# INDIVIDUAL INCOME TAX CREDIT ANALYSIS

A Report Prepared for the Revenue & Transportation Interim Committee

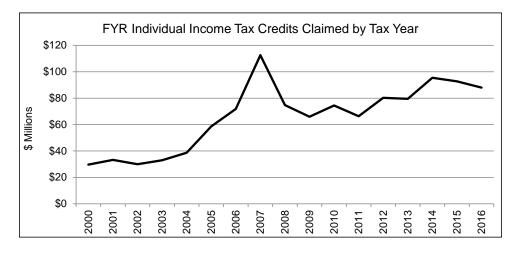
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September 13, 2018



#### INTRODUCTION

Individual income tax credits are a growing source of tax expenditures, as shown in the chart below. In 2016, the credits claimed by full year resident (FYR) individual income taxpayers amounted to \$88.0 million—somewhat lower than recent years due to a smaller amount of capital gain credits claimed. In 2016, 91,702 FYR taxpayers claimed at least \$1 of individual income tax credit out of a total 461,371 full year resident taxpayers—19.9% of taxpayers.



The report provides detailed information on "who" is taking the credits, as measured by average income level, and how "meaningful" the credits are relative to the average income of the taxpayers claiming the credits. The analysis also examines the proportion of credit claimers that are repeat claimers of a particular credit, and the impact of credits on effective tax rates at various income levels.

The information provided in this report is complementary to that found in the Department of Revenue's Biennial Report. Legislative history and prior years' data, as well as policy highlights for each credit are found in the <u>Tax Expenditures</u> section of the <u>2014-2016 Biennial Report</u>.

# DATA

Full year resident individual income taxpayer data from 2000 through 2016 is the basis of all the analysis, with the exception of the capital gains credit, which also shows partial-year and non-resident detail. The data used for various sections may be a subset of the full dataset depending on the specific calculation.

As used in this report, the term "taxpayer" may refer to any of the file types allowed by the Montana tax code: single, married filing joint, married filing separately, and head of household. There are a few cases in this report where the average amount of the credit is larger than the maximum amount of the credit. This apparent discrepancy is due to both individuals claiming the credit on joint or separate, same form tax forms.

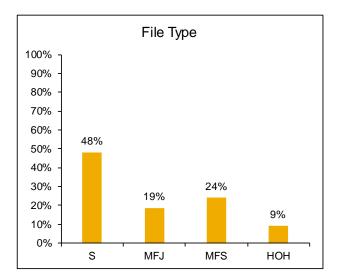
Throughout this report, the term "total income" refers to the sum of all income sources before adjustments; i.e., total income is not equal to Federal Adjusted Gross Income.

## **OVERVIEW OF 2016 TAXPAYERS**

The most recent data available for individual income taxpayers is from 2016. In 2016, there were 461,371 full year resident taxpayers. Of these, 452,350 had income greater than \$0. There were 91,702 taxpayers who claimed at least \$1 of individual income tax credit. The following charts show various characteristics of 2016 full year resident taxpayers.

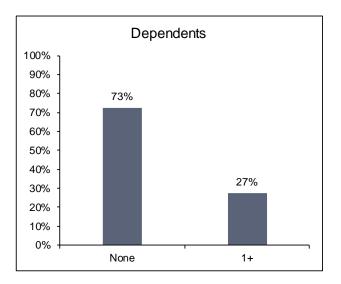
#### File Type

There are six file types: single, married filing joint, married filing separate on the same form, married filing separate on separate forms, married filing separate with spouse not filing, and head of household. In the chart below, all the married filling separates are combined.



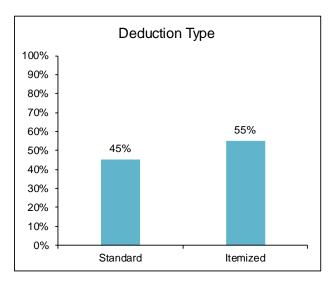
#### **Dependents**

In 2016, 126,738 taxpayers claimed a total of 238,562 dependents.

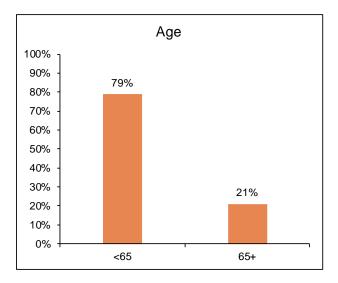


#### Deduction Type

The standard deduction is equal to 20% of a taxpayer's gross income, subject to minimum and maximum amounts. In 2016, the value was between \$1,980 and \$4,460 for single filers, and between \$3,960 and \$8,920 for married filing joint or head of household filers.



#### <u>Age</u>



In 2016, 97,442 taxpayers claimed at least one additional elderly exemption.

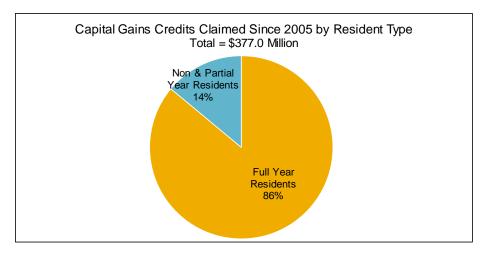
# WHO & HOW MANY: CREDIT CLAIMERS BY INCOME LEVEL & COUNT

This section provides historical average income characteristics and average percentage value for each credit. The credits are organized into four broad categories: capital gains credits, non-refundable with no carryover credits, non-refundable with carryover credits, and refundable credits.

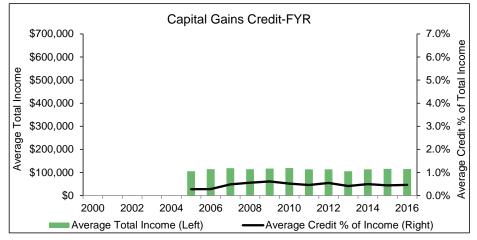
#### Capital Gains Credit: 15-30-2301, MCA

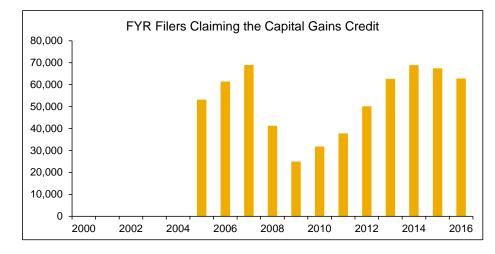
Individual taxpayers are allowed a credit equal to 2% of capital gains income. If the capital gains credit exceeds the taxpayer's tax liability, the excess credit is not refunded and may not be carried forward or backward to other tax years.

Although this document focuses almost entirely on the characteristics of full year resident taxpayers who claim the various credits, there has generally been significant interest regarding the nonresident claimers of the capital gains credit. This section illustrates the average characteristics of full-year resident, and non- and partial-year nonresident claimers of the credit. The chart below shows share of the total value of credits claimed by resident and nonresident claimers since its inception in 2005.



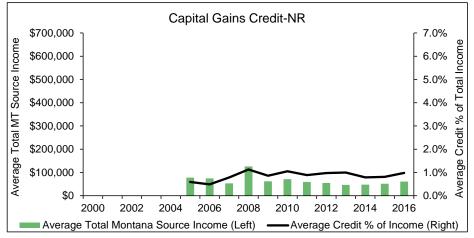
## Full Year Residents

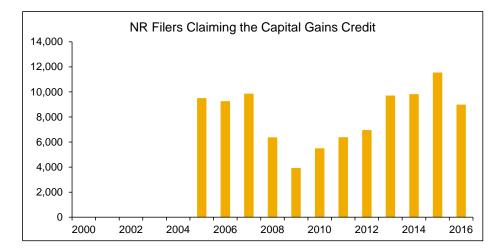




In 2016, 62,814 full year resident taxpayers claimed the capital gains credit for a total credit amount of \$33.6 million and an average credit amount of \$535. The first chart above indicates that the average total income of filers who claim this credit is above \$100,000 and the credit accounts for about 0.5% of total income. The second chart shows how the number of filers claiming the credit varies by year.





