.33	92		2.57	0.28
Notes:						
2006	Snuff previously taxed at wholesale tobacco rate. "Little cigars" and roll-your-own (RYO) tobacco taxed as cigarettes.					
2009	Smokeless tobacco included in definition: taxed at snuff rate, but no less than \$1.99 per pack if package contains less than 1.2 ounces.					

## Real Estate Transfer Taxes

State	Tax Description	Transfer Fee Rate
Alabama	Deeds \$0.50/\$500 Mortgages \$0.15/\$100	0.10% 0.15%
Alaska	None	
Arizona	\$2 fee per deed or contract	Flat fee
Arkansas	\$3.30/\$1,000	0.33%
California	Local option transfer tax \$.55/\$500 for counties. The city tax rate is half of the county rate and the city tax is allowed as a credit against the county tax.	0.11%
Colorado	Transfer tax \$.01/\$100	0.01%
Connecticut	State residential transfer tax has two tiers of either 0.75% or 1.25%, based on value. Nonresidential is 1.25%. Municipal transfer tax from 0.11% to 0.36%	0.75% up to \$800K and 1.25% of value over \$800K; plus municipal tax
Delaware	2% tax on value of property unless there is also a local transfer tax; then the maximum rate is 1.5%.	1.5% - 2% 1% for construction projects over \$10,000
District of Columbia	Transfer tax 1.1% Mortgage recordation tax 1.5 % or 1.1% for values up to \$250,000 There are varying rates for different types of property \$5 surcharge per document	1.10% 1.1% - 1.5%
Florida	Conveyance of realty \$0.70/\$100 (\$0.60 in Miami-Dade County plus a \$0.45 surtax on documents transferring anything other than a single-family residence) Mortgage tax \$0.35/100	0.70% 0.35%
Georgia	\$.10/\$100	0.10%
Hawaii	Transfer tax \$0.10 to \$1/\$100, based on property value. \$0.15 to \$1.25/\$100 without homeowner exemption, based on value.	0.1%-1.0% 0.15%-1.25%
Idaho	None	
Illinois	State \$0.50/\$500 County - \$0.25/\$500 Chicago - \$5.25/\$500	0.10% 0.05% 1.05%
Indiana	None	
Iowa	Transfer tax \$0.80/\$500	0.16%
Kansas	Mortgage fee \$0.26/\$100	0.26%
Kentucky	Transfer tax \$0.50/\$500	0.10%
Louisiana	None	
Maine	Transfer tax \$2.20/\$500	0.44%
Maryland	Transfer tax 0.5% (or 0.25% for 1st- time buyers) County transfer tax varies by county Recordation tax varies by county	0.50% Varies Varies
Massachusetts	Transfer tax \$4.56/\$1,000 (\$2 / \$500 plus 14% surtax) Barnstable County transfer tax \$3.42 / \$1,000 (\$1.50 / \$500 plus 14 % surtax) Also \$10-\$20 document fee	0.46% 0.34%
Michigan	State - \$3.75/\$500 County - \$0.55/\$500 - \$.75/\$500 depending on +/- 2 million population	0.75% 0.11% - 0.15%

### Real Estate Transfer Taxes (Page 2)

Minnesota	Deed tax of \$1.65/\$500 Mortgage registry tax \$.23/100	0.33% 0.23%
Mississippi	None	
Missouri	None	
Montana	None	
Nebraska	Transfer tax \$2.25/\$1,000	0.23%
Nevada	\$0.65/\$500 up to 700,000 county population	0.13%
	\$1.25/\$500 over 700,000 county population	0.25%
	Counties may impose an additional \$0.10/\$500 County tax regardless of size \$1.30 / \$500	0.26%
New Hampshire	Transfer tax \$0.75/\$100 Paid by buyer and by seller \$20 minimum tax on transfers of \$4,000 or less	1.50%
New Jersey	Transfer tax: Varies based on price and tax status (seniors, disability) Homes over \$1 million add \$5/\$500 surtax Commercial sales over \$1 million have 1% fee County: up to 0.1% additional tax	0.4% - 1.21%, based on value 1.0%, 1.00% 0.10%
New Mexico	None	
New York	Realty transfer state - \$2/\$500 up to \$1 million; 1% additional over \$1 million and some counties may levy more	0.4% or 1.4% over \$1 million, possibly more depending on county
	Mortgage recording tax-state \$1.00/\$100	1.00%
	Mortgage NY City \$1.00-\$1.75/\$100	1% to 1.75%
	Realty transfer NY City 1% to 2.625% based on +/- \$550K home value	1% to 2.625%
	There are many other local option taxes with rates varying by locality	
North Carolina	Transfer tax \$1/\$500 Local option to increase by up to 0.4%	0.20% 0.40%
North Dakota	None	
Ohio	Transfer tax \$0.10/100 Plus local option \$0.30/100	0.4% (0.1% plus 0.3% local)
Oklahoma	Deed stamp tax \$0.75/\$500	0.15%
	Mortgage registration tax \$0.02-\$0.10/\$100, based on term of mortgage	0.02%-0.1%
Oregon	None	
Pennsylvania	Documentary stamp tax 1% County rates widely vary	1%
Rhode Island	Realty conveyance tax \$2.00/\$500	0.40%
South Carolina	Deed recording fee \$1.85/\$500 (\$1.30 state, \$0.55 county)	0.37%
South Dakota	\$.50/\$500	0.10%
Tennessee	Transfer tax \$0.37/\$100	0.37%
	Mortgage tax \$0.115 /\$100	0.12%
Texas	None	
Utah	None	

**Real Estate Transfer Taxes (Page 3)**

Vermont	Property transfer tax 1.25% Unless property is owner-occupied, in which case, tax is 0.5% on the first \$100,000 of value and 1.25% over \$100,000. Qualified farms - 0.5% Plus capital gains tax on land sales, based on length of ownership	1.25%  (or marginal rates based on value)
Virginia	Transfer tax \$0.50/\$500 Mortgage tax \$0.25/\$100 up to \$10 million value; more thereafter. Local option for one-third more of state recordation tax. \$20 fee on every deed collected Northern Virginia Transportation Authority and the Hampton Roads Transportation Authority are authorized to impose a local realty grantor's fee of \$0.40 per \$100.	0.10%  0.25%
Washington	Real property sale excise tax 1.28% of sales price plus local option tax, currently ranging from 0.25%-0.75%.	1.28%  1.53% to 2.03% combined with local option
West Virginia	Transfer tax \$1.65/\$500 (\$1.10 state, \$0.55 county) Local option for \$.55 more. Plus \$20 flat fee on all transfers.	0.33%  \$20.00
Wisconsin	Transfer tax \$.30/\$100	0.30%
Wyoming	None	

Source: NCSL, Commerce Clearing House State Tax Guide, September 2012. Compiled by National Conference of State Legislatures Fiscal Affairs Program.

**APPENDIX D**  
**CASE STUDY DETAILS**

**Summary Details of Representative Taxpayer Cases**

<b>Income Details</b>	<b>Case 1</b>	<b>Case 2</b>	<b>Case 3</b>	<b>Case 4</b>	<b>Case 5</b>	<b>Case 6</b>	<b>Case 7</b>
Filing Status	S	S	MFS	MFJ	MFJ	MFJ	HOH
Number of Exempt	1	1	3	5	2	4	3
Wages (\$)	0	79,000	170,000	41,000	100,000	254,000	22,500
Unemployment (\$)	-	-	-	-	-	-	2,500
Dividends (\$)	-	-	-	-	-	6,000	-
Business Income (Schedule C)	-	-	-	4,000	-	-	-
Capital Gain (Schedule D) (\$)	-	1,000	-	-	-	750,000	-
IRA (\$)	-	-	-	-	-	-	-
Pension/Annuity(\$)	-	-	-	-	-	-	-
Schedule E (\$)	-	-	-	-	-	-10,000	-
Social Security Benefits (\$)	14,000	-	-	-	-	-	-
Student Loan Interest (\$)	-	5,000	-	-	-	-	-
AGI (\$)	14,000	80,000	170,000	45,000	100,000	1,000,000	25,000
Housing Status	Renter	Owner	Owner	Renter	Owner	Owner	Renter
Home Value (\$)	-	243,000	516,000	-	304,000	3,040,000	-
Mortgage Status	-	Y	Y	-	Y	Y	-
Deductions	Standard	Itemized	Itemized	Standard	Itemized	Itemized	Standard
Child Care Expenses (\$)	-	-	-	-	-	-	8,000
529 Plan Savings (\$)	-	-	-	-	-	12,000	-
State Income Tax (\$)	-	2,000	7,000	-	3,000	190,000	-
Real Estate Tax (\$)	-	4,000	7,500	-	5,000	22,000	-
Mortgage Interest (\$)	-	5,500	10,000	-	7,500	45,000	-
Charitable Contributions (\$)	-	-	500	-	1,500	125,000	-

The study includes the following assumptions: if income is less than or equal to \$45,000, then the household rents. If the taxpayer owns a home and is less than age 65, a mortgage payment is assumed. A homeowner over age 65 has no remaining mortgage. The American Community Survey (ACS) indicates that 75 percent of U.S. homeowners under age 65 have a mortgage and 36 percent of U.S. homeowners over 65 still have a mortgage.

Home values across the income levels were based on data from the 2015 ACS and adjusted using a linear multiplier for the different income levels. The multiplier is calculated by dividing the aggregate owner-occupied housing value by aggregate owner-occupied household income. Data for Vermont are used as the basis. For consistency, the study used a fixed home value for each case study across the nation, assuming that somewhere within each state an individual can own a home of equivalent value to the average values in Vermont.

## Income Tax Analysis Details

### Case 1

The taxpayer in Case 1 is single, over age 65, a renter, with annual income \$14,000 entirely from Social Security benefits.

For this case, none of the Social Security benefit income is taxable on the federal income tax form (1040), even prior to the standard federal deductions and exemptions. Federal AGI is \$0. Comparison for this specific case therefore is limited to which states give additional refunds or credits.

### Case 1 Summary of Refunds and Credits

State	Credits	Amount (\$)	Refundable Credit?
DE	Personal Credit	-220	N
ID	Grocery Credit	-120	Y
IN	Unified Tax Credit for the Elderly	-100	Y
KS	Food Sales Tax Credit	-125	N
KY	Personal Tax, Family Size Tax Credit	-60	N
NE	Personal Exemption Credit	-130	N
OH	Senior Citizen, Low Income and Income-based Exemption Credits	-158	N
OK	Sales Tax Relief	-40	Y
OR	Exemption Credit	-194	N
UT	Retirement Credit	-450	N
DE	Personal Credit	-220	N

## Case 2

The taxpayer in Case 2 is single, under 65, a homeowner with income of \$80,000 dollars per year. The taxpayer claims itemized deductions.

### Case 2 Summary of Income Tax Comparisons

Rank	State	AGI	Taxable Income	Tax Liability	Effective Rate (% of Fed AGI)	Notes
	Federal	80,000	64,500	11,925	14.9	Cannot claim student loan interest, AGI cap is \$80,000
1	OR	73,500	64,050	5,336	6.7	No general sales tax; marginal income rates range from 5.0 - 9.9% with narrow lower brackets (9% for \$8,401 to \$125,000)
2	HI	80,000	67,356	4,812	6.0	Marginal rates range from 1.4-11.0% with 12 brackets, \$48,000 - 150,000 at 8.25%
3	ME	80,000	66,500	4,646	5.8	Marginal rates range from 5.8-7.15%, with three brackets. The highest bracket starting at \$37,499
4	ID	80,000	66,500	4,582	5.7	Marginal rates range from 1.6-7.4% with seven marginal rate brackets. The highest bracket starts at \$10,890.
5	DC	80,000	68,725	4,342	5.4	Marginal rates range from 4-8.95% with six brackets; \$60K-350K at 8.5%.
27	VT	80,000	66,500	3,308	4.1	Federal taxable income, with limitations on itemized deductions. Carries federal treatment of student loan interest.
40	AZ	80,000	66,400	2,217	2.8	Federal deductions; personal exemption of \$2,100 is not limited. Five tax brackets 2.59-4.54%, \$50,000-\$150,000 at 4.2%.
41	OH	80,000	78,050	2,188	2.7	No deductions; personal exemption slightly limited by AGI: \$2,200 for AGI less than \$40,000, \$1,700 for AGI greater than \$80,000; Nine brackets 0.495-4.997%, reduced by 6.3% from 2014 rates.
42	ND	80,000	64,500	964	1.2	Federal taxable income, low marginal rates 1.1-2.9%, \$37,450 - \$90,750 at 2.0%, ND raises 42% of state tax revenue from Licenses and other tax and only 13% from property and income
		US State Average		3,524	4.4	

For this simple case Vermont ranks 27th nationally, at an effective rate of 4.14 percent of federal adjusted gross income (AGI). This is addition to a federal effective income tax rate of 14.9 percent. The range of effective state rates is from 6.7 percent in Oregon to 1.2 percent in North Dakota. The majority of states have an effective tax rate for this payer in the range of 3 – 5 percent.

## Case 3

The representative household in Case 3 files the income tax return as married filing separate, with a salary-based AGI of \$170,000. The filer is a mortgaged homeowner and has two children.

With an AGI of \$170,000, the taxpayer is subject to limited itemized deductions at the federal level as well as the federal alternative minimum tax (AMT), leading to an effective federal tax rate of 22.2 percent. In addition to the federal income tax, the effective state income tax liability for Case 3 ranges from 1.6 percent in North Dakota to 8.1 percent in Oregon. The average state tax liability for this case is 4.9 percent, for this case the effective rate in Vermont is greater than the U.S. average. This is expected as Vermont has a highly progressive income tax structure.

### Case 3 Summary of Income Tax Comparisons

Rank	State	AGI	Taxable Income	Tax Liability	Effective Rate (% of Fed AGI)	Notes
	<i>Federal</i>	170,000	136,572	37,808	22.2	Federal itemized deductions – limited.
1	OR	170,000	152,326	13,720	8.1	Federal AGI is adjusted by a capped federal tax liability exemption - no exemption for AGI >\$145,000 MFS (\$290K MFJ). Federal itemized deductions (with limitations) and addback of limited state and local tax. Marginal rates range from 5.0 - 9.9%, top \$125,000 MFS (\$250K MFJ). \$100,000 AGI income cap for Oregon personal exemption nonrefundable credit.
2	HI	170,000	154,598	12,043	7.1	Deductions limited by AGI (\$100,000 for MFS). Exemptions limited for AGI-deductions greater than \$89,981. Marginal rates range from 1.4-11% with 12 brackets, 8.25% for \$48,000 - \$150,000 MFS (double for MFJ).
3	DC	170,000	151,352	11,365	6.7	DC exemption is limited by federal AGI, for AGI's greater than \$275,000 - no allowable exemptions, exemption reduced by 2% for every \$2,500 over AGI of \$150,000. Deductions limited for AGI over \$200,000 (\$100,000 MFS) by 5% of exceeding income. 4 brackets, 4-8.95%, 8.5% over \$60,000 (all filers).
4	MN	170,000	148,580	11,158	6.6	Starting point is federal taxable income. Add back of full value of state and local taxes. Additional itemized deduction reduction (addback) for taxpayers with an AGI > \$184,000 (\$92,000 MFS). 4 brackets, 5.35-9.85%, highest bracket at \$258,261 (\$129,131 MFS).
5	IA	170,000	145,354	11,090	6.5	Iowa has a School District Surtax, which is applied as a percentage of income tax, tax rates range from 0-16% throughout the districts. Excluded from comparison study as it is effectively a local property tax. Marginal rates range from 0.36-8.98% with 9 brackets, the highest bracket starts at \$69,930. No marriage penalty, one bracket for all filing statuses.
11	VT	170,000	144,870	9,823	5.8	Vermont limits deductions to 2.5 times the standard federal deduction. 8.8% tax bracket \$115,225-205,750.
40	PA	170,000	170,000	5,219	3.1	No deductions or exemptions. Flat rate. 3.07%. No progressivity.
41	AL	170,000	103,954	5,156	3.0	Allows for deduction of federal taxes paid in addition to itemized deductions. Personal exemption deduction is not limited. 5 tax brackets 2.59-4.54%, \$50,000-\$100,000 at 3.36%.
42	ND	170,000	136,572	2,711	1.6	Federal taxable income, low marginal rates 1.1-2.9%, \$62,600 - \$151,200 at 2.04%.
		US State Average		8,307	4.9	

#### Case 4

The representative household in Case 4 files a married filing joint return, with an AGI of \$45,000. Of this income, \$41,000 is from wages and \$4,000 is from small business profits. The family rents its home and has three children. This household is eligible for the federal EITC.