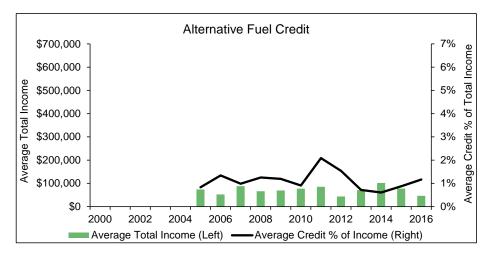


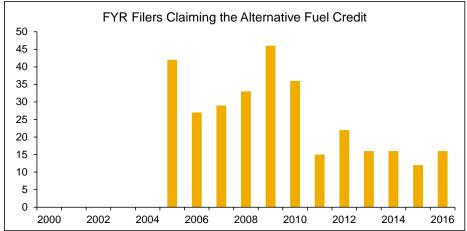
In 2016, 8,985 non-full-year resident taxpayers claimed this credit for a total credit amount of \$5.4 million and an average credit amount of \$599. The first chart above indicates that the average total Montanasource income of filers who claim this credit is below \$100,000 and the credit accounts for 1% of total Montana-source income.

#### Non-Refundable Credits with no Carryover

### Alternative Fuel Conversion Credit: 15-30-2320, MCA and 15-31-137, MCA

Individual and corporate taxpayers are allowed a credit of up to 50% of the cost of converting a motor vehicle to operate on various alternative fuel sources. The credit is limited to \$500 or \$1,000, depending on the size of the vehicle.

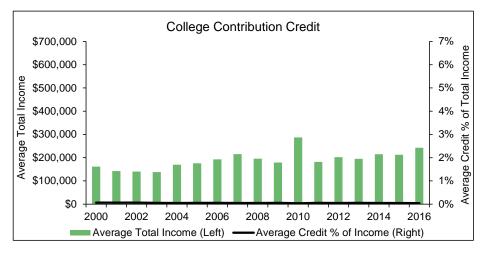


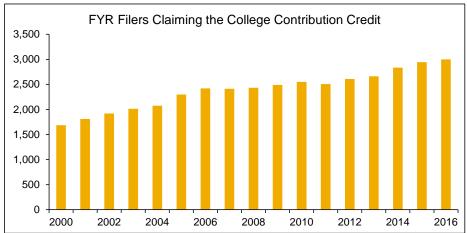


In 2016, 16 full year resident taxpayers claimed this credit for a total credit amount of \$8,632 and an average credit amount of \$540. The first chart above indicates that the average total income of filers who claim this credit is below \$100,000 and the credit typically accounts for 1% to 2% of total income.

### College Contribution Credit: <u>15-30-2326, MCA</u> and <u>15-31-135, MCA</u>

Individual and corporate taxpayers are allowed a credit of 10% of the amount of charitable contributions to the general endowment funds of Montana public or private higher education institutions. The credit is limited to \$500 per taxpayer.

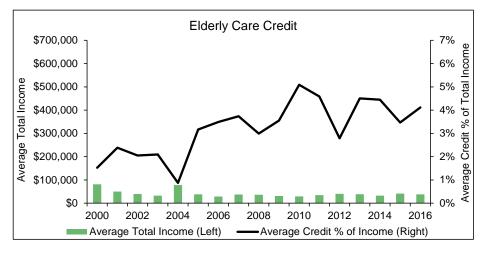


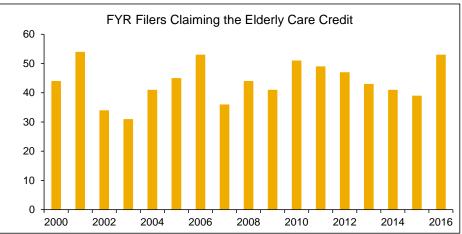


In 2016, 3,101 full year resident taxpayers claimed this credit for a total credit amount of \$0.3 million and an average credit amount of \$108. The first chart above indicates that the average total income of filers who claim this credit is typically around \$200,000 and the credit accounts for just above 0% of total income.

#### Elderly Care Credit: 15-30-2366, MCA

Individual taxpayers are allowed a credit of up to 24% of the costs of caring for a low income family member who is either elderly or disabled, depending on the taxpayer's income. The credit is limited to \$5,000 per family member and \$10,000 total.

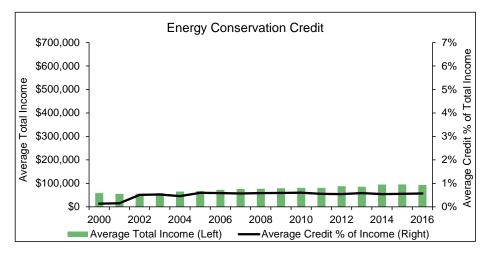


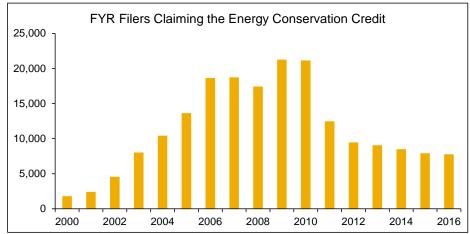


In 2016, 53 full year resident taxpayers claimed this credit for a total credit amount of \$82,771 and an average credit amount of \$1,562. The first chart above indicates that the average total income of filers who claim this credit is typically under \$50,000 and in recent years, the credit accounts for over 4% of total income.

#### Energy Conservation Credit: 15-30-2319, MCA and 15-32-109, MCA

Individual resident taxpayers are allowed a credit for 25% of the costs of investments in a building made to conserve energy. The maximum credit is \$500 per taxpayer.

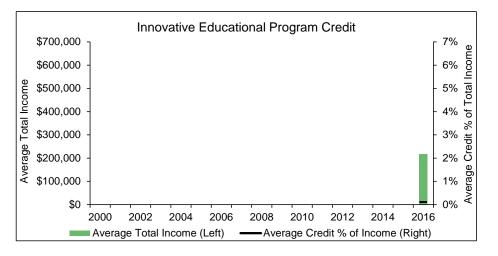


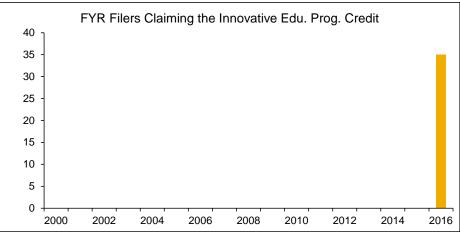


In 2016, 7,783 full year resident taxpayers claimed this credit for a total credit amount of \$4.1 million and an average credit amount of \$532. The first chart above indicates that the average total income of filers who claim this credit is under \$100,000 and the credit accounts for less than 1% of total income.

#### Innovative Educational Program Credit: <u>15-30-3110, MCA</u> and <u>15-31-158,</u> <u>MCA</u>

Individual and corporate taxpayers are allowed a credit for donations made to the educational improvement account for providing supplemental funding to public schools for innovative educational programs and technology deficiencies. The maximum credit is \$150 per taxpayer.

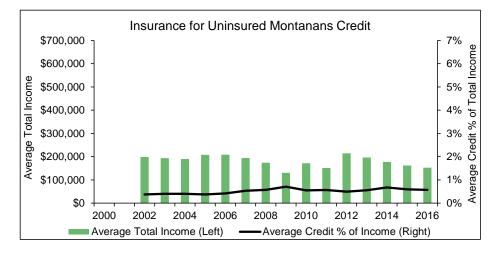


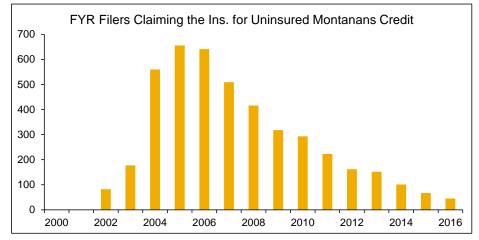


In 2016, 35 full year resident taxpayers claimed this credit for a total credit amount of \$7,601 and an average credit amount of \$217. The first chart above indicates that for the first year that the credit was available, the average total income of filers who claim this credit is over \$200,000 and the credit accounts for about 0% of total income.

# Health Insurance for Uninsured Montanans Credit: <u>15-30-2367, MCA</u> and <u>15-31-132, MCA</u>

An employer with 20 or fewer employees may claim a credit against either income or corporation tax for paying at least 50% of the premium for up to ten employees' disability insurance. The disability insurance definition provided in <u>33-1-207</u>, <u>MCA</u> essentially means health insurance. The credit is the lower of \$25 per month multiplied by the percentage of the premium the employer pays or 50% of the premium. There is no explicit limit on the credit, but it may not be claimed for more than ten employees. An employer claiming \$25 per month for ten employees would claim a credit of \$3,000.

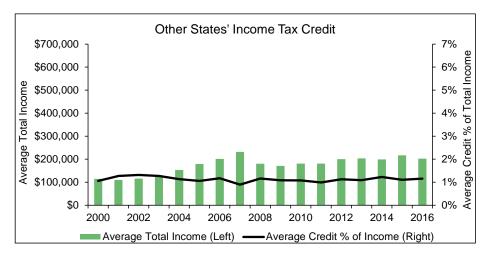


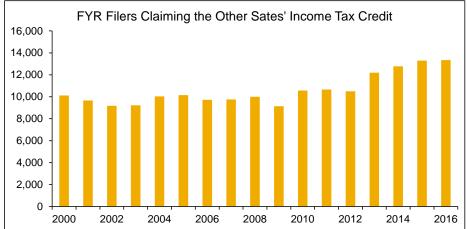


In 2016, 45 full year resident taxpayers claimed this credit for a total credit amount of \$39,526 and an average credit amount of \$878. The first chart above indicates that the average total income of filers who claim this credit is around \$150,000 and the credit accounts for about half of 1% of total income.

### Other States' Income Tax Credit: 15-30-2302, MCA

Resident taxpayers compute Montana income tax on their entire income, and then are allowed a credit for income tax paid to other states. Non- or partial-year-resident taxpayers compute Montana income tax on their entire income and then multiply by the share of income earned in Montana to give Montana tax liability. The taxpayer then is allowed a credit for income tax paid to other states on the portion of income earned in Montana. There is no maximum for this credit.

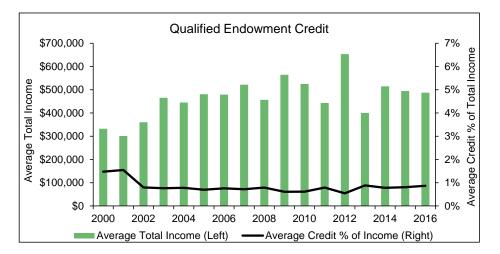


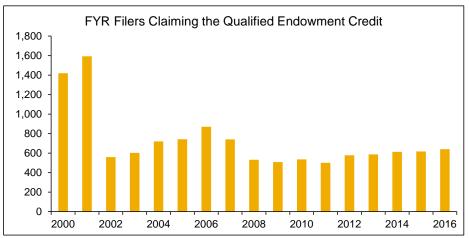


In 2016, 13,350 full year resident taxpayers claimed this credit for a total credit amount of \$31.4 million and an average credit amount of \$2,349. The first chart above indicates that the average total income of filers who claim this credit is around \$200,000 in recent years and the credit accounts for about 1% of total income.

#### Qualified Endowment Credit: 15-30-2327, MCA through 15-30-2329, MCA

Individual taxpayers are allowed a credit of 40% of the present value of a planned gift to a qualified endowment. A qualified endowment is a permanent fund held by or on behalf of a  $\frac{26 \text{ U.S.C. Section}}{501(c)(3)}$  charitable organization, and a planned gift is one of nine types of arrangements specified in the IRS code. The credit is limited to \$10,000 per taxpayer.

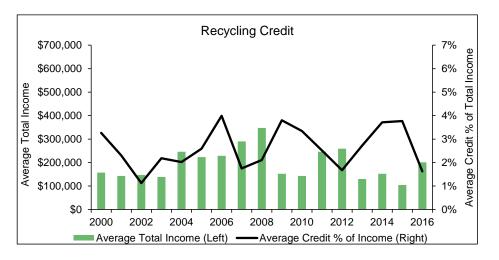


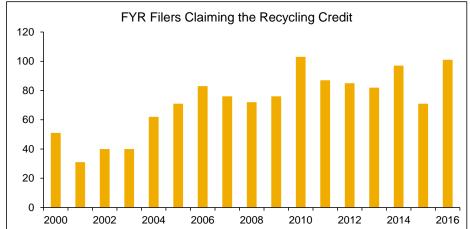


In 2016, 641 full year resident taxpayers claimed this credit for a total credit amount of \$2.7 million and an average credit amount of \$4,226. The first chart above indicates that the average total income of filers who claim this credit has varied around \$500,000 in recent years and the credit accounts for under 1% of total income.

#### Recycling Credit: <u>15-32-601, MCA</u> through <u>15-32-611, MCA</u>

Individual and corporate taxpayers are allowed a credit for part of the cost of investments in depreciable property used in collecting or processing reclaimable material or manufacturing a product from reclaimed material. The credit is 25% of the first \$250,000 invested, 15% of the next \$250,000 invested, and 5% of the next \$500,000 invested. The maximum credit for an investment of \$1 million or more is \$125,000.

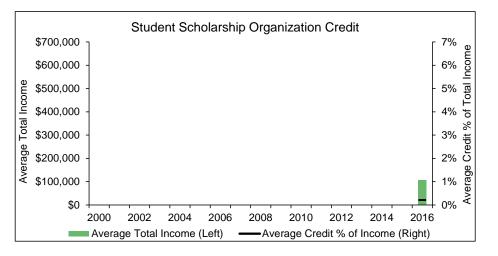


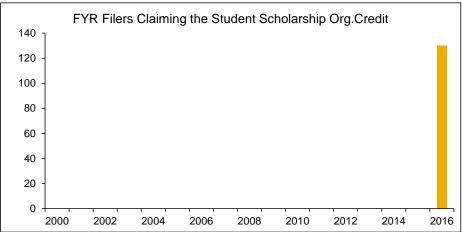


In 2016, 101 full year resident taxpayers claimed this credit for a total credit amount of \$0.5 million and an average credit amount of \$3,261. The first chart above indicates that the average total income of filers who claim this credit varies above \$100,000 and the credit fluctuates around 2.5% of total income.

#### Student Scholarship Organization Credit: <u>15-30-3111, MCA</u> and <u>15-31-159,</u> <u>MCA</u>

Individual and corporate taxpayers are allowed a credit for donations made to a student scholarship organization. The donor may not direct or designate contributions to a parent, legal guardian, or specific qualified education provider. The maximum credit is \$150 per taxpayer.



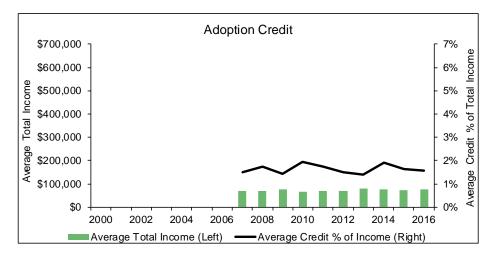


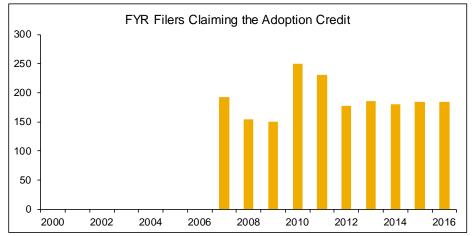
In 2016, 130 full year resident taxpayers claimed this credit for a total credit amount of \$30,474 and an average credit amount of \$234. The first chart above indicates that for the first year that the credit was available, the average total income of filers who claim this credit is about \$100,000 and the credit accounts for less than 1% of total income.

#### Non-Refundable Credits with Carryover

#### Adoption Credit: 15-30-2364, MCA

The IRS code allows an income tax credit for costs of adopting a child. A taxpayer who meets the requirements for the federal credit may also claim a credit of \$1,000 against Montana income tax. If the credit is more than the taxpayer's liability, the excess may be carried forward for up to five years.