#### Case 4 Summary of Income Tax Comparisons

Rank	State	AGI	Taxable Income	Tax Liability	Effective Rate (% of Fed AGI)	Notes
	Federal	44,717	12,117	-3,021	(6.8)	Deduction for 1/2 of self-employment tax. Standard deduction. Eligible for nonrefundable child tax credit and additional refundable child tax credit. Federal EITC.
1	KY	44,717	42,277	2,217	5.0	Kentucky standard deduction \$2,440. Personal tax credit (x\$10). 6 brackets 2-5.8%, highest bracket starts at \$8,000 (S and MFJ).
2	OR	44,717	40,209	2,057	4.6	Exemption credit (AGI < \$100K, \$194/exemption). 8% of Fed EITC. Marginal rates range from 5 - 9.9%, top \$125,000 MFS (\$250k MFJ).
3	AR	45,000	40,600	1,766	4.0	Exemption credit (x \$26). No EITC. 6 brackets, 0.9-6.90%, \$35,099 (S and MFJ) at 6.90%.
4	AL	45,000	36,500	1,748	3.9	Dependent exemption x \$500. Standard AL deductions. Three income brackets (2.0 -5.0%). Highest bracket starts at \$6,000 for MFJ. No EITC.
5	IA	45,282	41,382	1,632	3.7	Dependent exemption credit, EITC 15% of Fed. Marginal rates range from 0.36-8.98% with 9 brackets, the highest bracket starts at \$69,930.
40	NM	44,717	6,977	-62	(0.1)	New Mexico low and middle income tax exemption (for MFJ AGI under \$55,000). State EITC is 10% of federal.
41	VT	44,717	12,117	-145	(0.3)	Starting point is Federal taxable income. VT EITC is 32% of federal. No additional child tax credit.
42	NY	44,717	25,867	-413	(0.9)	Dependent exemption (x \$1,000). Refundable credits: EITC - 30% of federal, Empire State Child (\$990) - 33% of federal child tax and additional child tax credits
		US State Average		754	1.7	

The taxpayers in case 4 pay a range of income tax from a maximum of \$2,217 in Kentucky to a refund of \$413 in New York. This range is attributed to the state's treatment of the federal EITC and child tax programs. New York honors both credits and Kentucky offers no tax adjustment. The federal tax liability is a refund of \$3,021, offering assistance to low income families. For this case Vermont ranks 41st, providing a refund of \$145.

## Case 5

Case 5 is a household of two married wage earners under age 65. The couple are homeowners without children or other dependents. The family income (AGI) is \$100,000.

### Case 5 Summary of Income Tax Comparisons

Rank	State	AGI	Taxable Income	Tax Liability	Effective Rate (% of Fed AGI)	Notes
	Federal	100,000	75,000	10,344	10.3	Federal itemized deductions are not limited.
1	OR	93,550	79,550	6,302	6.3	Federal AGI is adjusted by a capped federal tax liability exemption - maximum amount for AGI of \$100,000 - \$6,450. Federal itemized deductions (with limitations) and addback of limited state and local tax. Rates range from 5 - 9.9%, top \$125,000 MFS (\$250k MFJ). \$100,000 (less than or equal) AGI income cap for Oregon personal exemption nonrefundable credit.
2	IA	100,000	83,000	5,528	5.5	Marginal rates range from 0.36-8.98% with 9 brackets, the highest bracket starts at \$69,930. No marriage penalty, one bracket for all filing statuses.
3	DC	100,000	82,450	5,508	5.5	DC exemption \$1,775 for AGI < \$150,000. Deductions limited for AGI over \$200,000 (\$100,000 MFS) by 5% of exceeding income. 4 brackets, 4-8.95%, 8.5% over \$60,000 (all filers).
4	HI	100,000	83,712	5,457	5.5	Deductions limited by AGI (\$100,000 for MFS). Exemptions limited for AGI-deductions greater than \$89,981. Marginal rates range from 1.4-11% with 12 brackets, 8.25% for \$48,000 - \$150,000 MFS (double for MFJ).
5	WV	100,000	96,000	5,117	5.1	Personal exemption \$2,000 not limited. 5 brackets, 3-6.5%, highest \$30,000 MFS (\$60,000 MFJ)
32	VT	100,000	78,000	3,270	3.3	Federal itemized deductions with add back of state and local tax.
40	NJ	100,000	98,000	2,365	2.4	\$1,000 personal exemption - not limited. No deductions. Brackets range from 1.4%-8.97%, \$80,000-\$150,000 at 5.525%.*Property tax deductions/credits are available for low incomes.
41	AZ	100,000	78,800	2,345	2.4	Allows full federal deduction including state income tax. Personal exemption deduction (\$2,100) is not limited. 5 tax brackets - 2.59-4.54%, \$50,000-\$100,000 at 3.36%.
42	ND	100,000	75,000	847	0.9	Federal taxable income, low marginal rates 1.1-2.9%, \$62,600 - \$151,200 at 2.04%.
			US State Average	3,979	4.0	

The family in Case 5 pays a range of income tax — from a maximum of \$6,302 in Oregon to \$942 in North Dakota, with effective rates ranging from 6.3 percent to 0.9 percent. This is in addition to the federal tax liability of \$10,344, at an effective rate of 10.3 percent, which for the majority of states is 2.5 times greater than the U.S. average state income tax.

## Case 6

Case 6 is a high-income case with a wage earner with a large capital gain. His tax status is married filing jointly with two children. The spouse cares for the children, so the taxpayer has no child care expenses. He contributes to a 529 savings plan, purchased a second home and owns a rental property.

### Case 6 Summary of Income Tax Comparisons

Rank	State	AGI	Taxable Income	Tax Liability	Effective Rate (% of Fed AGI)	Notes
	Federal	1,010,000	649,003	161,923	16.0	No Federal 529 deduction. Deductible rental real estate loss limited to 0.
1	CA	1,010,000	875,155	80,230	7.9	Deductions limited for Fed AGI > \$357,417 (MFJ). Exemption credits limited for Fed AGI > \$357,417. Case 10 credits are reduced to 0. 9 brackets 1-12.30%, MFJ \$631,732 - \$1,052,860 at 11.3%.
2	OR	1,005,400	823,953	78,851	7.8	Federal AGI is adjusted by a capped federal tax liability exemption. Marginal rates range from 5 - 9.9%, top \$125,000 MFS (\$250k MFJ). \$100,000 AGI income cap for Oregon personal exemption nonrefundable credit.
3	ME	1,010,000	981,650	76,755	7.6	Federal exemptions (capped). Maximum itemized deduction allowed = \$28,350. 3 brackets 0-7.95%, highest bracket \$41,850 (MFJ). Note in 2016, brackets change to 5.8-7.15%, with the highest bracket changed to \$75,000 MFJ (MFS - \$37,500)
4	MN	842,780	842,780	75,411	7.5	Starting point is federal taxable income. Add back of full value of state and local taxes. Additional itemized deduction reduction (addback) for taxpayers with an AGI > \$184,000 (\$92,000 MFS). 4 brackets, 5.35-9.85%, highest bracket at \$258,261 (\$129,131 MFS).
5	NJ	1,010,000	995,000	72,209	7.2	Exemptions are not limited. No traditional itemized/standard deductions. Property tax deduction of up to \$10,000 (delivered as a credit for low income over 65). 7 brackets, 1.4-8.97% top bracket \$500,000 (MFJ).
8	VT	853,500	848,500	68,473	6.8	Vermont limits deductions to 2.5 times the standard federal deduction. Charitable donations excluded from addback calculation (not limited). Capital gains exclusion - flat rate \$5,000.
40	NM	1,010,000	441,553	21,226	2.1	Federal itemized deductions with addback of limited state and local. Deduction of %50 of net capital gains! 4 brackets, 1.7-4.9%, top bracket \$24,000 MFJ.
41	AZ	805,900	438,603	17,801	1.8	Deducts 25% of net long term capital gain from assets acquired after December 31, 2011. Allows full federal deduction including state income tax. Personal exemption deduction (\$2,100) is not limited. 5 tax brackets 2.59-4.54%, \$50,000-\$100,000 (MFJ) at 3.36%.
42	ND	1,010,000	336,603	6,912	0.7	Federal taxable income, low marginal rates 1.1-2.9%. Long-term capital gain exclusions (40% deduction of capital gain for full time residents)
43	TN	6,000	3,500	210	0.0	
44	NH	6,000	1,200	60	0.0	
		US State Average		47,749	4.7	

The family in Case 6 would pay a wide range of state income tax — from a maximum of \$80,230 in California to \$6,912 in North Dakota, with effective rates ranging from 7.9 percent to

0.7 percent. This is in addition to the federal tax liability of \$161,923, at an effective rate of 16.0 percent, which for the majority of states is about 3.5 times greater than the U.S. average state income tax. One of the interesting aspects of this case is the treatment of 529 savings plans throughout the 51 jurisdictions. States fall into three broad categories of 529 plan tax treatment: deduction of the full contribution amount, deduction of a limited contribution amount, or a tax credit. The 28 states' benefits are included in the table.

### Summary of 529 Savings Plan Tax Benefits

Type of Tax Benefit	State Specific Information
<b>Deduction</b> of full contribution from AGI or taxable income	CO, MO, NM, SC, VA, WV
<b>Deduction</b> of partial contribution amount from AGI or taxable income	AR, CT, NY -\$5,000 per taxpayer (aggregate not beneficiary based)
	GA \$2,000 per taxpayer per beneficiary
	IL \$10,000 per taxpayer
	ID \$4,000 per taxpayer
	IA \$3,163 per beneficiary per taxpayer
	KS \$3,000 per beneficiary per taxpayer
	MD \$2,500 per account holder per beneficiary
	MI, NB, ND - \$10,000 MFJ (\$5,000 S) per return
	MS, OK- \$20,000 MFJ (\$10,000 S) per return
	OH \$2,000 (MFJ and MFS) per beneficiary
	OR \$4,600 MFJ (\$2,300 S) per return
	PA \$14,000 per beneficiary per taxpayer
	RI \$1,000 MFJ (\$500 S) per return
WI \$3,100 MFJ (\$1,550 S) per beneficiary per return (excess can be carried over)	
Tax Credit	VT capped at \$500 MFJ per beneficiary
	IN \$1,000 aggregate cap
	UT full contribution can be used as a nonrefundable credit (cannot be carried forward)

## Case 7

Case 7 is a single parent under age 65 with two children. In addition to wages, this taxpayer also claimed \$2,500 in unemployment income. This is a renter household with child care expenses. The family also qualified for the earned income tax credit (EITC).

### Case 7 Summary of Income Tax Comparisons

Rank	State	AGI	Taxable Income	Tax Liability	Effective Rate (% of Fed AGI)	Notes
	Federal	25,000	3,750	-6,092	-24.4	Nonrefundable credit for child care expenses (capped at Fed tax liability). EITC eligible (\$4,092) and additional child tax credit (Schedule 8812, \$2,000)
1	PA	22,500	22,500	691	2.8	AGI does not include unemployment. No deductions/credits for EITC or childcare. Flat Rate. 3.07%
2	AL	22,500	14,475	683	2.7	AGI does not include unemployment. No deductions/credits for EITC or childcare. 3 brackets (2-5%). Highest bracket starts at \$6,000 for MFJ.
3	WV	25,000	19,000	662	2.7	Federal AGI, \$2,000 x number of exemptions, no deductions/credits for child care or EITC.
4	IN	25,000	19,000	568	2.3	Fed AGI, \$1000 per exemption, additional exemption of \$1500 for dependents under 19 (24 if full time student). Indiana EIC tabulated by income (\$25,000, credit of \$368). No credit for childcare.
5	NC	25,000	13,000	498	2.0	Fed AGI, standard deductions, no exemptions. Nonrefundable childcare credit (HOH AGI <\$32K, \$125 per child)
38	VT	25,000	3,750	-1,267	-5.1	Nonrefundable - 24% of capped federal child care credit. Refundable - EITC 32% of federal
40	MN	25,000	3,750	-3,277	-13.1	Refundable Child Care Credit (maximum amount of \$1440 for fed AGI less than \$25,750) and Working Family Credit, EITC (tabulated by income and filing status AGI \$25,000, \$2038)
41	NY	25,000	11,900	-3,391	-13.6	Dependent exemption (x \$1,000). Nonrefundable household credit (low income families - \$70). Refundable credits: EITC - 30% of federal, Empire State Child (\$660), Child Care Credit - calculated as federal (without nonrefundable cap) with additional AGI based adjustment (\$25,000 - 1.1 adjustment, \$1,980.
42	OR	25,000	21,545	-3,527	-14.1	Exemption credit (AGI < \$100K, \$194/exemption), child care (AGI dependent % of federal taxable income): carry forward credit if greater than income tax liability after exemption credit, two refundable credits: working family child care (AGI and exemption dependent % of total child care expenses - 40% for family size 3 AGI <\$40.2K) and earned income (8% of federal EITC)
		US State Average		-334	-1.3	

The representative household in Case 7 is subject to a wide range of tax liability or refund. This is because of the large amount of variation between the states in providing an earned income tax credit and whether or not that benefit is refundable. The family receives a federal refund of \$6,092. Taxes and refunds range from a high of \$691 due in Pennsylvania, which does not allow for an EITC, to a low of a \$3,527 refund in Oregon.

Twenty of the 51 jurisdictions authorize an earned income tax credit for this specific case; the state EITC is typically applied as a percentage of the federal credit. California also offers an earned income credit but it is capped at an AGI of \$13,870 for two qualifying children.