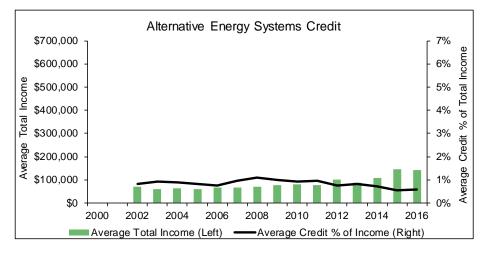


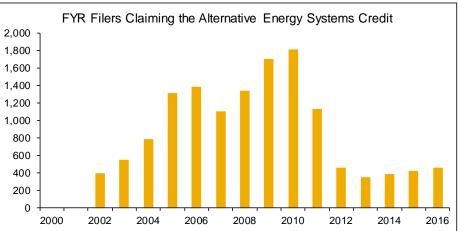


In 2016, 185 full year resident taxpayers claimed this credit for a total credit amount of \$0.2 million and an average credit amount of \$1,203. The first chart above indicates that the average total income of filers who claim this credit is generally less than \$100,000 and the credit accounts for nearly 2% of total income.

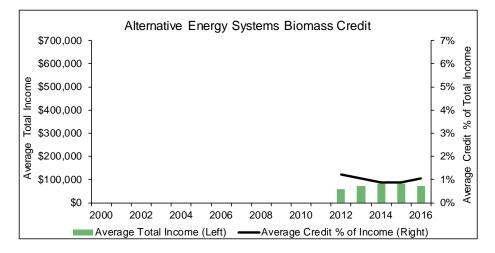
#### Alternative Energy Systems Credit: 15-32-201, MCA to 15-32-203, MCA

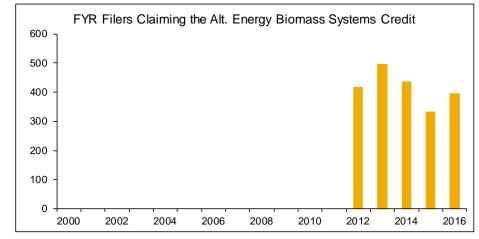
Resident individual taxpayers are allowed a credit for up to \$500 of the cost of installing an alternative energy heating system or a low-emission wood or biomass system in their principal residence. If the credit exceeds the taxpayer's liability, the excess may be carried forward for four years.





In 2016, 457 full year resident taxpayers claimed this credit for a total credit amount of \$0.4 million and an average credit amount of \$815. The first chart above indicates that the average total income of filers who claim this credit has recently increased to about \$150,000 and the credit accounts for less than 1% of total income. Starting in 2012, DOR started separating out the claimers of the credit for biomass systems, which is a primary reason for the apparent drop in the number of claimers in 2012 in the second chart. The detail for the separated biomass systems is shown on the next page.

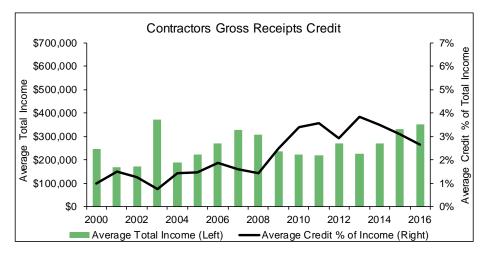


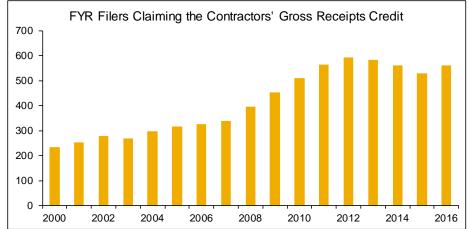


In 2016, 397 full year resident taxpayers claimed this credit for a total credit amount of \$0.3 million and an average credit amount of \$746. The first chart above indicates that the average total income of filers who claim this credit is between \$50,000 and \$100,000, and the credit accounts for about 1% of total income.

#### Contractor's Gross Receipts Credit: <u>15-50-207, MCA</u>

Contractors are required to pay a license fee equal to 1% of the gross receipts from government contracts during the year for which the license is issued. The agency or prime contractor withholds the fee from payments to the prime contractor or subcontractors. Contractors may use the amount of gross receipts tax paid as a credit against the contractor's individual or corporate income tax liability. The credit may be carried forward a maximum of five years.

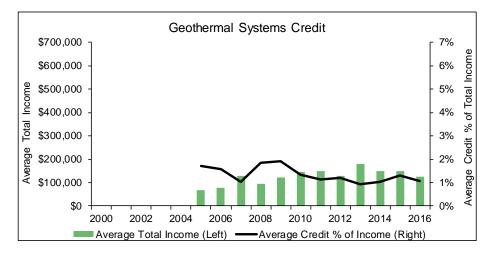


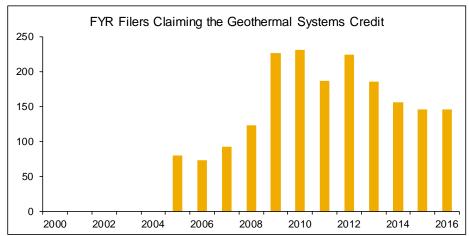


In 2016, 563 full year resident taxpayers claimed this credit for a total credit amount of \$5.3 million and an average credit amount of \$9,431. The first chart above indicates that the average total income of filers who claim this credit has grown recently to above \$300,000 and the credit has varied around 3% of total income.

#### Geothermal Heating System Credit: <u>15-32-115, MCA</u>

Individual and corporate taxpayers are allowed a credit for up to \$1,500 of costs of installing a geothermal heating system (ground-source heat pump) in the taxpayer's principal residence or in a residence the taxpayer constructs. If the credit exceeds the taxpayer's liability, the excess credit may be carried forward for up to seven years.





In 2016, 146 full year resident taxpayers claimed this credit for a total credit amount of \$0.2 million and an average credit amount of \$1,337. The first chart above indicates that the average total income of filers who claim this credit is about \$150,000 and the credit accounts for about 1% of total income.

Average income by year is not shown for the following credits because the number of claimers in at least one year is less than ten. Following DOR policy, detailed data is not given for groups of taxpayers smaller than ten in order to protect taxpayer confidentiality.

#### Alternative Energy Production Credit: 15-32-401, MCA to 15-32-407, MCA

Individual and corporate taxpayers are allowed a credit for 35% of the costs, less any federal or state grants, of depreciable property for a commercial or net metering alternative energy system. The credit may only be taken against taxes on net income from energy generated by the facility, from manufacturing alternative energy generating equipment, or from a new or expanded industry powered by the facility. If the credit is more than the taxpayer's liability, the excess credit may be carried forward for seven years. If the credit is for a commercial system of at least 5MW built on a reservation, the credit may be carried forward for fifteen years.

This credit has been claimed by 90 full year resident taxpayers since 2006.

#### Biodiesel Blending/Storage Tank Credit: 15-32-703, MCA

Individual and corporate taxpayers are allowed a credit for 15% of the cost of investments in biodiesel blending or storage facilities in a year when the taxpayer is blending or in the two years before blending began. The total credits that may be claimed over time are \$52,500 for a distributor (wholesaler) and \$7,500 for a retailer. If a taxpayer is eligible for a credit that exceeds their tax liability, the excess credit is not refunded but may be carried forward for up to seven years as long as the facility continues to blend biodiesel.

This credit has been claimed by fewer than 10 full year resident taxpayers since 2006; it was not claimed in 2012 or 2014 through 2016.

# Dependent Care Assistance Credit: <u>15-31-131, MCA</u>, <u>15-31-133, MCA</u> and <u>15-30-2373, MCA</u>

Individual and corporate taxpayers may claim three related credits for providing daycare benefits to employees:

- A credit for 25% of the cost of providing day care services to employees' dependents, with a limit of \$1,575 per employee receiving the assistance
- A credit for 25% of the cost of providing daycare information and referral services to employees
- A credit for a portion of the cost of setting up a day care facility to be used by the taxpayer's employees' dependents. This credit was only for facilities placed in service by the end of 2005, with the credit being claimed over the next ten years.

If the credit is more than the taxpayer's liability, the excess credit may be carried forward up to five years. The credit for day care facility costs may be carried forward within the ten year period for claiming the credit.

This credit has been claimed by 87 full year resident taxpayers since 2006.

#### Empowerment Zone Credit: <u>15-30-2356, MCA</u> and <u>15-31-134, MCA</u>

Local governments may establish an empowerment zone in an area with chronic high unemployment. Employers in an empowerment zone are eligible for a credit against income or corporation license tax for the first three years' employment for new positions. The credit per new employee is \$500 for the first year, \$1,000 for the second year and \$1,500 for the third year. If the credit is more than the taxpayer's liability, the excess may be carried back to the three previous tax years or carried forward for seven years.

This credit has been claimed by fewer than 10 individuals since 2006; the only years for which at least one credit was claimed are 2006, 2007, 2014, and 2016.

## Historic Property Preservation Credit: 15-30-2342, MCA & 15-31-151, MCA

Individual and corporate taxpayers are allowed a credit for the costs of rehabilitating a certified historic building. The credit is 25% of the federal credit allowed by 26 USC 47(a) (2); the federal credit is 20% of the cost of rehabilitation. Only commercial buildings that can be depreciated are eligible for the credit. There is no maximum for the rehabilitation credit. If the credit is more than the taxpayer's liability, the excess may be carried forward for seven years.

This credit has been claimed by 102 full year resident taxpayers since 2006.

#### Infrastructure User Fee Credit: <u>17-6-316, MCA</u>

The Board of Investments may make loans to local governments to finance infrastructure to serve a new or relocated business that will result in fifteen or more new full-time jobs. The local government may charge fees to the users for extending the infrastructure. The business may claim a credit against income or corporation tax for the amount of the fee it pays. If the credit is more than the taxpayer's liability, the excess may be carried forward for seven years or carried back to the three previous tax years.

This credit has been claimed by 121 full year resident taxpayers since 2006.

#### Mineral Exploration Credit: 15-32-501, MCA through 15-32-510, MCA

Individual and corporate taxpayers are allowed a credit for the full amount of solid mineral or coal exploration activity in the state (oil and gas exploration expenditures are not eligible). The credit is available only for expenses incurred up to the time that construction of a new mine or reopening of a previously closed mine commences. The maximum credit is \$20 million per mine. The credit taken in any year is limited to 50% of the taxpayer's tax liability, but unused credits may be carried forward for fifteen years.

This credit has been claimed by 16 full year resident taxpayers since 2006; it was not claimed in 2011, 2012, or 2015.

#### Oilseed Crushing/Biodiesel Facility Credit: 15-32-701, MCA

Individual and corporate taxpayers are allowed a credit for 15% of the cost of investment in depreciable property placed in service in Montana by the end of 2014 that is used primarily for crushing oilseeds for producing biodiesel or lubricants or for the production of biodiesel or biolubricants. The total of credits claimed over time for a single facility in all years may not exceed \$500,000.

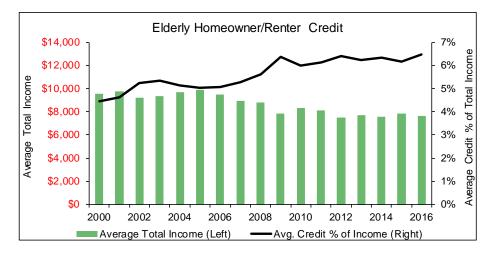
If the credit a taxpayer claims in any year exceeds the tax liability, the excess credit will not be refunded, but may be carried forward for up to seven years as long as the facility continues to be used to crush oilseeds for biodiesel or lubricants or to produce biodiesel or biolubricants. If the facility ceases production for twelve months within seven years after the credit is first claimed, the entire credit must be recaptured.

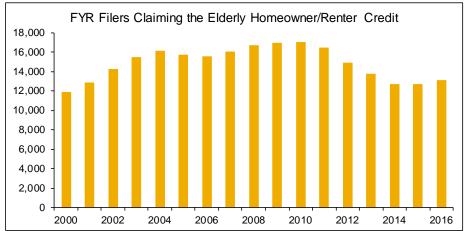
This credit has been claimed by 13 full year resident taxpayers since 2006; it was not claimed in 2009, 2010, 2012, or 2014 through 2016.

## **Refundable Credits**

#### Elderly Homeowner/Renter Credit: 15-30-2337, MCA to 15-30-2341, MCA

Taxpayers who are age 65 or older and have a household income of less than \$45,000 may be eligible for the elderly homeowner/renter credit. The credit refunds part or all of the property tax a homeowner pays directly or a renter pays indirectly that is more than a certain percentage of household income. The credit is limited to a maximum of \$1,000 per household.

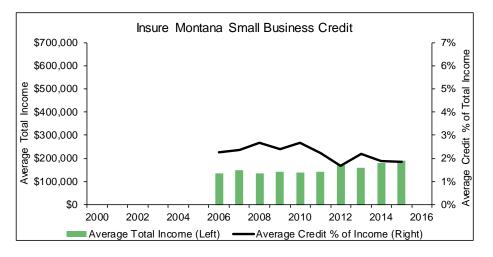


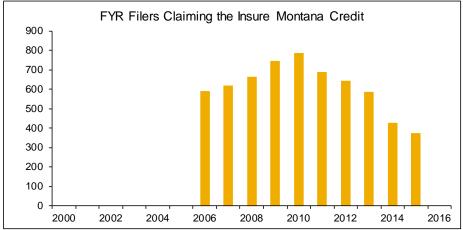


In 2016, 13,120 full year resident taxpayers claimed this credit through the individual income tax form for a total credit amount of \$6.5 million and an average credit amount of \$496. The first chart above shows that the average total income of filers who claim this credit is under \$10,000 and the credit has accounted for over 6% of total income in recent years. An additional \$1.4 million was claimed through the separate 2EC Form for which detailed income data is not available. It is likely that individuals who claim the credit with the 2EC Form have incomes so low that they are not required to file an individual income tax return.

#### Insure Montana Small Business Credit: Sunset Dec. 31, 2015

A small employer that provides group health insurance for its employees through the state pool was able to claim a credit against taxes of up to 50% of total premiums the employer pays for the plan; or up to \$100 per month per covered employee (\$125 if the average age is at least 45), up to \$100 per month per covered spouse, and up to \$40 per other covered dependent. The maximum credit depends on the number of employees an employer may have and be eligible and this is set by the State Auditor's Office in an administrative rule. The credit sunset after 2015.





In 2015, the last year that the credit was available, 373 full year resident taxpayers claimed it for a total credit amount of \$1.3 million and an average credit amount of \$3,484. The first chart above indicates that the average total income of filers who claimed this credit was above \$150,000 and the credit accounted for about 2% of total income.

Average income by year is not shown for the following credits to maintain taxpayer confidentiality.

## Temporary Emergency Lodging Credit: <u>15-31-171, MCA</u>

The Department of Public Health and Human Services has a program to provide temporary emergency lodging to individuals or families referred by non-profit organizations working with domestic violence victims. Lodging establishments may receive a tax credit of \$30 per day for providing up to five days of free lodging to someone who has been referred to them through this program. The credit may be taken by individual or corporate income taxpayers.

This credit has been claimed by 14 full year resident taxpayers since 2006; the only years for which at least one credit was claimed are 2008 and 2014 through 2016.

#### Unlocking State Lands Credit: 15-30-2380, MCA

Individual and corporate taxpayers are allowed a credit of \$750 (not to exceed \$3,000) for qualified access to state land and federal land managed by the U.S. Forest Service or Bureau of Land Management that was previously inaccessible to the public.

This credit has been claimed by fewer than 10 full year resident taxpayers since 2014, the first year it was available.