## Summary of State Earned Income Credits for Case 7

2015 State Earned Income Tax Credits		
State	Percent of Federal	Refundable
California	85% of federal credit, up to 50% of the federal phase-in range	Yes
Colorado	10%	Yes
Connecticut	27.50%	Yes
Delaware	20%	No
District of Columbia (a)	40%/ 100%	Yes
Illinois	10%	Yes
Indiana (b)	9%	Yes
Iowa	15%	Yes
Kansas	17%	Yes
Louisiana	3.5%	Yes
Maine	5%	Yes
Maryland (c)	25.5%	Yes
Massachusetts	23%	Yes
Michigan	6%	Yes
Minnesota (d)	Average 34%	Yes
Nebraska	10%	Yes
New Jersey	30%	Yes
New Mexico	10%	Yes
New York	30%	Yes
Ohio (e)	5%	No
Oklahoma	5%	Yes
Oregon (f)	8%	Yes
Rhode Island	12.50%	Yes
<b>Vermont</b>	<b>32%</b>	<b>Yes</b>
Virginia	20%	No
Washington (g)	10% (when implemented)	Yes
Wisconsin	4%- one child; 11%- two children; 34% - three children; No credit- childless workers	Yes
<p>(a) The District of Columbia now offers a credit equal to 100 percent of the federal EITC to adults without dependent children with incomes up to twice the poverty line (for an individual).</p>		
<p>(b) Indiana decoupled from federal provisions expanding the EITC for families with three or more children and raising the income phase-out for married couples.</p>		
<p>(c) Maryland's refundable EITC will reach 28 percent of the federal credit by tax year 2018. The state also offers a non-refundable EITC set at 50 percent of the federal credit. Taxpayers in effect may claim either the refundable credit or the non-refundable credit, but not both.</p>		
<p>(d) Minnesota's credit for families with children, unlike the other credits shown in this table, is structured as a percentage of income rather than a percentage of the federal credit. It does not include the federal EITC's features of a larger credit for families with three or more children or higher income phase-out for married couples. The average given here reflects total projected state spending for the Working Family Credit divided by projected federal spending on the EITC in Minnesota as modeled by Minnesota's House Research Department; this average fluctuates from year to year.</p>		
<p>(e) Ohio's EITC is non-refundable and limited to half of income taxes owed on income above \$20,000.</p>		
<p>(f) Oregon's EITC is set to expire at the end of tax year 2019.</p>		
<p>(g) Washington's EITC has never been implemented, but would likely be worth 10 percent of the federal credit or \$50, whichever is greater.</p>		
<p>Source: Center on Budget and Policy Priorities <a href="http://www.cbpp.org">http://www.cbpp.org</a></p>		

## Consumption Tax Details

The study focuses on goods purchased and the services related to tangible personal property (electricity, heating fuel, motor fuel and telephone communications), which are more commonly taxed. The study includes differential tax rates for the identified tax categories. For Vermont this would include a heating fuel tax of 0.5 percent, the Meals and Room Tax of 9 percent for meals and lodging, a 10 percent tax for alcohol consumed on premise (in a restaurant or bar), and a motor vehicle rental tax of 9 percent. This analysis does not include a complete survey of taxes on services.

For goods without differential tax rates, the general sales tax rate was applied. In order to capture the effect of local sales taxes, a modified population-weighted local sale tax rate was used. As Vermont only authorizes a local tax of 1 percent, and it is imposed in only a few districts, the modified rate in Vermont is 6.17 percent, compared to the state rate of 6.0 percent. This is in contrast to Alabama, for example, which allows districts to leverage a local tax rate up to 6.5 percent, increasing the state rate of 4.0 percent to a modified rate of 8.97 percent.

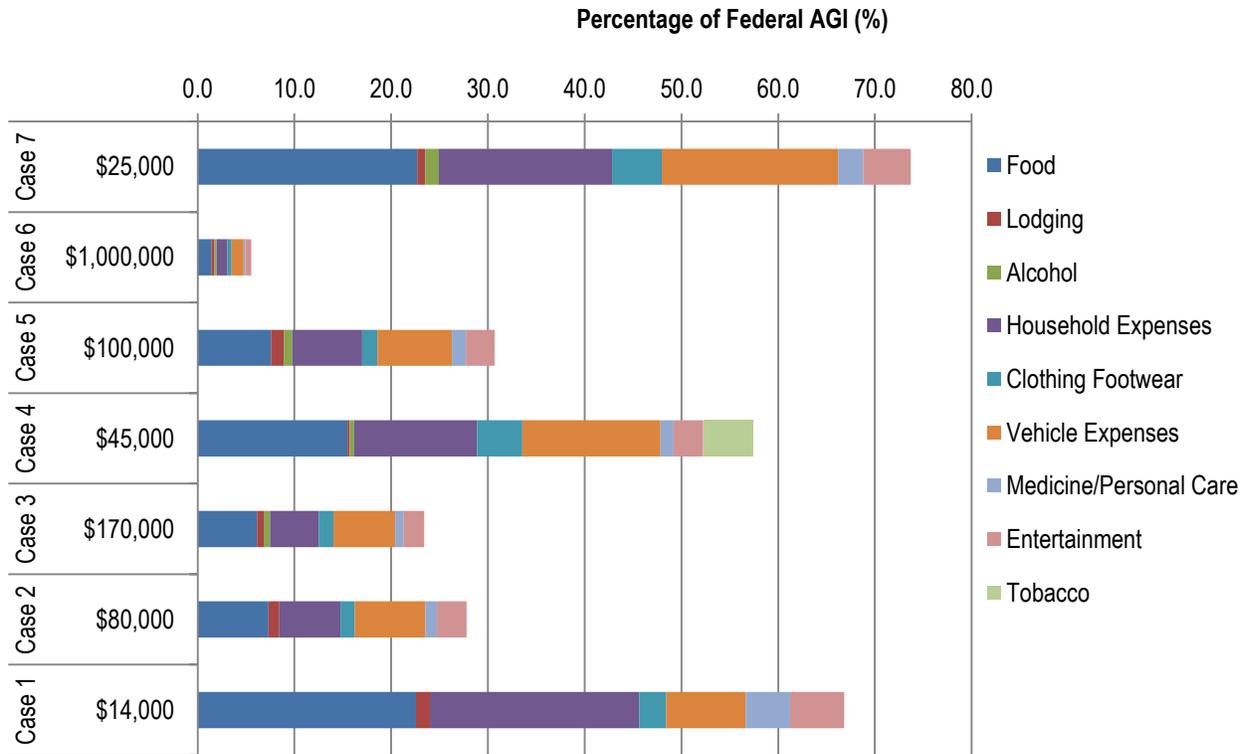
Exemptions analyzed include grocery, candy, soft drinks (effective July 1, 2015), prepared food and meals, clothing, prescription and non-prescription drugs, alcohol, rooms and lodging, communication/telephone services, motor fuel, heating fuel, and electricity. Exemptions in Vermont are listed for clarity.

### Tax Base in Vermont, 2015

Tax Category	Taxable	Differential Rate
Grocery		
Candy		
Soda	Yes	
Prescription Drugs		
Nonprescription Drugs		
Clothing		
Rooms	Yes	9%
Meals	Yes	9%
On Premise Alcohol	Yes	10%
Off Premise Liquor		
Off Premise Beer/Wine	Yes	
Electricity	Yes	
Heating Fuel	Yes	0.5%
Motor Fuel		
Telephone Communications	Yes	
Motor Vehicle Purchase	Yes	
Motor Vehicle Rental	Yes	9%

The 2015 Bureau of Labor and Statistics Consumer Expenditure Survey (CEX) data was used to estimate a bundle of items and amount consumed for each of the representative households. The survey allows for analysis of consumption as a percentage of adjusted gross income and also by filing status. This chart shows the portion of each family's adjusted gross income spent on goods and services and illustrates the regressive nature of a tax on these goods and services.

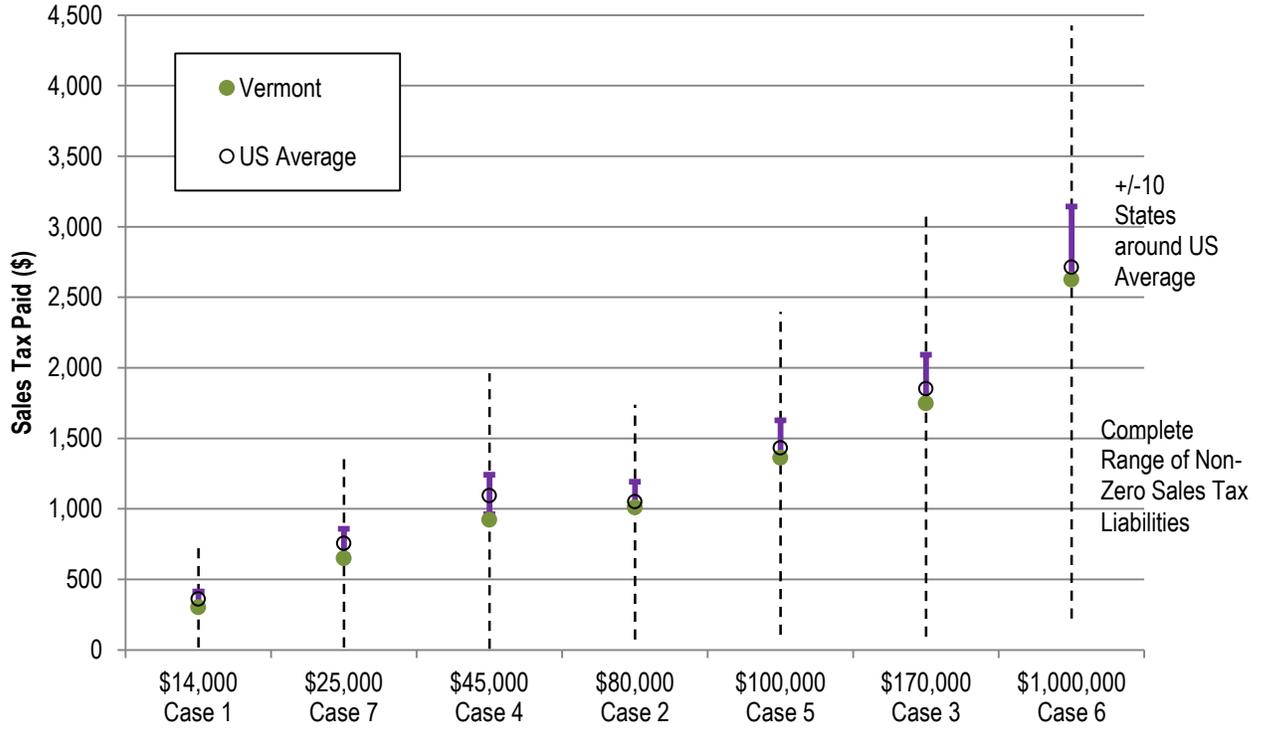
**Percentage of Income Spent on Consumption by Type, CEX 2015**



Using this information on spending for each of the representative households, the amount of consumption tax was calculated for all 51 jurisdictions. On average across the all the cases, Vermont ranks 36th in terms of sales tax paid, hovering about 10 states below the national average.

The next chart illustrates the range of tax levels for each of the jurisdictions. Dots depict average sales tax paid in Vermont and the U.S., and the purple bar shows the range of sales tax for the 10 states falling above and 10 states falling below the national average.

### Range of Sales Tax Levels in All 51 Jurisdictions



## Property Tax

In order to determine the level of taxation on property across the 50 States and D.C., aggregate owner occupied home value and aggregate real estate taxes paid on owner occupied homes from the 2015 ACS were analyzed across the 50 states and DC to calculate an average effective property tax rate. As property taxes are calculated based on home value in the preceding year, calculated rates reflect 2016 average tax rates.

### Comparison of Effective Property Tax Rates Calculated as Average Tax as a Percent of Average Owner Occupied Home Value

State	Average Tax Rate (%)	Rank	State	Average Tax Rate (%)	Rank
United States	1.08		Louisiana	0.48	49
			Maryland	1.00	20
<b>Vermont</b>	<b>1.71</b>	<b>5</b>	Michigan	1.43	13
Connecticut	1.65	6	Minnesota	1.08	19
Massachusetts	1.13	18	Missouri	0.98	21
Maine	1.24	16	Mississippi	0.61	41
New Hampshire	1.99	2	Montana	0.75	33
New York	1.38	14	North Carolina	0.82	31
Rhode Island	1.51	10	North Dakota	0.88	27
			Nebraska	1.59	8
Alaska	0.97	23	New Jersey	2.13	1
Alabama	0.38	50	New Mexico	0.66	39
Arkansas	0.59	42	Nevada	0.68	37
Arizona	0.66	38	Ohio	1.57	9
California	0.72	36	Oklahoma	0.83	30
Colorado	0.55	45	Oregon	0.98	22
District of Columbia	0.57	43	Pennsylvania	1.46	11
Delaware	0.56	44	South Carolina	0.55	46
Florida	0.93	24	South Dakota	1.19	17
Georgia	0.89	26	Tennessee	0.72	35
Hawaii	0.28	51	Texas	1.63	7
Iowa	1.43	12	Utah	0.64	40
Idaho	0.75	34	Virginia	0.83	29
Illinois	1.97	3	Washington	0.93	25
Indiana	0.84	28	Wisconsin	1.72	4
Kansas	1.29	15	West Virginia	0.53	48
Kentucky	0.78	32	Wyoming	0.54	47

Source: US Census

To ensure that the average property tax rates calculated with the U.S. Census data were not overstating the unique, income-based Vermont property tax rates, the average Vermont property taxes were calculated for the 4 cases of homesteaders using Vermont's income sensitivity where appropriate.

The 2015 base rates are \$0.98 per \$100 dollars of homestead value and 1.8 percent of household income. The statewide rates based on average per pupil spending, are \$1.50 per \$100 dollars of homestead value and 2.75 percent of household income.

Average effective property rates include both state and local taxes. Even in Vermont where property taxes are largely state controlled, 27.5 percent of the total property tax in 2015 came from municipal taxation and a small additional acreage tax. As the majority of home sites in Vermont have additional land these must also be accounted for through the additional of a small additional acreage tax.

Excess property, typically additional acreage, is not subject to income sensitivity. The average tax on additional land is tabulated as a function of income class. Averages are taken across all house-sites/homestead; accounting for properties with and without excess land.

#### **Homestead Tax on Additional Acreage**

Income Class	Average Tax (\$)
Under \$47,000	144
\$47,001 - 90,000	142
\$90,001 - 137,500	182
Over 137,501	305

The following table details the average Vermont taxes paid by the case study homeowners.