## USING INCOME DECILES TO COMPARE CREDIT CLAIMERS

The following table shows the average income decile of the full year resident taxpayers who claim each credit. The income deciles are based on full year resident individual income taxpayer data since 2006 with total incomes greater than \$0. Individuals with total income less than \$0 were excluded from the construction of the decile ranges; however, they are included in the data for the credit claimers, with their income falling in the first decile.

|        |         |         |         | Avera   | ge Total | Income b | y Income | e Decile |         |         |         |         |
|--------|---------|---------|---------|---------|----------|----------|----------|----------|---------|---------|---------|---------|
| Decile | 2005    | 2006    | 2007    | 2008    | 2009     | 2010     | 2011     | 2012     | 2013    | 2014    | 2015    | 2016    |
| 1      | \$2,725 | \$2,874 | \$2,743 | \$2,895 | \$2,923  | \$3,120  | \$3,146  | \$3,231  | \$3,333 | \$3,503 | \$3,531 | \$3,610 |
| 2      | 7,254   | 7,689   | 7,674   | 7,979   | 8,042    | 8,535    | 8,653    | 8,984    | 9,264   | 9,722   | 9,943   | 10,134  |
| 3      | 12,075  | 12,837  | 13,033  | 13,442  | 13,363   | 14,030   | 14,263   | 14,747   | 15,265  | 15,986  | 16,405  | 16,777  |
| 4      | 17,326  | 18,371  | 18,857  | 19,332  | 19,127   | 19,938   | 20,353   | 20,993   | 21,764  | 22,726  | 23,329  | 23,847  |
| 5      | 23,372  | 24,811  | 25,565  | 26,095  | 25,706   | 26,777   | 27,456   | 28,365   | 29,397  | 30,639  | 31,307  | 31,797  |
| 6      | 31,163  | 33,002  | 34,129  | 34,647  | 34,014   | 35,489   | 36,607   | 37,885   | 39,258  | 40,910  | 41,637  | 41,908  |
| 7      | 41,247  | 43,755  | 45,405  | 45,914  | 45,083   | 47,050   | 48,675   | 50,557   | 52,470  | 54,579  | 55,389  | 55,553  |
| 8      | 54,473  | 57,643  | 60,080  | 60,664  | 59,658   | 62,133   | 64,407   | 67,093   | 69,582  | 72,467  | 73,426  | 73,560  |
| 9      | 73,003  | 77,413  | 80,849  | 81,488  | 80,323   | 83,435   | 86,595   | 90,319   | 93,755  | 97,827  | 99,230  | 99,679  |
| 10     | 188,873 | 207,589 | 219,436 | 202,392 | 187,797  | 199,543  | 204,422  | 229,993  | 223,195 | 238,496 | 246,040 | 243,850 |

The income ranges of the ten deciles are constructed so that one-tenth of all full-year-resident taxpayers with positive incomes falls into each decile. If the average decile of a particular credit is on the lower end of the range 1-10, that means the taxpayers who claim that credit have, on average, lower total incomes. Conversely, a higher average decile indicates that the taxpayers claiming that credit have higher relative total incomes. The advantage of this method of analysis is that high or low income outliers do not have a disproportionate impact on the overall income distribution.

The table below shows the maximum value of each decile range with the exception of the highest decile; the highest income for the highest decile is suppressed to maintain taxpayer confidentiality.

|        |         |         | Maximu  | um of Ea | ch Incom | e Decile | by Cale | ndar Yea | r       |         |         |
|--------|---------|---------|---------|----------|----------|----------|---------|----------|---------|---------|---------|
| Decile | 2006    | 2007    | 2008    | 2009     | 2010     | 2011     | 2012    | 2013     | 2014    | 2015    | 2016    |
| 1      | \$5,263 | \$5,202 | \$5,415 | \$5,511  | \$5,862  | \$5,951  | \$6,158 | \$6,322  | \$6,621 | \$6,756 | \$6,890 |
| 2      | 10,178  | 10,248  | 10,625  | 10,644   | 11,238   | 11,387   | 11,813  | 12,224   | 12,825  | 13,117  | 13,388  |
| 3      | 15,544  | 15,862  | 16,326  | 16,171   | 16,886   | 17,198   | 17,754  | 18,389   | 19,238  | 19,752  | 20,261  |
| 4      | 21,328  | 21,966  | 22,465  | 22,221   | 23,122   | 23,629   | 24,416  | 25,308   | 26,414  | 27,066  | 27,600  |
| 5      | 28,564  | 29,479  | 30,001  | 29,469   | 30,736   | 31,607   | 32,660  | 33,831   | 35,267  | 35,976  | 36,341  |
| 6      | 37,891  | 39,210  | 39,739  | 39,018   | 40,730   | 42,109   | 43,661  | 45,286   | 47,148  | 47,916  | 48,123  |
| 7      | 50,065  | 52,166  | 52,682  | 51,733   | 53,910   | 55,836   | 58,040  | 60,245   | 62,649  | 63,526  | 63,597  |
| 8      | 66,049  | 68,908  | 69,578  | 68,560   | 71,296   | 73,882   | 77,122  | 79,910   | 83,351  | 84,508  | 84,633  |
| 9      | 91,896  | 95,987  | 96,562  | 94,982   | 98,555   | 102,426  | 106,903 | 111,163  | 116,205 | 117,912 | 118,681 |
| 10     |         |         |         |          |          |          |         |          |         |         |         |

The following table shows the combined value of credits claimed by taxpayers in each income decile. The lowest decile, which includes credit claimers with negative incomes, has a somewhat higher value of credits claimed than the other lower income groups, primarily due to the claimers of the elderly homeowner/renter credit. Over two-thirds of the total value of credits claimed since 2006 is attributable to taxpayers in the highest income decile.

|        |        |        | Total V | alue of C | redits C | aimed b | y Income | Decile |        |        |        |
|--------|--------|--------|---------|-----------|----------|---------|----------|--------|--------|--------|--------|
|        |        |        |         |           | (\$ Mi   | lions)  |          |        |        |        |        |
| Decile | 2006   | 2007   | 2008    | 2009      | 2010     | 2011    | 2012     | 2013   | 2014   | 2015   | 2016   |
| 1      | \$3.1  | \$3.4  | \$3.9   | \$4.4     | \$5.3    | \$4.6   | \$5.5    | \$5.6  | \$4.6  | \$4.8  | \$5.5  |
| 2      | 2.1    | 2.0    | 2.1     | 2.2       | 2.2      | 2.0     | 1.9      | 1.8    | 1.7    | 1.8    | 1.9    |
| 3      | 1.8    | 1.7    | 1.9     | 1.8       | 1.8      | 1.6     | 1.4      | 1.4    | 1.3    | 1.4    | 1.4    |
| 4      | 1.3    | 1.3    | 1.3     | 1.3       | 1.2      | 1.1     | 1.1      | 1.1    | 1.1    | 1.0    | 1.0    |
| 5      | 1.2    | 1.4    | 1.2     | 1.2       | 1.3      | 1.2     | 1.0      | 1.2    | 1.2    | 1.1    | 1.1    |
| 6      | 1.4    | 1.7    | 1.6     | 1.6       | 1.8      | 1.4     | 1.4      | 1.5    | 1.7    | 1.5    | 1.5    |
| 7      | 2.0    | 2.6    | 2.2     | 2.4       | 2.7      | 2.1     | 2.0      | 2.4    | 2.5    | 2.5    | 2.3    |
| 8      | 3.1    | 4.1    | 3.4     | 3.6       | 4.0      | 3.1     | 3.3      | 3.6    | 4.1    | 3.8    | 3.6    |
| 9      | 4.8    | 6.4    | 5.3     | 5.6       | 6.2      | 5.1     | 5.3      | 6.0    | 6.8    | 6.5    | 5.8    |
| 10     | 47.6   | 60.7   | 49.3    | 39.6      | 44.6     | 41.3    | 54.7     | 52.8   | 67.5   | 66.8   | 62.5   |
| Total  | \$68.3 | \$85.3 | \$72.0  | \$63.6    | \$71.3   | \$63.5  | \$77.6   | \$77.4 | \$92.5 | \$91.2 | \$86.6 |
|        |        |        |         |           |          |         |          |        |        |        |        |