#### **Average Property Taxes Paid in Vermont**

Property Details	Case 1	Case 5	Case 3	Case 6
AGI (\$)	80,000	100,000	170,000	1,000,000
Home Value (\$)	223,000	278,000	473,000	2,783,000
Income Sensitized	Y	Partial	N	N
Income Property Tax (\$)	2,200	2,750		
Homestead Property Tax (\$)		1,560	7,740	45,600
Total Education Tax (\$)	2,200		7,740	45,600
Municipal Tax (\$)	605	1,185	2,129	12,540
Tax on Additional Acres (\$)	142	182	305	305
Total Tax (\$)	2,947	5,677	10,174	58,445
Average Effective Rate (%)	1.21	1.87	1.97	1.92

### 50 State Comparison of State Income Tax Liability and Effective Rate (% of Federal AGI), 2015

State	Case 2			Case 3			Case 4			Case 5			Case 6			Case 7		
	AGI \$80,000			AGI \$170,000			AGI \$45,000			AGI \$100,000			AGI \$1,000,000			AGI \$25,000		
	Rate (%)	Rate (%)	Rank	Rate (%)	Rate (%)	Rank	Rate (%)	Rate (%)	Rank	Rate (%)	Rate (%)	Rank	Rate (%)	Rate (%)	Rank	Rate (%)	Rate (%)	Rank
<b>Fed</b>	<b>11,925</b>	<b>14.9</b>	<b>-</b>	<b>37,808</b>	<b>22.2</b>	<b>-</b>	<b>-3,021</b>	<b>-6.8</b>	<b>-</b>	<b>10,344</b>	<b>10.3</b>	<b>-</b>	<b>161,923</b>	<b>16.0</b>	<b>-</b>	<b>-6,092</b>	<b>-24.4</b>	<b>-</b>
AL	3,413	4.3	24	5,156	3.0	41	1,748	3.9	4	3,173	3.2	33	31,165	3.1	36	683	2.7	2
AK																		
AZ	2,217	2.8	40	5,240	3.1	39	555	1.2	25	2,345	2.3	41	17,801	1.8	41	81	0.3	15
AR	3,956	4.9	14	8,979	5.3	17	1,766	3.9	3	4,076	4.1	20	30,925	3.1	37	281	1.1	12
CA	3,924	4.9	17	10,830	6.4	6	0	0.0	38	2,955	3.0	37	80,230	7.9	1	0	0.0	17
CO	2,965	3.7	32	6,618	3.9	34	347	0.8	28	3,431	3.4	28	37,724	3.7	29	-392	-1.6	28
CT	3,929	4.9	16	9,449	5.6	14	46	0.1	36	4,507	4.5	16	68,900	6.8	7	-1,062	-4.2	37
DE	3,395	4.2	25	8,253	4.9	23	825	1.8	20	3,616	3.6	25	41,069	4.1	25	0	0.0	17
DC	4,342	5.4	5	11,365	6.7	3	730	1.6	22	5,508	5.5	3	71,787	7.1	6	-1,637	-6.5	39
FL																		
GA	3,761	4.7	20	8,015	4.7	25	1,261	2.8	11	4,279	4.3	19	37,636	3.7	30	470	1.9	5
HI	4,812	6.0	2	12,043	7.1	2	1,631	3.6	6	5,457	5.5	4	60,587	6.0	11	-423	-1.7	32
ID	4,582	5.7	4	10,074	5.9	9	-41	-0.1	39	5,083	5.1	6	59,830	5.9	12	-290	-1.2	26
IL	2,919	3.6	34	6,133	3.6	35	1,094	2.4	16	3,589	3.6	26	37,103	3.7	32	287	1.1	11
IN	2,525	3.2	37	5,330	3.1	38	1,162	2.6	13	3,152	3.2	34	34,107	3.4	33	247	1.0	13
IA	4,275	5.3	6	11,090	6.5	5	1,632	3.6	5	5,528	5.5	2	56,274	5.6	14	-835	-3.3	35
KS	3,072	3.8	31	6,799	4.0	31	294	0.7	29	3,465	3.5	27	37,633	3.7	31	-413	-1.7	31
KY	3,892	4.9	18	8,896	5.2	18	2,217	5.0	1	4,803	4.8	10	50,193	5.0	17	406	1.6	6
LA	2,426	3.0	39	5,514	3.2	37	982	2.2	17	2,735	2.7	39	26,680	2.6	39	-508	-2.0	33
ME	4,646	5.8	3	10,763	6.3	7	18	0.0	37	4,915	4.9	8	76,755	7.6	3	-95	-0.4	22
MD	3,145	3.9	29	7,488	4.4	27	165	0.4	31	3,673	3.7	24	44,805	4.4	23	-790	-3.2	34
MA	3,704	4.6	22	8,322	4.9	22	1,336	3.0	9	4,491	4.5	17	51,067	5.1	16	-281	-1.1	25
MI	3,230	4.0	28	6,715	4.0	32	955	2.1	19	3,910	3.9	22	41,820	4.1	24	307	1.2	9
MN	4,266	5.3	7	11,158	6.6	4	94	0.2	34	4,650	4.7	14	75,411	7.5	4	-3,277	-13.1	40
MS	3,075	3.8	30	7,091	4.2	29	965	2.2	18	3,400	3.4	30	39,778	3.9	27	380	1.5	7
MO	3,579	4.5	23	7,731	4.5	26	1,151	2.6	14	3,400	3.4	30	46,440	4.6	20	366	1.5	8
MT	4,140	5.2	10	9,493	5.6	13	1,135	2.5	15	5,068	5.1	7	40,797	4.0	26	294	1.2	10
NE	3,847	4.8	19	9,258	5.4	16	233	0.5	30	3,932	3.9	21	56,184	5.6	15	-306	-1.2	27
NV																		
NH	Tax on interest/dividends												60	0.01	44			
NJ	2,653	3.3	35	8,209	4.8	24	64	0.1	35	2,365	2.4	40	72,209	7.1	5	-969	-3.9	36
NM	2,928	3.7	33	6,823	4.0	30	-62	-0.1	40	3,412	3.4	29	21,226	2.1	40	-409	-1.6	29
NY	4,212	5.3	8	9,940	5.8	10	-413	-0.9	42	4,756	4.8	12	62,011	6.1	10	-3,391	-13.6	41
NC	4,054	5.1	12	8,740	5.1	19	1,409	3.2	7	4,888	4.9	9	49,738	4.9	18	498	2.0	4
ND	964	1.2	42	2,711	1.6	42	133	0.3	33	847	0.8	42	6,912	0.7	42	42	0.2	16
OH	2,188	2.7	41	5,988	3.5	36	440	1.0	26	2,752	2.8	38	46,853	4.6	19	0	0.0	17
OK	3,334	4.2	26	7,268	4.3	28	591	1.3	24	3,860	3.9	23	32,840	3.3	34	-118	-0.5	23
OR	5,336	6.7	1	13,720	8.1	1	2,057	4.6	2	6,302	6.3	1	78,851	7.8	2	-3,527	-14.1	42
PA	2,456	3.1	38	5,219	3.1	40	1,382	3.1	8	3,070	3.1	35	30,639	3.0	38	691	2.8	1
RI	2,619	3.3	36	6,683	3.9	33	155	0.3	32	2,994	3.0	36	58,127	5.8	13	-409	-1.6	29
SC	4,164	5.2	9	9,305	5.5	15	354	0.8	27	4,759	4.8	11	31,495	3.1	35	0	0.0	17
SD																		
TN	Tax on interest/dividends												210	0.02	43			
TX																		
UT	4,000	5.0	13	8,500	5.0	20	802	1.8	21	4,741	4.7	13	38,500	3.8	28	211	0.8	14
<b>VT</b>	<b>3,308</b>	<b>4.1</b>	<b>27</b>	<b>9,823</b>	<b>5.8</b>	<b>11</b>	<b>-145</b>	<b>-0.3</b>	<b>41</b>	<b>3,270</b>	<b>3.3</b>	<b>32</b>	<b>68,473</b>	<b>6.8</b>	<b>8</b>	<b>-1,267</b>	<b>-5.1</b>	<b>38</b>
VA	3,743	4.7	21	8,341	4.9	21	1,237	2.8	12	4,322	4.3	18	45,991	4.6	21	0	0.0	17
WA																		
WV	3,947	4.9	15	10,098	5.9	8	1,336	3.0	9	5,117	5.1	5	63,225	6.3	9	662	2.6	3
WI	4,070	5.1	11	9,731	5.7	12	602	1.3	23	4,517	4.5	15	45,657	4.5	22	-264	-1.1	24
WY																		
<b>US</b>	<b>3,524</b>	<b>4.4</b>	<b>-</b>	<b>8,307</b>	<b>4.9</b>	<b>-</b>	<b>768</b>	<b>1.7</b>	<b>-</b>	<b>3,979</b>	<b>4.0</b>	<b>-</b>	<b>47,749</b>	<b>4.7</b>	<b>-</b>	<b>-351</b>	<b>-1.4</b>	<b>-</b>

## Consumption Bundles as a Percentage of Federal AGI, 2015 Consumer Expenditure Survey

Consumption	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 6
	AGI \$14,000	AGI \$80,000	AGI \$170,000	AGI \$45,000	AGI \$100,000	AGI \$1,000,000	AGI \$25,000
Soda Pop	0.69	0.15	0.12	0.36	0.16	0.02	0.65
Candy	0.30	0.11	0.06	0.21	0.08	0.01	0.26
Food at home minus soda and candy	15.37	3.23	3.12	9.87	3.93	0.64	14.34
Food away from home	6.18	3.82	2.84	5.04	3.42	0.74	7.45
Other Lodging	1.47	1.11	0.68	0.22	1.31	0.32	0.83
Beer On Premise	-	-	0.16	0.11	0.23	0.05	0.35
Beer Retail	-	-	0.16	0.11	0.23	0.05	0.35
Wine On Premise	-	-	0.07	0.04	0.09	0.02	0.14
Wine Retail	-	-	0.07	0.04	0.09	0.02	0.14
Liquor On Premise	-	-	0.10	0.07	0.14	0.03	0.21
Liquor Retail	-	-	0.10	0.07	0.14	0.03	0.21
Liquor On Premise	-	-	0.10	0.07	0.14	0.03	0.21
Housing Parts	0.68	0.22	0.12	0.15	0.20	0.03	0.16
Electricity	7.16	1.41	1.08	3.90	1.63	0.21	5.91
Heating Fuels	2.71	0.65	0.47	1.23	0.71	0.11	1.39
Telephone services	4.35	1.29	1.19	3.66	1.44	0.21	4.28
Housekeeping supplies	2.89	0.62	0.56	1.47	0.88	0.12	1.98
Household furnishings and equipment	3.82	2.14	1.63	2.28	2.36	0.43	4.17
Footwear	0.54	0.31	0.33	1.54	0.34	0.10	1.04
Clothing	2.26	1.16	1.17	3.13	1.23	0.33	4.09
Personal Care Products	1.42	0.53	0.39	0.61	0.50	0.09	0.88
Gasoline and motor oil	5.00	2.30	2.01	6.44	2.52	0.36	7.67
Parts	1.11	0.66	0.46	1.27	0.59	0.10	1.45
Vehicle Rental	0.10	0.08	0.06	0.08	0.08	0.02	0.08
Vehicle purchases (net outlay)	1.99	4.26	3.87	6.50	4.54	0.77	9.03
Personal Care Products	1.42	0.53	0.39	0.61	0.50	0.09	0.88
Prescription	1.34	0.23	0.18	0.30	0.36	0.04	0.75
Non Prescription	1.34	0.23	0.18	0.30	0.36	0.04	0.75
Medical supplies	0.51	0.19	0.13	0.14	0.23	0.03	0.25
Vehicle Rental	0.10	0.08	0.06	0.08	0.08	0.02	0.08
Vehicle purchases (net outlay)	1.99	4.26	3.87	6.50	4.54	0.77	9.03
Fees and admissions	0.77	0.96	0.67	0.53	0.78	0.25	0.66
Entertainment Products	4.47	1.92	1.35	2.45	1.99	0.32	4.01
Reading	0.34	0.19	0.09	0.07	0.18	0.03	0.22
Tobacco products and smoking supplies	-	-	-	5.14	-	-	-
<b>Total % of Federal AGI</b>	<b>66.8</b>	<b>27.8</b>	<b>23.4</b>	<b>57.4</b>	<b>30.7</b>	<b>5.5</b>	<b>73.7</b>

The following assumptions were employed to allocate the CEX data into taxable groups:

- Soft drinks are 40% of “nonalcoholic beverages”
- Candy is 50% of “Sugar and other sweets”
- “Alcohol” is allocated as 50% Beer, 30% Liquor and 20% Wine
- 50% of “Alcohol” is consumed on premise, 50% off premise
- “Drugs” are considered 50% prescription, 50% non-prescription
- “Personal Care products and services” is allocated as 60% products
- Entertainment products make up 75% of “Entertainment Products and Services”
- 50% of “Maintenance and Repairs” is taxable parts
- 1 in every 5 persons smokes – Case 4 smokes and consumes 5 times the national consumption average
- 70% of Americans drink – Cases 3 -7 drink and consume 1.4 times the national consumption average

## 50 State Comparison of State Sales Tax Liability and Effective Rate (% of Federal AGI), 2015

State	Case 1			Case 2			Case 3			Case 4			Case 5			Case 6			Case 7		
	AGI \$14,000			AGI \$80,000			AGI \$170,000			AGI \$45,000			AGI \$100,000			AGI \$1,000,000			AGI \$25,000		
	Paid (\$)	Rate (%)	Rank	Paid (\$)	Rate (%)	Rank	Paid (\$)	Rate (%)	Rank	Paid (\$)	Rate (%)	Rank	Rate (%)	Rate (%)	Rank	Rate (%)	Rate (%)	Rank	Paid (\$)	Rate (%)	Rank
AL	587	4.2	5	1,347	1.7	10	2,417	1.4	10	1,577	3.5	6	1,856	1.9	10	3,548	0.4	9	1,100	4.4	6
AK	39	0.3	49	99	0.1	49	154	0.1	49	113	0.3	49	131	0.1	49	222	0.0	50	60	0.2	49
AZ	339	2.4	29	1,188	1.5	17	2,093	1.2	15	1,161	2.6	23	1,601	1.6	17	3,143	0.3	15	786	3.1	27
AR	605	4.3	3	1,647	2.1	3	2,909	1.7	3	1,754	3.9	3	2,249	2.2	3	4,213	0.4	3	1,221	4.9	3
CA	337	2.4	30	1,118	1.4	22	2,011	1.2	21	1,183	2.6	20	1,522	1.5	22	2,863	0.3	24	798	3.2	25
CO	363	2.6	25	1,143	1.4	21	2,030	1.2	19	1,187	2.6	19	1,561	1.6	19	2,945	0.3	20	808	3.2	23
CT	411	2.9	16	1,214	1.5	14	2,079	1.2	17	1,175	2.6	22	1,638	1.6	14	3,203	0.3	13	821	3.3	18
DE	17	0.1	50	73	0.1	50	94	0.1	50	8	0.0	50	106	0.1	50	259	0.0	49	17	0.1	50
DC	292	2.1	38	1,063	1.3	29	1,852	1.1	30	936	2.1	37	1,445	1.4	28	2,961	0.3	18	670	2.7	33
FL	359	2.6	26	1,156	1.4	18	2,037	1.2	18	1,206	2.7	16	1,561	1.6	20	2,958	0.3	19	819	3.3	20
GA	285	2.0	40	962	1.2	36	1,696	1.0	36	959	2.1	35	1,316	1.3	35	2,535	0.3	36	651	2.6	37
HI	345	2.5	28	824	1.0	43	1,452	0.9	45	947	2.1	36	1,153	1.2	43	2,087	0.2	45	668	2.7	35
ID	395	2.8	18	1,074	1.3	27	1,917	1.1	24	1,137	2.5	26	1,475	1.5	26	2,837	0.3	25	813	3.3	21
IL	474	3.4	8	1,448	1.8	5	2,603	1.5	6	1,628	3.6	5	1,974	2.0	7	3,621	0.4	8	1,099	4.4	7
IN	386	2.8	20	1,191	1.5	16	2,126	1.3	14	1,308	2.9	12	1,628	1.6	15	2,989	0.3	17	886	3.5	13
IA	399	2.9	17	1,144	1.4	20	2,012	1.2	20	1,206	2.7	17	1,549	1.5	21	2,913	0.3	21	837	3.3	16
KS	729	5.2	1	1,739	2.2	1	3,110	1.8	1	1,962	4.4	1	2,398	2.4	1	4,428	0.4	1	1,406	5.6	1
KY	298	2.1	37	967	1.2	35	1,700	1.0	35	963	2.1	34	1,306	1.3	36	2,535	0.3	35	657	2.6	36
LA	431	3.1	11	1,415	1.8	8	2,498	1.5	8	1,417	3.1	10	1,914	1.9	8	3,712	0.4	6	960	3.8	10
ME	261	1.9	46	890	1.1	39	1,553	0.9	39	842	1.9	45	1,209	1.2	39	2,369	0.2	39	591	2.4	41
MD	358	2.6	27	1,039	1.3	31	1,860	1.1	29	1,100	2.4	30	1,429	1.4	31	2,722	0.3	29	765	3.1	29
MA	267	1.9	43	859	1.1	42	1,468	0.9	43	833	1.9	46	1,150	1.2	44	2,074	0.2	46	565	2.3	46
MI	379	2.7	23	1,076	1.3	26	1,911	1.1	25	1,198	2.7	18	1,477	1.5	25	2,673	0.3	31	819	3.3	19
MN	390	2.8	19	1,148	1.4	19	1,997	1.2	22	1,136	2.5	27	1,566	1.6	18	2,893	0.3	22	801	3.2	24
MS	512	3.7	7	1,444	1.8	7	2,620	1.5	4	1,562	3.5	7	1,978	2.0	6	3,701	0.4	7	1,113	4.5	5
MO	414	3.0	15	1,288	1.6	11	2,278	1.3	11	1,315	2.9	11	1,743	1.7	11	3,359	0.3	11	902	3.6	12
MT	237	1.7	47	426	0.5	48	812	0.5	47	624	1.4	47	594	0.6	47	929	0.1	48	410	1.6	47
NE	424	3.0	14	1,193	1.5	15	2,088	1.2	16	1,242	2.8	15	1,620	1.6	16	3,049	0.3	16	858	3.4	15
NV	311	2.2	35	1,053	1.3	30	1,889	1.1	27	1,101	2.4	29	1,434	1.4	30	2,709	0.3	30	740	3	30
NH	140	1.0	48	434	0.5	47	739	0.4	48	341	0.8	48	573	0.6	48	1,211	0.1	47	279	1	48
NJ	314	2.2	33	1,063	1.3	28	1,821	1.1	31	967	2.1	32	1,435	1.4	29	2,744	0.3	28	669	2.7	34
NM	312	2.2	34	806	1.0	46	1,372	0.8	46	882	2.0	42	1,118	1.1	46	2,118	0.2	44	577	2.3	44
NY	429	3.1	12	1,395	1.7	9	2,435	1.4	9	1,417	3.1	9	1,880	1.9	9	3,448	0.3	10	965	3.9	9
NC	425	3.0	13	1,083	1.4	24	1,867	1.1	28	1,152	2.6	24	1,472	1.5	27	2,800	0.3	27	791	3.2	26
ND	272	1.9	42	819	1.0	45	1,473	0.9	42	886	2.0	40	1,156	1.2	42	2,206	0.2	41	577	2.3	45
OH	448	3.2	10	1,252	1.6	13	2,190	1.3	13	1,303	2.9	13	1,700	1.7	12	3,199	0.3	14	905	3.6	11
OK	609	4.3	2	1,445	1.8	6	2,606	1.5	5	1,646	3.7	4	2,013	2.0	5	3,861	0.4	4	1,160	4.6	4
OR	0	0.0	51	0	0.0	51	0	0.0	51	0	0.0	51	0	0.0	51	0	0.0	51	0	0.0	51
PA	265	1.9	45	865	1.1	40	1,515	0.9	41	851	1.9	44	1,181	1.2	40	2,161	0.2	42	582	2.3	43
RI	322	2.3	32	1,032	1.3	32	1,778	1.0	33	966	2.1	33	1,416	1.4	32	2,615	0.3	34	675	2.7	32
SC	368	2.6	24	1,083	1.4	25	1,890	1.1	26	1,106	2.5	28	1,481	1.5	24	2,834	0.3	26	770	3.1	28
SD	451	3.2	9	1,024	1.3	33	1,803	1.1	32	1,152	2.6	25	1,413	1.4	33	2,659	0.3	32	827	3	17
TN	595	4.3	4	1,665	2.1	2	2,967	1.7	2	1,773	3.9	2	2,270	2.3	2	4,315	0.4	2	1,239	5.0	2
TX	384	2.7	21	1,271	1.6	12	2,219	1.3	12	1,292	2.9	14	1,679	1.7	13	3,251	0.3	12	862	3	14
UT	383	2.7	22	1,112	1.4	23	1,980	1.2	23	1,180	2.6	21	1,511	1.5	23	2,865	0.3	23	812	3.2	22
<b>VT</b>	<b>303</b>	<b>2.2</b>	<b>36</b>	<b>1,012</b>	<b>1.3</b>	<b>34</b>	<b>1,749</b>	<b>1.0</b>	<b>34</b>	<b>924</b>	<b>2.1</b>	<b>38</b>	<b>1,363</b>	<b>1.4</b>	<b>34</b>	<b>2,627</b>	<b>0.3</b>	<b>33</b>	<b>650</b>	<b>2.6</b>	<b>38</b>
VA	280	2.0	41	820	1.0	44	1,461	0.9	44	884	2.0	41	1,123	1.1	45	2,143	0.2	43	598	2.4	40
WA	552	3.9	6	1,489	1.9	4	2,585	1.5	7	1,561	3.5	8	2,018	2.0	4	3,814	0.4	5	1,077	4.3	8
WV	288	2.1	39	917	1.1	38	1,589	0.9	38	891	2.0	39	1,236	1.2	38	2,431	0.2	37	604	2.4	39
WI	267	1.9	44	863	1.1	41	1,521	0.9	40	867	1.9	43	1,165	1.2	41	2,254	0.2	40	590	2.4	42
WY	335	2.4	31	945	1.2	37	1,654	1.0	37	981	2.2	31	1,284	1.3	37	2,420	0.2	38	678	2.7	31
<b>US</b>	<b>361</b>	<b>2.6</b>	<b>-</b>	<b>1,051</b>	<b>1.3</b>	<b>-</b>	<b>1,852</b>	<b>1.1</b>	<b>-</b>	<b>1,094</b>	<b>2.4</b>	<b>-</b>	<b>1,433</b>	<b>1.4</b>	<b>-</b>	<b>2,714</b>	<b>0.3</b>	<b>-</b>	<b>755</b>	<b>3.0</b>	<b>-</b>

## **Appendix E**

### **The Cross-Border Issue: An Ongoing Analysis Affecting Multiple Taxes**

#### **Introduction**

Act 157 mandated an analysis of “cross-border tax policies and competitiveness with neighboring states, including: (A) impacts on the pattern of retailing, the location of retail activity, and retail market share; (B) impacts of retail sales tax rates and other related excise taxes, including on tobacco products, and to the extent data is available, on alcohol and gasoline; and (C) the impact by business size, to the extent data is available.”

This study is a continuation of an ongoing set of analyses and source data development that the Joint Fiscal Office and Tax Department have pursued in response to ongoing revenue analyses and forecasting and a succession of legislative requests for economic and revenue impacts associated with regional tax rate differentials for various revenue categories.<sup>2</sup> While it advances some of the prior analyses in substantive ways, there is still further research and study necessary to fully quantify the economic and revenue effects of various tax rate differentials between Vermont and neighboring tax jurisdictions.

The importance of understanding cross-border tax rate differentials is underscored by the fact that only two of Vermont’s 14 counties (Washington and Lamoille) do not border another state or province, and no place in the state is more than about a one-hour drive to a state or provincial border.

The most significant tax rate differentials have generally been between Vermont and New Hampshire; however, differentials also have existed between Vermont and New York and, to a lesser extent, Vermont and Massachusetts at times. Analysis of variations in tax policy between Vermont and Quebec, Canada, were not included in this study segment. The tax that is most affected by rate differentials between Vermont and New Hampshire is the Sales and Use Tax, first implemented in Vermont in 1969 at rate of 3 percent and steadily increased over time to its present rate of 6 percent (in effect since 2003); New Hampshire is one of four U.S. states with no state or local general sales tax.<sup>3</sup> Accordingly, and consistent with the Act 157 directive emphasizing study of retail industry impacts, this study focused primarily on this tax and cross-border impacts with New Hampshire.

Other taxes that were considered in this analysis include cigarette taxes, which are analyzed on a more regular basis in response to frequent tax rate changes, gasoline taxes and taxes on alcoholic beverages.

#### **Summary of Findings to Date**

While tax rate differentials can result in important behavioral economic effects, there are many other state, industry, and local conditions that affect relative economic and demographic conditions in neighboring border areas.

Vermont’s 255 mile border with New Hampshire is porous, with 29 vehicular bridges across the Connecticut River. It is clear that the steadily increasing state sales tax differential over the past

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<sup>2</sup> See, for example, the Tax Reports section of the JFO website at [http://www.leg.state.vt.us/ifo/revenue\\_tax.aspx](http://www.leg.state.vt.us/ifo/revenue_tax.aspx), “Sales Tax on Selected Services Report – January 2016,” and in the Issue Briefs section, “Revenue Impacts Associated With Proposed Cigarette Tax Rate Changes - April 2013.”

<sup>3</sup> The others are Delaware, Montana and Oregon. Although Alaska has no state sales tax, there are local general sales taxes of up to 7%.

47 years, ranging from 3 percent to 6 percent, has contributed to shopping and development patterns that have shifted significant retailing activity from Vermont to New Hampshire. The sales tax differential alone, however, is not the single or perhaps even the most significant causal factor in this outcome. The total economic and fiscal impacts associated with this development differential are equally complex.

Trends in retailing over the past 50 years — including the ascendancy of ever-larger so-called “big box” stores and more recently, the rise of the internet and associated tax-free shopping with quick, low cost, home delivery — have radically affected retailing, warehousing, delivery, and the relative importance of state tax policies.

The ever-growing share of sales over the study period at large retailing chains such as Walmart, Home Depot, Costco, Lowe’s, Staples, etc. has driven many smaller retailers out of business, and concentrated sales in smaller geographic areas, often outside of historical downtown shopping districts. In recent years, e-commerce retailing has been growing rapidly, and now represents more than 8 percent of all retail sales and an even higher share of the Vermont sales tax base. It has been cutting into sales at “brick and mortar” stores (especially “regional” and “super-regional” centers<sup>4</sup>), causing the closure of hundreds of malls across the country. It has even driven Walmart to announce the closure of 154 U.S. stores earlier this year and prompted its \$3 billion purchase of Jet.com, in an effort to offset slowing store sales with a heightened e-commerce presence. While Vermont tax avoidance through internet purchases has impacted state sales and use revenues, it has also removed some of the incentive to shop in New Hampshire and impacted retailers there accordingly.

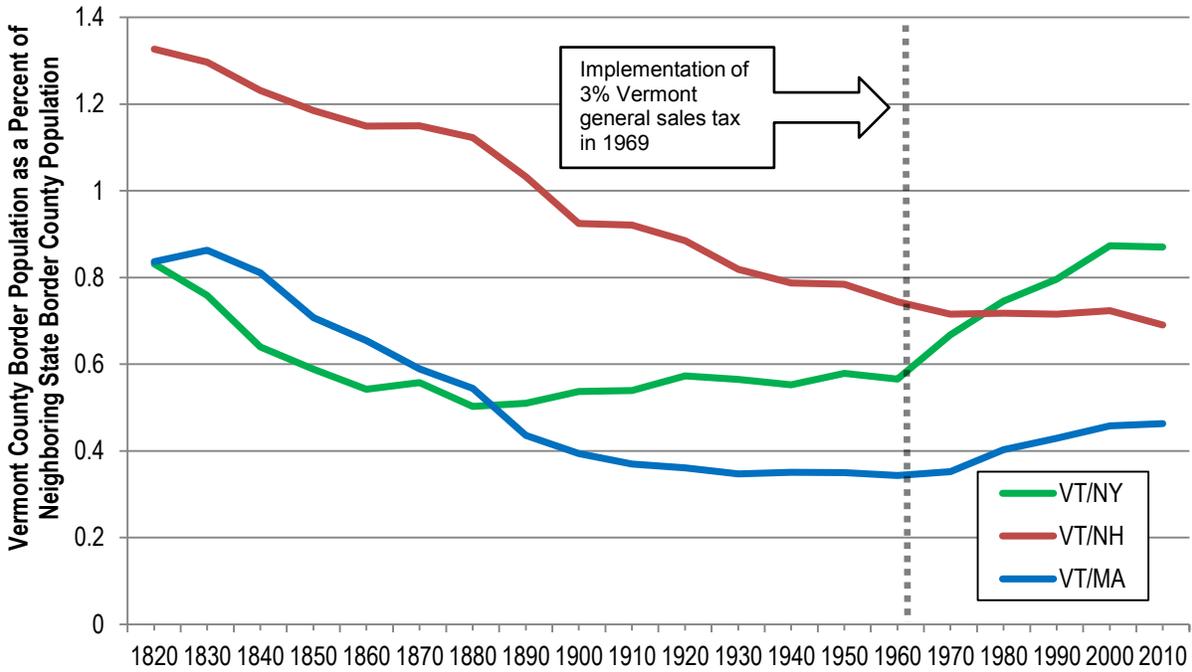
Demographics also matter. Historical population settlement patterns affected the siting and growth of towns along the Connecticut River, which have persisted over hundreds of years — well before any sales tax existed. As the chart on the following page illustrates, the relative size of the population of Vermont border counties has steadily declined relative to New Hampshire border counties over the last 200 years. Since retail sales are closely linked to population, it would not be surprising to find that retail development would follow such population shifts and not necessarily cause them. In fact, since 1969, the Vermont-to-New Hampshire ratio of population has been either flat or declining more slowly than in any of the preceding 150 years. The aging of the population in both states will also affect retail sales, reducing sales relative to overall population. It will also probably increase the value to consumers of home delivery options offered by internet shopping.

Other state policies, especially those affecting new construction and development, such as Act 250, which was enacted about a year after the first Vermont sales tax, may have been as or more impactful with respect to retail store development along the New Hampshire and Vermont border as the sales tax rate differential. Walmart and other “big box” developments have been actively opposed in almost every Vermont location in which they have been proposed. Act 250 provisions to limit sprawl, among other considerations, have delayed, added mitigation costs or prevented building permit approval in many locations. Given the option to quickly develop in a nearby location with a less restrictive permitting regimen, New Hampshire offers an easy choice. All six Walmart stores along the Connecticut River border are located on the New Hampshire side of the river.