The number of credits claimed by income decile is depicted in the chart below:

| Decile | 2006    | 2007    | 2008   | 2009   | 2010   | 2011   | 2012   | 2013    | 2014    | 2015    | 2016    |
|--------|---------|---------|--------|--------|--------|--------|--------|---------|---------|---------|---------|
| 1      | 5,863   | 6,861   | 6,700  | 7,220  | 7,631  | 7,366  | 9,996  | 10,147  | 9,904   | 10,169  | 10,549  |
| 2      | 6,527   | 6,783   | 5,768  | 4,989  | 5,314  | 5,168  | 6,087  | 6,462   | 6,526   | 6,814   | 6,722   |
| 3      | 6,668   | 6,869   | 5,840  | 5,032  | 5,092  | 5,064  | 5,800  | 6,184   | 6,243   | 6,489   | 6,264   |
| 4      | 6,313   | 6,401   | 5,261  | 4,364  | 4,424  | 4,501  | 5,017  | 5,553   | 5,742   | 5,521   | 5,267   |
| 5      | 7,041   | 7,311   | 5,528  | 4,695  | 5,184  | 5,112  | 5,319  | 6,174   | 6,262   | 6,092   | 5,867   |
| 6      | 8,783   | 9,322   | 6,971  | 5,741  | 6,565  | 6,164  | 6,147  | 7,200   | 7,602   | 7,450   | 6,973   |
| 7      | 10,916  | 11,484  | 8,433  | 7,192  | 8,203  | 7,602  | 7,941  | 9,324   | 9,875   | 9,681   | 9,053   |
| 8      | 13,455  | 14,768  | 10,798 | 9,230  | 10,385 | 9,720  | 10,000 | 11,835  | 12,451  | 12,322  | 11,609  |
| 9      | 17,155  | 18,773  | 13,596 | 11,487 | 13,097 | 11,983 | 12,487 | 14,752  | 15,944  | 15,534  | 14,589  |
| 10     | 29,131  | 31,168  | 22,745 | 19,204 | 21,838 | 20,976 | 22,272 | 26,008  | 28,180  | 27,147  | 26,157  |
| Total  | 111,852 | 119,740 | 91,640 | 79,154 | 87,733 | 83,656 | 91,066 | 103,639 | 108,729 | 107,219 | 103,050 |

The table below shows the average income decile for each credit by calendar year. The only credits with average income deciles below the midpoint are the elderly homeowner/renter credit and the elderly care credit, both of which have income restrictions. To maintain confidentiality, average income decile information is only shown in aggregate for the credits that have been claimed by fewer than ten individuals in any given year.

|   | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|------|------|------|------|------|------|------|------|------|------|------|
| Capital Gains                               | 7.6  | 7.6  | 7.7  | 7.8  | 7.8  | 7.7  | 7.1  | 7.1  | 7.1  | 7.1  | 7.0  |
| Non-Refundable & No Carryover               |      |      |      |      |      |      |      |      |      |      |      |
| Alternative Fuel Conversion Credit          | 6.9  | 7.4  | 7.5  | 7.1  | 7.0  | 7.0  | 5.7  | 8.0  | 6.8  | 5.5  | 5.8  |
| College Contribution Credit                 | 8.9  | 8.9  | 8.8  | 8.7  | 8.7  | 8.8  | 8.7  | 8.7  | 8.8  | 8.7  | 8.7  |
| Elderly Care Credit                         | 4.9  | 5.7  | 5.5  | 5.1  | 4.8  | 5.0  | 5.3  | 5.2  | 4.4  | 5.3  | 4.   |
| Energy Conservation Credit                  | 7.6  | 7.6  | 7.6  | 7.7  | 7.7  | 7.6  | 7.7  | 7.6  | 7.7  | 7.7  | 7.0  |
| Innovative Educational Program Credit       |      |      |      |      |      |      |      |      |      |      | 9.0  |
| Insurance for Uninsured Montanans Credit    | 9.1  | 9.0  | 8.7  | 8.6  | 8.7  | 8.8  | 9.0  | 9.1  | 8.9  | 9.0  | 8.   |
| Other States' Tax Credit                    | 7.7  | 7.8  | 7.8  | 7.8  | 7.8  | 7.9  | 7.9  | 8.0  | 8.0  | 7.9  | 7.   |
| Qualified Endowment Credit                  | 9.6  | 9.7  | 9.6  | 9.6  | 9.6  | 9.5  | 9.4  | 9.6  | 9.6  | 9.6  | 9.   |
| Recycling Credit                            | 8.0  | 7.3  | 7.0  | 7.3  | 7.3  | 7.1  | 7.4  | 6.6  | 6.2  | 5.8  | 6.   |
| Student Scholarship Organization Credit     |      |      |      |      |      |      |      |      |      |      | 8.   |
| Non-Refundable with Carryover               |      |      |      |      |      |      |      |      |      |      |      |
| Adoption Credit                             |      | 7.7  | 7.7  | 7.9  | 7.3  | 7.3  | 7.7  | 7.3  | 7.3  | 7.3  | 7.   |
| Alternative Energy Systems (Biomass) Credit |      |      |      |      |      |      | 6.7  | 7.2  | 7.1  | 7.1  | 6.   |
| Alternative Energy Systems Credit           | 7.3  | 7.2  | 7.3  | 7.5  | 7.4  | 7.2  | 7.5  | 7.2  | 7.5  | 7.8  | 7.   |
| Contractors' Gross Receipts Credit          | 9.2  | 9.3  | 9.3  | 8.9  | 8.5  | 8.6  | 8.7  | 8.7  | 9.0  | 9.1  | 9.   |
| Geothermal Systems Credit                   | 7.8  | 8.2  | 8.0  | 8.3  | 8.1  | 7.9  | 8.0  | 8.0  | 7.9  | 8.0  | 7.   |
| Refundable                                  |      |      |      |      |      |      |      |      |      |      |      |
| Elderly Homeowner/Renter Credit             | 2.6  | 2.5  | 2.5  | 2.4  | 2.3  | 2.3  | 2.2  | 2.2  | 2.2  | 2.1  | 2.   |
| Insure Montana Small Business Credit        | 8.5  | 8.7  | 8.5  | 8.3  | 8.4  | 8.4  | 8.7  | 8.8  | 9.0  | 9.1  |      |
| Fewer Than 10/Year                          | 7.8  | 8.0  | 7.9  | 7.9  | 7.7  | 7.9  | 8.1  | 7.5  | 7.9  | 7.3  | 7.   |
| Overall Average                             | 7.0  | 7.0  | 6.8  | 6.7  | 6.8  | 6.7  | 6.5  | 6.7  | 6.8  | 6.7  | 6.   |

## **REPEAT CLAIMERS**

Data for identifying repeat users of a particular tax credit is available for tax years 2006 through 2016. Note that this identifying information does not reveal the actual identity of the taxpayer, but associates each taxpayer with a unique tax identification code which remains the same each year.

The table below shows the percentage of all users since 2006 of each credit that were multi-year users of that credit. For example, 45.7% of taxpayers who claimed the college contribution credit since 2006 were first-time users of that credit. Second-time users accounted for 16.1% of claimers, third-time users were 10.2% of claimers, and 2.2% of taxpayers have claimed it every year for which there is identifying information.