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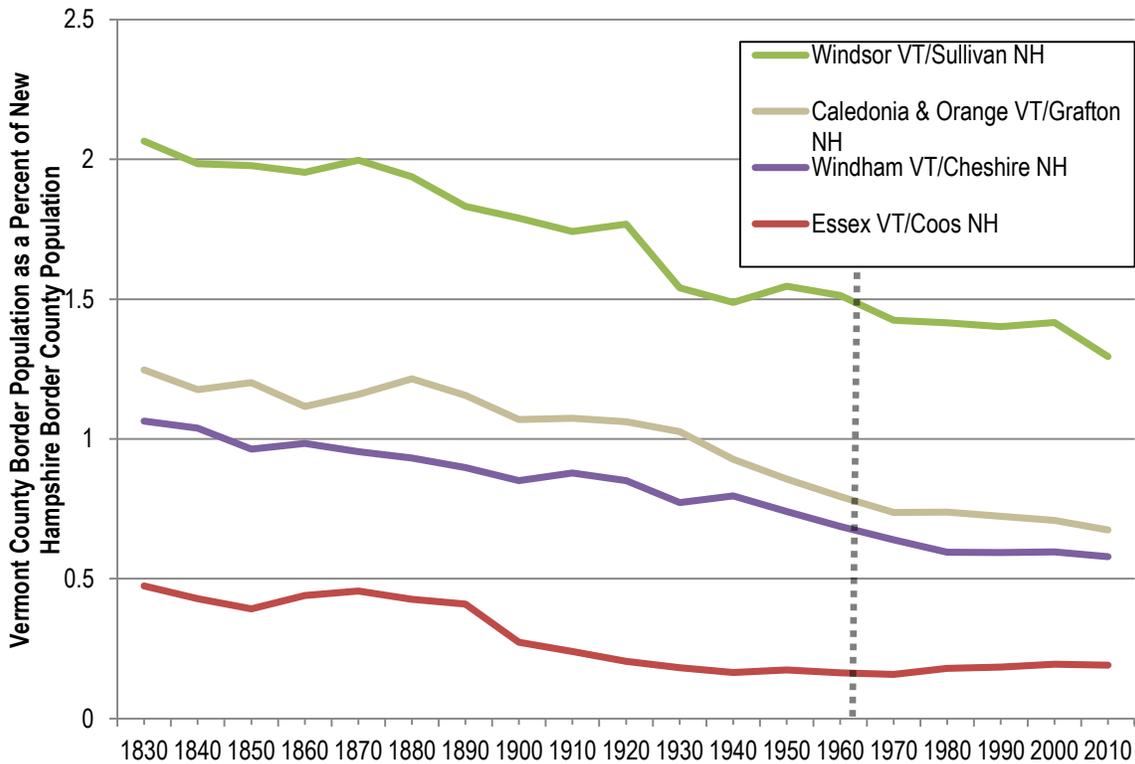
<sup>4</sup> See CBRE research at [www.cbre.us](http://www.cbre.us) and [www.cbre.us/AssetLibrary/CBRE\\_ARC\\_Retail\\_VF.pdf](http://www.cbre.us/AssetLibrary/CBRE_ARC_Retail_VF.pdf) as well as research by the International Council of Shopping Centers at [www.icsc.org/research](http://www.icsc.org/research). “Community” and “neighborhood” retail stores were the least affected brick and mortar market segment.

### Population in Vermont Border Counties Relative to Border Counties in NH, MA and NY



Source: U.S. Census Bureau

### Population in Vermont Border Counties Relative to Opposing New Hampshire Border Counties



Source: U.S. Census Bureau

Maine, which also has a long border with New Hampshire, and has had a comparable sales tax differential for longer than Vermont<sup>5</sup>, has 25 Walmart stores, one for every 53,000 residents, whereas Vermont (with the opening of the newest store in Derby in November of 2016) now has six, one for every 104,000 residents. New Hampshire has one Walmart store for every 43,000 residents.

Big box retail development, however, is not an unambiguous economic “good.” Unlike exporting industries, retail trade is highly local. Wages in the industry are among the lowest in the economy and workers often depend upon public assistance despite full time employment. The efficiencies of large retailers means that fewer employees are needed for the same level of retail sales and thus total sectoral employment in a region can decline, or grow less quickly, despite new retail development.

Supporting industries for large national or international chains also tend to be less local. The lawyers, accountants, and other administrative support services associated with large retailing are often concentrated at corporate locations outside of the region instead of utilizing local resources. Lastly, as smaller local retailers are displaced and retailing centers move out of older downtown areas, shuttered stores can contribute to a broader economic collapse in these downtown areas, affecting many other sectors, including the increasingly important tourism industry.

Employment impacts from these development patterns can be overstated. Border area jobs at new retail developments, despite being counted in some data sources by place of work, are available, of course, to all. If a retail development is close enough to a state border to attract out-of-state shoppers, it can also attract out-of-state workers. Such job opportunities for Vermont border residents exist from the construction through the operation of such stores, despite their locations on the east shore of the River.

In fact, as detailed in the commuting workflows table, more than 22,000 workers commute across the Connecticut River between Vermont and New Hampshire each day. Following longstanding population concentrations, the net flows are higher into Vermont at the southern part of the river and higher into New Hampshire at the middle and northern sections. The largest flows into New Hampshire are in Grafton County, in the Hanover-Lebanon area, from Windsor and Orange Counties, Vermont, from which more than 8,500 workers commute. The largest flows into Vermont are from Cheshire County, New Hampshire, into Windham County, Vermont, where more than 3,000 workers commute. About 1800 workers flow from Sullivan, New Hampshire, to Windsor County and about 900 in the opposite direction. Though much smaller in size, about 1,000 workers commute from Essex County, Vermont, to either Coos (about 650) or Grafton (about 350) Counties in New Hampshire. In total, about 8,900 workers travel from New Hampshire to Vermont to work and about 13,400 workers from Vermont to New Hampshire. Regardless of the sales tax rate, these flows affect shopping patterns in the two states and reinforce the existing population advantage of the largest border communities.

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<sup>5</sup> Maine’s first general sales tax was introduced in 1957 at 3% and was raised to 5% by the time Vermont first enacted a general sales tax in 1969. It was raised to 6% in 1991, before being lowered to 5.5% in 1998 and then 5% in 2000. There are, of course, many other factors that have affected retailing patterns between Maine and New Hampshire, which have not been analyzed in this study.

## Commuting Flows between Vermont and New Hampshire, Average 2009 - 2013

Place of Residence		Place of Work		Workers in Commuting Flow
New Hampshire	Cheshire County	Vermont	Addison County	5
New Hampshire	Cheshire County	Vermont	Chittenden County	32
New Hampshire	Cheshire County	Vermont	Orange County	8
New Hampshire	Cheshire County	Vermont	Rutland County	21
New Hampshire	Cheshire County	Vermont	Windham County	3,050
New Hampshire	Cheshire County	Vermont	Windsor County	168
New Hampshire	Coos County	Vermont	Caledonia County	75
New Hampshire	Coos County	Vermont	Chittenden County	7
New Hampshire	Coos County	Vermont	Essex County	256
New Hampshire	Coos County	Vermont	Lamoille County	10
New Hampshire	Coos County	Vermont	Orange County	12
New Hampshire	Coos County	Vermont	Orleans County	55
New Hampshire	Coos County	Vermont	Washington County	13
New Hampshire	Grafton County	Vermont	Caledonia County	399
New Hampshire	Grafton County	Vermont	Chittenden County	32
New Hampshire	Grafton County	Vermont	Essex County	27
New Hampshire	Grafton County	Vermont	Orange County	694
New Hampshire	Grafton County	Vermont	Rutland County	44
New Hampshire	Grafton County	Vermont	Washington County	21
New Hampshire	Grafton County	Vermont	Windham County	29
New Hampshire	Grafton County	Vermont	Windsor County	1,683
New Hampshire	Sullivan County	Vermont	Caledonia County	5
New Hampshire	Sullivan County	Vermont	Chittenden County	30
New Hampshire	Sullivan County	Vermont	Orange County	59
New Hampshire	Sullivan County	Vermont	Windham County	296
New Hampshire	Sullivan County	Vermont	Windsor County	1,862
<b>New Hampshire</b>	<b>All Counties</b>	<b>Vermont</b>	<b>All Counties</b>	<b>8,893</b>
Vermont	Caledonia County	New Hampshire	Belknap County	3
Vermont	Caledonia County	New Hampshire	Carroll County	12
Vermont	Caledonia County	New Hampshire	Coos County	50
Vermont	Caledonia County	New Hampshire	Grafton County	901
Vermont	Caledonia County	New Hampshire	Hillsborough County	20
Vermont	Caledonia County	New Hampshire	Rockingham County	1
Vermont	Essex County	New Hampshire	Belknap County	2
Vermont	Essex County	New Hampshire	Coos County	653
Vermont	Essex County	New Hampshire	Grafton County	346
Vermont	Essex County	New Hampshire	Merrimack County	2
Vermont	Essex County	New Hampshire	Rockingham County	6
Vermont	Orange County	New Hampshire	Belknap County	6
Vermont	Orange County	New Hampshire	Coos County	5
Vermont	Orange County	New Hampshire	Grafton County	2,670
Vermont	Orange County	New Hampshire	Merrimack County	6
Vermont	Orange County	New Hampshire	Strafford County	2
Vermont	Orange County	New Hampshire	Sullivan County	58
Vermont	Windham County	New Hampshire	Cheshire County	1,212
Vermont	Windham County	New Hampshire	Grafton County	92
Vermont	Windham County	New Hampshire	Hillsborough County	12
Vermont	Windham County	New Hampshire	Merrimack County	7
Vermont	Windham County	New Hampshire	Rockingham County	5
Vermont	Windham County	New Hampshire	Sullivan County	94
Vermont	Windsor County	New Hampshire	Carroll County	24
Vermont	Windsor County	New Hampshire	Cheshire County	140
Vermont	Windsor County	New Hampshire	Grafton County	6,082
Vermont	Windsor County	New Hampshire	Hillsborough County	18
Vermont	Windsor County	New Hampshire	Merrimack County	20
Vermont	Windsor County	New Hampshire	Strafford County	12
Vermont	Windsor County	New Hampshire	Sullivan County	933
<b>Vermont</b>	<b>All Counties</b>	<b>New Hampshire</b>	<b>All Counties</b>	<b>13,394</b>

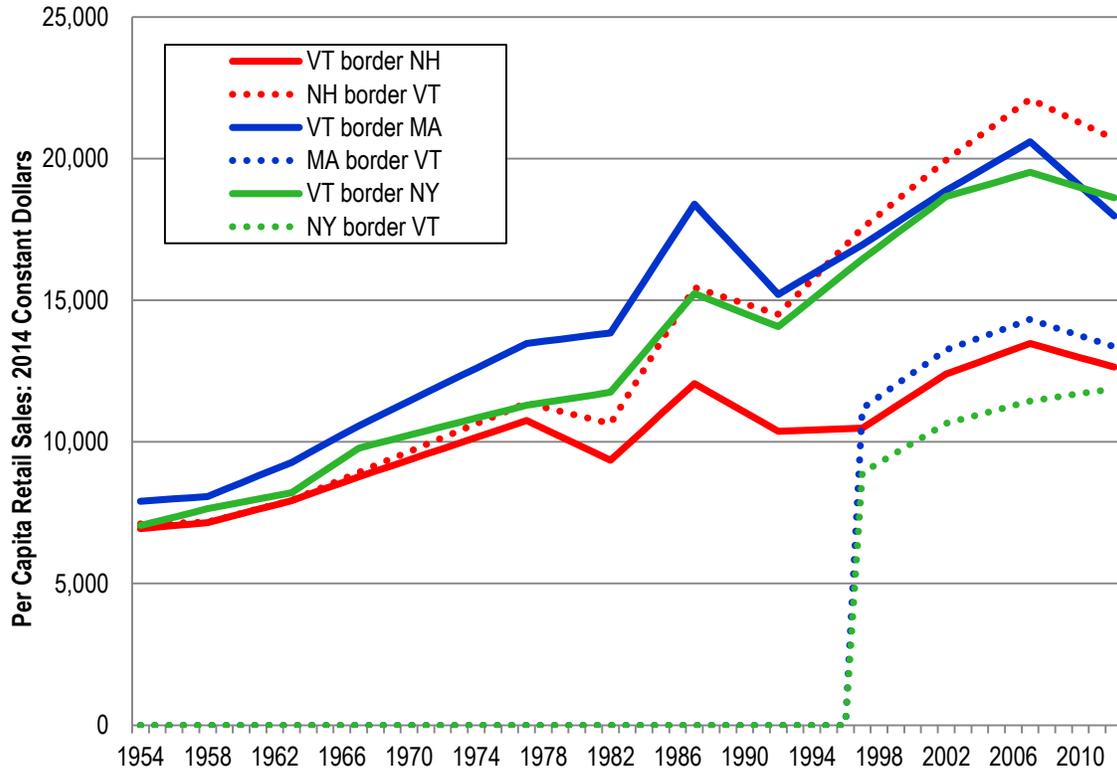
Although much of this analysis (and almost all prior similar analyses) is based on county-level data, the introduction of lower-level town information provides a more complete understanding of some of the variances between the border regions compared. For example, much of the economic and population growth in the New Hampshire border counties has taken place in the three towns near the intersection of Interstates 89 and 91: Hanover, Lebanon and Plainfield. This area also has two significant economic anchors, Dartmouth College and the large Dartmouth-Hitchcock Medical Center. These two enterprises are notable for their lack of sensitivity to business cycles, their relatively high levels of employee pay and associated demand for local supplying and related businesses. Between 1990 and 2015, average annual compound total employment growth in the Vermont border counties was 0.1 percent per year, while it was 0.2 percent per year in the New Hampshire border counties. However, excluding the towns of Hanover, Lebanon and Plainfield, the growth rate in the New Hampshire counties was identical to those in Vermont, at 0.1 percent per year.

These and other local statistics underscore the fact that with the exception of a few areas, most of the towns on both sides of the Connecticut River have seen better days. Many have lost key manufacturing sectors, from specialty machinery and tool-making to paper and textile production. Few are now among the most vibrant or fastest growing in either New Hampshire or Vermont, but neither are they the worst performing. The towns in the northernmost region tend to be the most economically distressed – with no border town in either Coos County, New Hampshire, or Essex County, Vermont, registering an average annual unemployment rate over the last 20 years below their respective state unemployment rate over the same period.

In analyzing retail sales impacts from sales tax differentials many studies focus on per capita retail sales, as defined by the U.S. Census Bureau, sometimes adjusted for relative income levels. While this is relevant information, it is not definitive with respect to causality or as a basis for estimation of sales tax revenue loss. As noted above, there are many factors that affect this metric, of which the sales tax differential is but one. Personal income is another important determinant of retail demand. Because per capita personal income was relatively constant between New Hampshire and Vermont border counties over the study period (see chart on the following page), no adjustments were made to other comparative measures of retail demand. However, further analysis, especially more in depth study of bordering New York counties, should include an income adjustment.

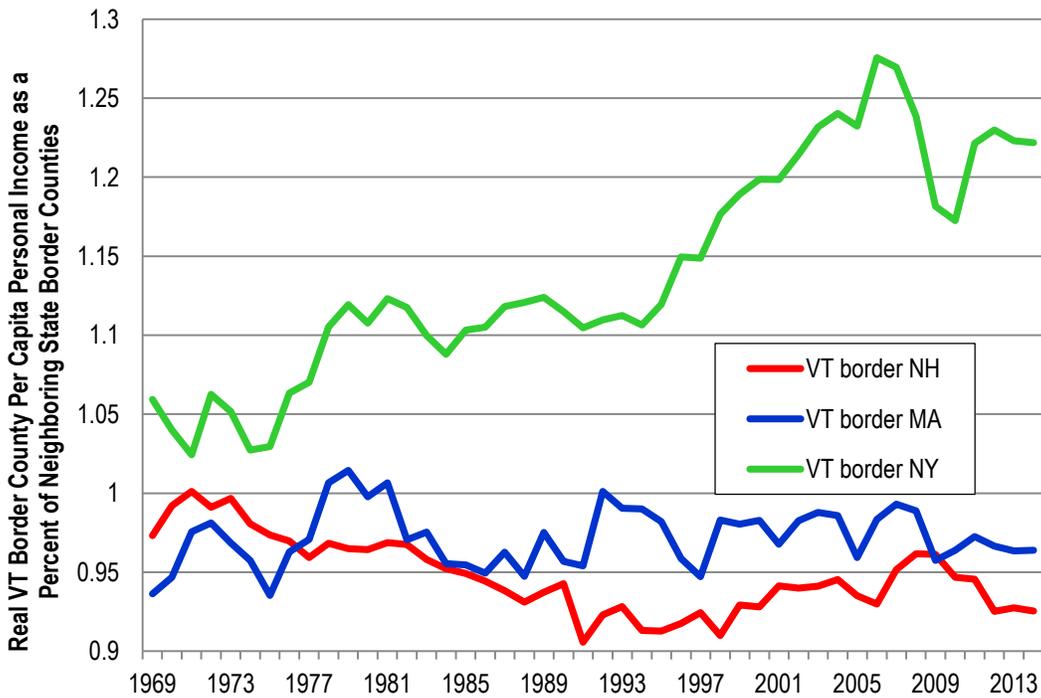
Retail sales, as defined by the Census Bureau, includes many items that are not taxable under the Vermont Sales and Use Tax. More than half of total retail sales are in categories that are excluded from the Vermont Sales Tax, and it is impossible to estimate all state exclusions using Census data. The analysis of these data at the county level is also fraught with imprecision. Counties are irregular in shape and composition and may or may not be dominated by a border relationship with another state. Rensselaer County in New York, for example, borders Bennington County, Vermont, but retailing patterns are far more affected by its western border with Albany County, New York. Clinton County, New York, which includes the city of Plattsburgh with a population of about 20,000, borders Vermont's most populous county, Chittenden, and yet because the border is a wide lake with lengthy and very limited transportation crossings, only 11 workers commute from Chittenden to Clinton (along with 80 from Grand Isle to Clinton — where there is one bridge), versus more than 6,000 workers who cross the Connecticut River across numerous bridges and an interstate highway from Windsor County, Vermont to Grafton County, New Hampshire each day.

### Per Capita Retail Sales – VT and Neighboring State Border Counties



Source: U.S. Census Bureau, Census of Retail Trade, Population Estimates.

### Real Per Capita Personal Income – VT Border Counties as a Percentage of Neighboring State Border Counties



Source: U.S. Department of Commerce Bureau of Economic Analysis

Based only on Census per capita retail sales, Bennington County registers the highest level in the state at \$22,604 in sales per person in 2012, more than \$2,500 above second place Chittenden County. While one could conclude that this is due to penny-pinching New Yorkers who wish to save 2 percent on sales taxes flocking to Vermont, tax base data at the town level from the Vermont Tax Department reveal that it is more likely due to price-insensitive tourists flocking to the ski towns of Manchester and Winhall (both of which add an additional 1 percent local option tax to the 6 percent State Sales Tax), Dorset, and Peru. Underscoring the importance of winter tourism, at a town level, the highest per capita retail sales (on a Vermont taxable sales basis) are in towns hosting or near large ski resorts (see statewide maps located at the end of the appendix).

The town of Bennington is clearly a retail center in its region, but its per capita taxable retail sales (at \$9,062 per year over the past 10 years) are not higher than the Connecticut River border towns of Brattleboro (\$9,384) or St. Johnsbury (\$9,611) and only marginally above other much smaller river towns like Bradford (\$8,518), Fairlee (\$7,742) and Hartford (\$7,213). Among the top per capita retailing areas in the state are the large retailing centers in Williston (especially), Rutland Town, Berlin/Montpelier/Barre, South Burlington, Rutland Town and City, and St. Albans Town and City. However, on a per capita basis, 11 of the top 25 retailing towns are associated with the ski resorts at Mt. Snow, Stratton, Bromley, Killington, Okemo, Sugarbush, Mad River Glen, Stowe and Jay Peak. State tourism research has shown that winter tourists tend to spend more than other seasonal tourists and it is validated in these data.

This analysis suggests that even though there are clearly Vermont sales tax losses to New Hampshire, there are substantial sales tax gains from out-of-state visitors that may offset this loss in whole or part. Although further research is required to estimate this component of the retail trade sector in Vermont, per capita retail trade in the three border states examined was only higher in New Hampshire (at \$19,690 in 2012), with New York (\$12,810) and Massachusetts (\$13,956) below Vermont's level of \$15,859.

The relative intensity of Vermont town retailing activity can be seen in the series of charts on the following pages, plotting each town's share of population to its share of retail sales (as measured by Tax Department taxable sales). Towns with a higher share of taxable retail sales than population will be in the upper left section of each chart (above the red dividing line), and those with lower shares of retail sales than population will be in the lower right section of the charts (below the red dividing line). The three charts start with a view encompassing all towns, using a scale of 10 percent on each axis, and then zooming in to 3.5 percent on each axis so as to reveal more detail, and finally an expanded view of the smaller towns with less than a 2 percent share of retail sales and population.

In the first chart, the dominance of the retail clustering in Williston is apparent. Over the most recent 10 years of available data (2005 to 2014), Williston has accounted for nearly 10 percent of all taxable real<sup>6</sup> retail sales in the entire state, with only 1.4 percent of the state's population. South Burlington is the second largest retailing center, with more than 8 percent of all state taxable sales and a 2.6 percent state population share. On the lower side of the red line on the chart, Burlington has a large retailing share, at 5.5 percent, however, its population share is even larger, at 6.7 percent, so it is a net "loser" in retailing services relative to its population. In the second chart, Essex is in a similar position, with a relatively large retail share (2.6 percent),

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<sup>6</sup> Constant 2014 dollar retail sales are calculated using the Implicit Price Deflator for Personal Consumption Expenditures.

but an even larger population share (at 3.2 percent). The constellation of smaller towns is depicted in the third chart.

Variations in the relative economic performance between border regions, including retail trade, are caused by a variety of historical geographic, population, industry, technology and political factors. Sales tax differentials definitely affect regional retail sales and related shopping patterns, but are not the only or even the most important determinant shaping these patterns. Among state public policies, development and permitting regimens may be as impactful as sales tax variations. Retail establishments tend to be in close proximity to population centers and clustered, emphasizing the importance of convenience in shopping. Price points at which “inconvenience” is fully offset will vary by individual shoppers, the time and expense (fuel price primarily) required to travel to lower price locations, and actual retail prices, which are not always identical to tax rate differentials.

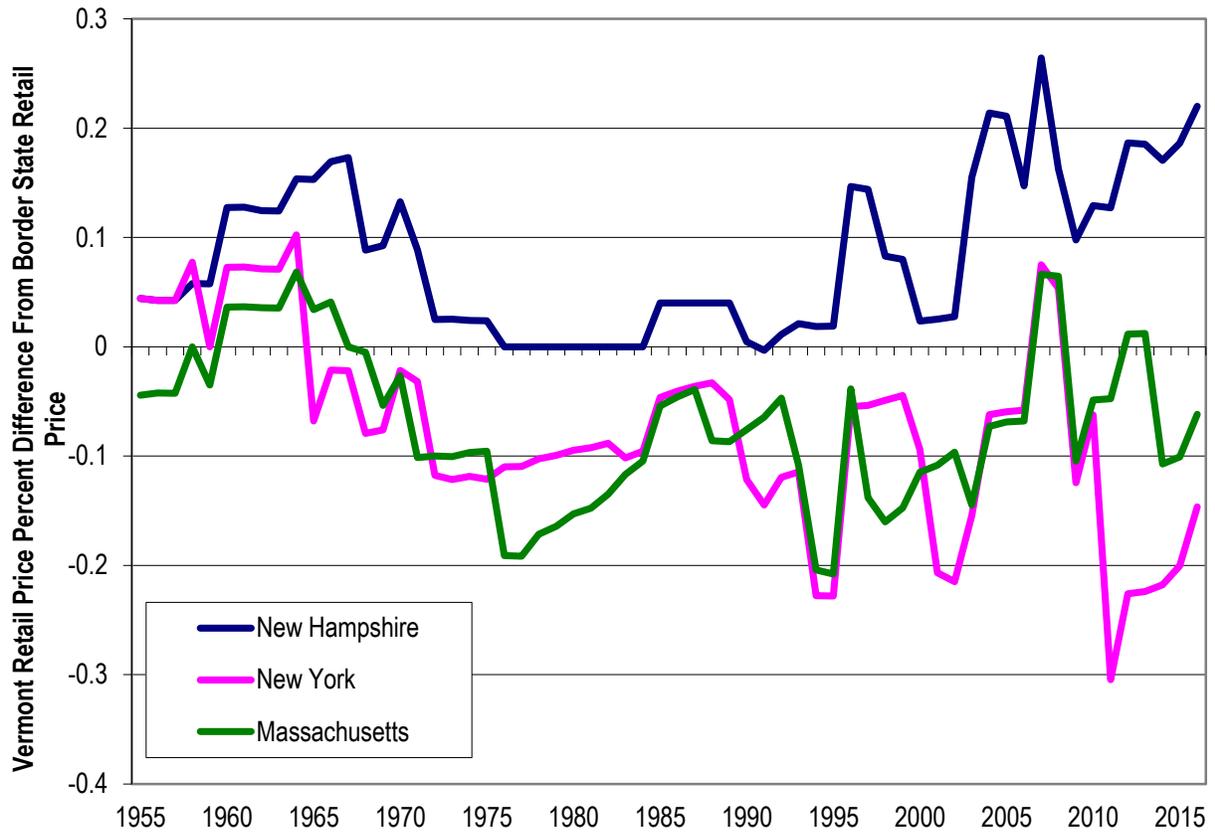
Net fiscal impacts from losses to lower tax rate jurisdictions include direct sales tax collection losses, lost property taxes on retail infrastructure, corporate tax revenues from retail businesses, and some indirect loss of related businesses due to the clustering tendency of retail building. Employment effects, direct construction spending effects, indirect and induced spending, however, can take place regardless of which side of the border a development occurs, and can result in employment and related tax revenue for Vermont even if the place of employment is in New Hampshire. Negative externalities associated with some retail development may also be avoided, while the shopping convenience and price advantages associated with larger retailers can be enjoyed from both sides of the border.

#### **Other Taxes and Cross-Border Issues**

Other taxes are also affected by tax rate differentials, such as cigarette, liquor and motor fuel taxes. While not the primary focus of this study, each has different cross border substitution dynamics.

Cross-border effects associated with cigarette taxation are monitored more frequently, since states have been changing rates (usually raising them) rapidly in the past 15 years. In Vermont, there have been eight tax rate changes during this period (from \$0.44 to \$3.08 per pack), four in New York (from \$1.21 to \$4.35), three in Massachusetts (from \$0.76 to \$3.51) and seven in New Hampshire (from \$0.37 to \$1.78), including one short-lived \$0.10-per-pack price decrease in 2011.

**Figure 1 Border State Cigarette Price Differentials Relative to Vermont – Expressed as a Percentage of Retail Price**



Source: Orzechowski and Walker, Vermont Joint Fiscal

This tax rate decrease in New Hampshire revealed another important aspect of tax rate differentials and their impact on cross border sales: rate changes are not always passed on to the consumer at the retail level. In this instance, there were reports that wholesalers raised prices by nearly the entire tax rate cut, resulting in very little price change at the retail level. There are clearly instances when profit maximization would not lead wholesalers or retailers to pass on an entire tax rate differential to consumers. This is why it is important to measure the actual effects of retail price differentials when possible, and not just tax rate variations. Accordingly, the chart on the following page is based on cigarette prices reported at the retail level rather than a simple rate difference.

Gasoline prices along the Vermont-New Hampshire border also reflect this phenomenon. Despite lower effective gasoline tax rates in New Hampshire, retail prices at stations in New Hampshire near the Vermont border are close to or often even above those at nearby Vermont stations. Further from the Vermont border, New Hampshire prices tend to be lower. Also of importance, the location of Interstate 91 on the Vermont side of the Connecticut River gives Vermont an advantage in attracting gasoline sales from both local and through traffic. For this reason, per capita measures of gasoline sales have not exhibited the same kind of cross border variation seen in other retail sales sectors. Permitting of gas station construction along the major interstate highways has not been encumbered to the extent that big box retailing has, allowing the development of a local sales infrastructure for motor fuels and related convenience store goods.

Cigarette tax avoidance in Vermont can be approximated by analyzing detailed health statistics on the prevalence of smoking and expected consumption based on various state populations relative to actual sales. The most recent estimates of cross-border net gain/loss to surrounding states indicate an approximate 20 percent loss to New Hampshire, at least a 12 percent gain from New York, and about a 7 percent net gain from Massachusetts and other out-of-state visitation.

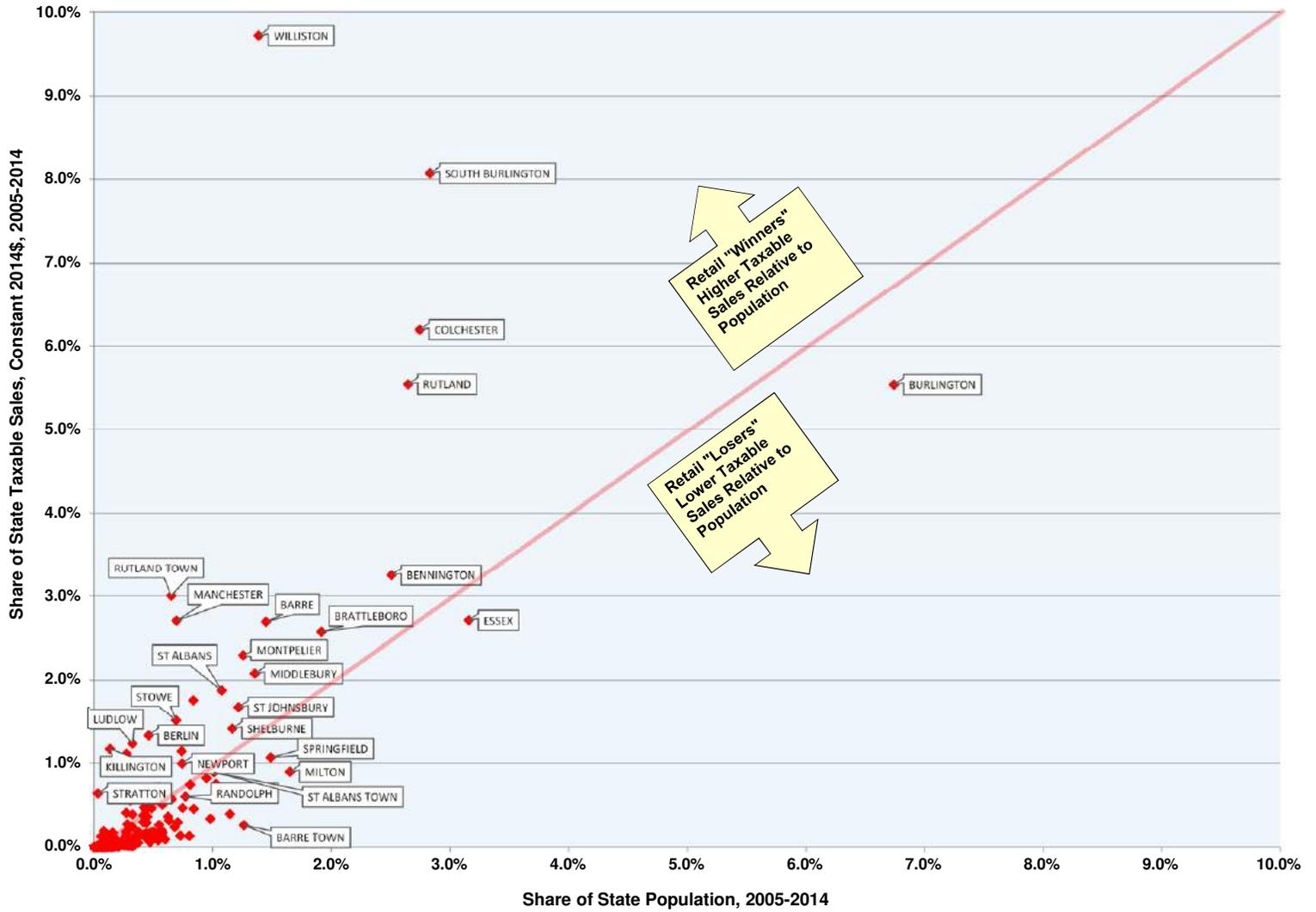
Few states are as aggressive in marketing liquor to bordering state residents as New Hampshire. State liquor stores are strategically placed near state borders with convenient access from major transportation arteries. Unfortunately, the New Hampshire state monopoly on liquor sales does not allow the release of detailed industry statistics from the federal sources used for other retail sales analyses. Even at the state level these data are suppressed. Although it is possible to access and organize this information from public sources at the New Hampshire State Liquor Commission, it would require data development work beyond the means of this study.

### **Data Sources Utilized**

The source data traditionally used in cross-border analyses is county-level data from the detailed Economic Census of Retail Trade performed every five years, which provides county data on sales, employment, and wages by industry, and County Business Patterns, which provides annual county data on the number of establishments, employment, and payroll by industry. We have expanded these data sources with county- and town-level data from the Bureau of Labor Statistics for employment, unemployment and labor force, annual U.S. Census population estimates at the town and county levels, and the development of Vermont Tax Department data at the town and county levels for gross sales, taxable sales, and use tax receipts. At the time of this writing, some of these data sources are still being vetted and “cleaned,” however, the use of town level data provides insights into economic and retailing patterns that are sometimes obscured by higher level county data. Each of these data sources has strengths and weaknesses, especially in relatively small geographic areas, such as the border areas of Vermont, New York, New Hampshire, and Massachusetts. Many publicly available data sources have suppressed data due to this; however, new Vermont Tax Department data has been provided without suppression for re-aggregation and analysis as presented herein.

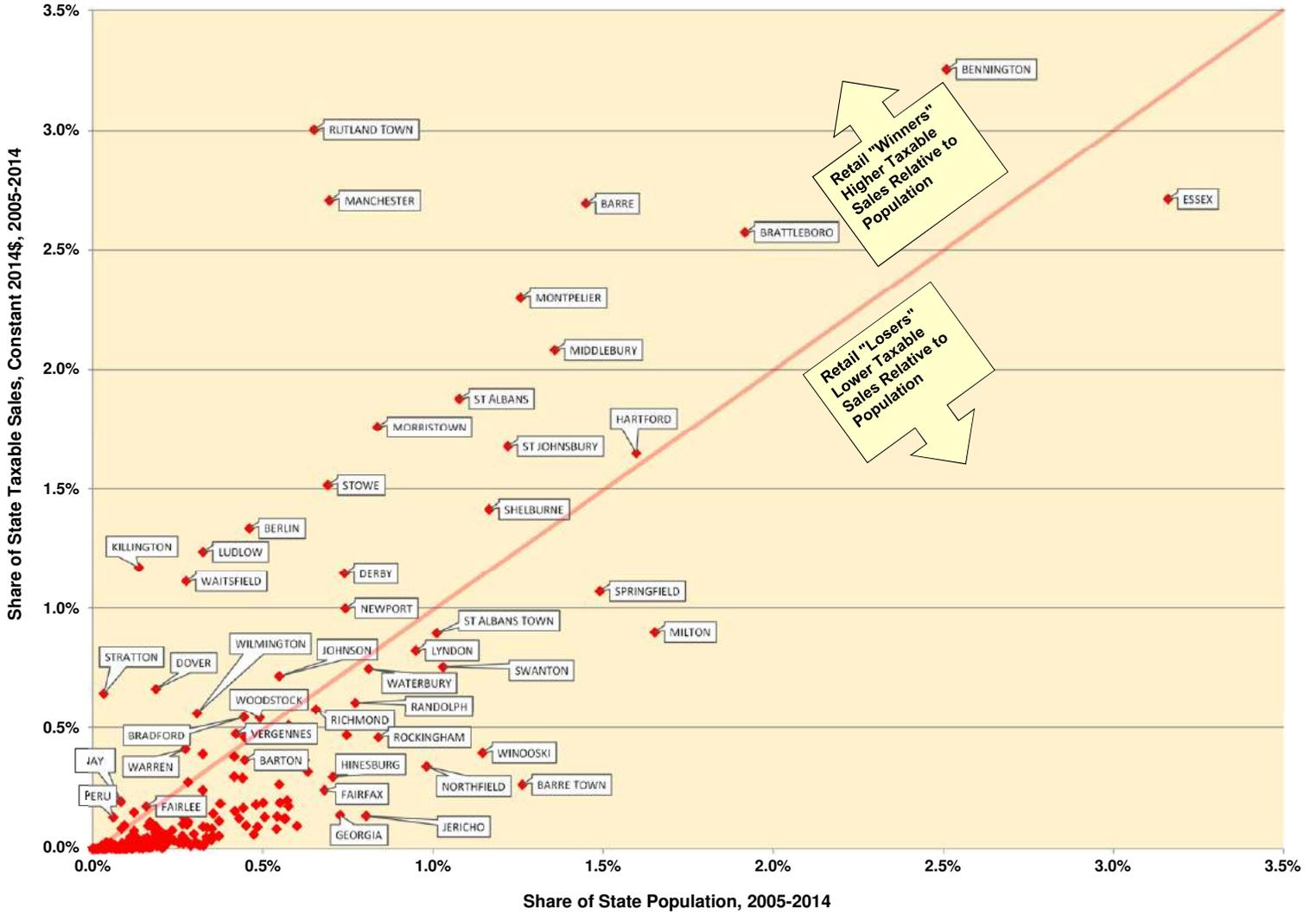
# Vermont Taxable Sales Share vs. Population Share

(Town Population and Taxable Sales: Sources: VT Tax Dept. and JFO)



# Vermont Taxable Sales Share vs. Population Share

(Towns With Less Than 3.5% of State Population and Taxable Sales: Sources: VT Tax Dept. and JFO)



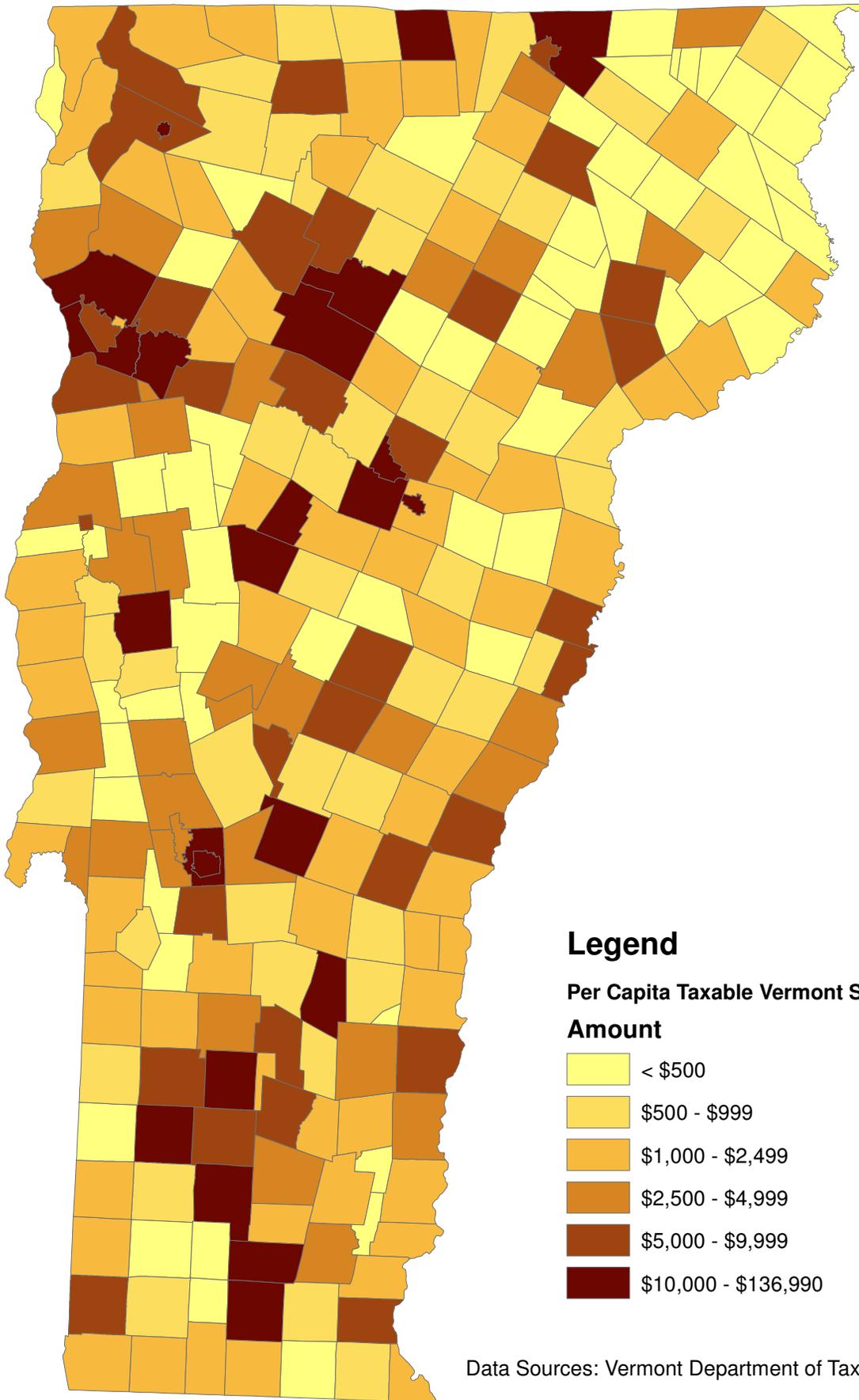
# Vermont Taxable Sales Share vs. Population Share

(Towns With Less Than 2% of State Population and Taxable Sales: Sources: VT Tax Dept. and JFO)



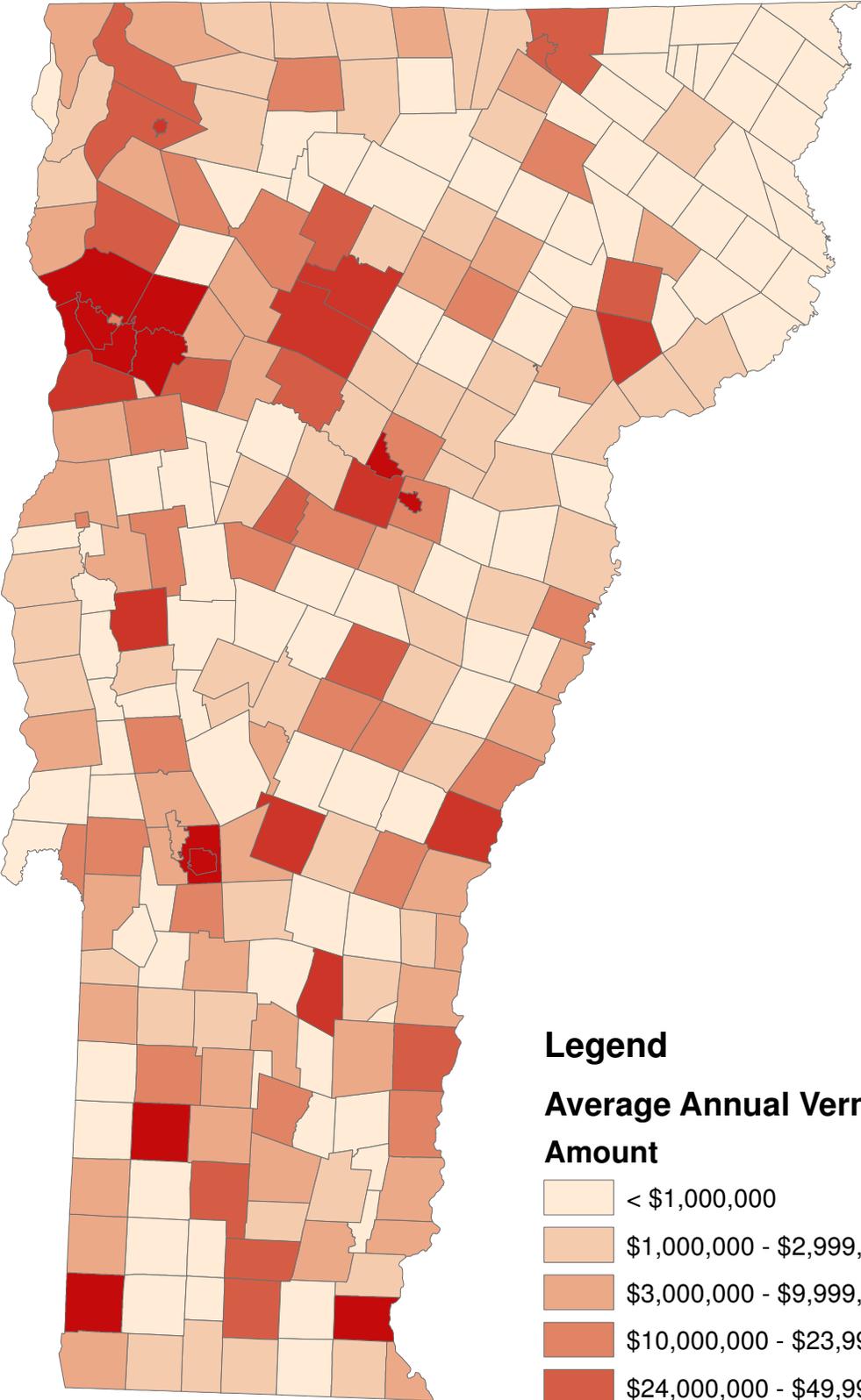
# Per Capita Taxable Vermont Sales

2014 Constant Dollars, for the 10 Year Period from 2005 to 2014



# Average Annual Vermont Taxable Retail Sales

2005-2014, Constant 2014 Dollars



### Legend

### Average Annual Vermont Taxable Retail Sales Amount

- < \$1,000,000
- \$1,000,000 - \$2,999,999
- \$3,000,000 - \$9,999,999
- \$10,000,000 - \$23,999,999
- \$24,000,000 - \$49,999,999
- \$50,000,000 - \$99,999,999
- \$100,000,000 - \$424,020,146

Data Source: Vermont Department of Taxes