Note that the return data does not differentiate between newly claimed credits and carryover of a previous credit. Therefore, the non-refundable credits with carryover likely include taxpayers who are using carryover from a previous year rather than claiming a particular credit again.

|   | Credi  | t Repe | eats 20 | 06-20 <sup>-</sup> | 16    |       |       |       |       |       |        |
|---|--------|--------|---------|--------------------|-------|-------|-------|-------|-------|-------|--------|
|   | One    | Two    | Three   | Four               | Five  | Six   | Seven | Eight | Nine  | Ten   | Eleven |
|   | Time   | Times  | Times   | Times              | Times | Times | Times | Times | Times | Times | Times  |
| Capital Gains Credit                      |        |        |         |                    |       |       |       |       |       |       |        |
| Capital Gains Credit-Full Year Residents  | 35.5%  | 18.2%  | 11.8%   | 8.7%               | 6.8%  | 5.4%  | 4.6%  | 3.4%  | 2.5%  | 1.8%  | 1.3%   |
| Capital Gains Credit-Non Residents        | 69.1%  | 14.8%  | 6.5%    | 3.8%               | 2.2%  | 1.5%  | 1.0%  | 0.6%  | 0.3%  | 0.2%  | 0.0%   |
| Non-Refundable Credits with No Carryover  |        |        |         |                    |       |       |       |       |       |       |        |
| Alternative Fuel Credit                   | 92.5%  | 5.0%   | 1.3%    | 0.8%               | 0.0%  | 0.4%  | 0.0%  | 0.0%  | 0.0%  | 0.0%  | 0.0%   |
| College Contribution Credit               | 45.7%  | 16.1%  | 10.2%   | 7.0%               | 5.3%  | 3.8%  | 2.7%  | 2.9%  | 2.0%  | 2.1%  | 2.2%   |
| Elderly Care Credit                       | 83.0%  | 10.2%  | 2.4%    | 2.6%               | 0.8%  | 0.0%  | 1.0%  | 0.0%  | 0.0%  | 0.0%  | 0.0%   |
| Energy Conservation Credit                | 63.7%  | 22.5%  | 8.5%    | 3.2%               | 1.2%  | 0.5%  | 0.2%  | 0.1%  | 0.0%  | 0.0%  | 0.0%   |
| Innovation Education Credit               | 100.0% |        |         |                    |       |       |       |       |       |       |        |
| Insurance for Uninsured Montanans Credit  | 51.3%  | 24.3%  | 20.2%   | 2.7%               | 1.1%  | 0.2%  | 0.1%  | 0.1%  | 0.0%  | 0.1%  | 0.0%   |
| Other States' Income Tax Credit           | 54.0%  | 17.1%  | 8.4%    | 5.5%               | 3.8%  | 3.0%  | 2.3%  | 1.7%  | 1.5%  | 1.3%  | 1.6%   |
| Qualified Endowment Credit                | 46.3%  | 18.5%  | 9.5%    | 7.7%               | 4.8%  | 3.0%  | 2.4%  | 1.4%  | 1.8%  | 2.6%  | 2.1%   |
| Recycling Credit                          | 76.5%  | 10.6%  | 4.6%    | 2.1%               | 2.1%  | 1.3%  | 1.0%  | 0.2%  | 0.2%  | 1.0%  | 0.5%   |
| Student Scholarship Organization Credit   | 100.0% |        |         |                    |       |       |       |       |       |       |        |
| Non-Refundable Credits with Carryover     |        |        |         |                    |       |       |       |       |       |       |        |
| Adoption Credit                           | 75.4%  | 16.0%  | 5.9%    | 1.2%               | 1.0%  | 0.4%  | 0.1%  | 0.0%  | 0.0%  | 0.0%  | 0.0%   |
| Alternative Energy Systems Credit         | 81.3%  | 12.2%  | 3.8%    | 1.5%               | 0.7%  | 0.3%  | 0.1%  | 0.0%  | 0.0%  | 0.0%  | 0.0%   |
| Alternative Energy Biomass Systems Credit | 82.6%  | 11.8%  | 3.0%    | 1.0%               | 1.6%  | 0.0%  | 0.0%  | 0.0%  | 0.0%  | 0.0%  | 0.0%   |
| Contractor's Gross Receipts Credit        | 32.4%  | 15.5%  | 11.1%   | 7.1%               | 5.8%  | 5.9%  | 4.9%  | 4.3%  | 4.8%  | 4.0%  | 4.1%   |
| Geothermal Systems Credit                 | 81.4%  | 11.3%  | 4.1%    | 1.7%               | 0.7%  | 0.4%  | 0.4%  | 0.0%  | 0.0%  | 0.1%  | 0.0%   |
| Refundable Credits                        |        |        |         |                    |       |       |       |       |       |       |        |
| Elderly Homeowner/Renter Credit           | 32.7%  | 18.5%  | 12.8%   | 9.8%               | 7.3%  | 5.5%  | 4.0%  | 3.1%  | 2.4%  | 2.1%  | 1.8%   |
| Health Insurance Premiums Paid Credit     | 18.6%  | 12.1%  | 12.1%   | 10.2%              | 10.1% | 9.9%  | 7.8%  | 7.0%  | 6.4%  | 5.9%  | 0.0%   |
| Credits claimed <10 times, combined       | 78.0%  | 6.9%   | 4.8%    | 2.9%               | 1.7%  | 1.0%  | 1.2%  | 1.0%  | 1.0%  | 1.0%  | 0.7%   |

# **CREDIT IMPACT ON EFFECTIVE TAX RATE—A LIMITED ANALYSIS**

Credits lower the effective tax rate, which is defined here as total tax divided by total income. The tables in this section show the average income, average tax, average credit claimed, effective tax before credits, effective tax after credits, and percentage decrease in effective tax rates—all by income decile. The limitation of this analysis is that the calculation assumes that all credits are refundable. Since most credits are not refundable, the actual reduction in effective tax rate is smaller than shown. The data for this section is limited to full year resident taxpayers with at least \$1 of total income.

|        |         |         |         | Avera   | ge Total | Income b | y Income | e Decile |         |         |         |         |
|--------|---------|---------|---------|---------|----------|----------|----------|----------|---------|---------|---------|---------|
| Decile | 2005    | 2006    | 2007    | 2008    | 2009     | 2010     | 2011     | 2012     | 2013    | 2014    | 2015    | 2016    |
| 1      | \$2,725 | \$2,874 | \$2,743 | \$2,895 | \$2,923  | \$3,120  | \$3,146  | \$3,231  | \$3,333 | \$3,503 | \$3,531 | \$3,610 |
| 2      | 7,254   | 7,689   | 7,674   | 7,979   | 8,042    | 8,535    | 8,653    | 8,984    | 9,264   | 9,722   | 9,943   | 10,134  |
| 3      | 12,075  | 12,837  | 13,033  | 13,442  | 13,363   | 14,030   | 14,263   | 14,747   | 15,265  | 15,986  | 16,405  | 16,777  |
| 4      | 17,326  | 18,371  | 18,857  | 19,332  | 19,127   | 19,938   | 20,353   | 20,993   | 21,764  | 22,726  | 23,329  | 23,847  |
| 5      | 23,372  | 24,811  | 25,565  | 26,095  | 25,706   | 26,777   | 27,456   | 28,365   | 29,397  | 30,639  | 31,307  | 31,797  |
| 6      | 31,163  | 33,002  | 34,129  | 34,647  | 34,014   | 35,489   | 36,607   | 37,885   | 39,258  | 40,910  | 41,637  | 41,908  |
| 7      | 41,247  | 43,755  | 45,405  | 45,914  | 45,083   | 47,050   | 48,675   | 50,557   | 52,470  | 54,579  | 55,389  | 55,553  |
| 8      | 54,473  | 57,643  | 60,080  | 60,664  | 59,658   | 62,133   | 64,407   | 67,093   | 69,582  | 72,467  | 73,426  | 73,560  |
| 9      | 73,003  | 77,413  | 80,849  | 81,488  | 80,323   | 83,435   | 86,595   | 90,319   | 93,755  | 97,827  | 99,230  | 99,679  |
| 10     | 188,873 | 207,589 | 219,436 | 202,392 | 187,797  | 199,543  | 204,422  | 229,993  | 223,195 | 238,496 | 246,040 | 243,850 |

|        |       |        |        | Aver  | age Tota | l Tax by | Income D | Decile |        |        |        |        |
|--------|-------|--------|--------|-------|----------|----------|----------|--------|--------|--------|--------|--------|
| Decile | 2005  | 2006   | 2007   | 2008  | 2009     | 2010     | 2011     | 2012   | 2013   | 2014   | 2015   | 2016   |
| 1      | \$2   | \$2    | \$2    | \$2   | \$2      | \$3      | \$2      | \$3    | \$3    | \$3    | \$4    | \$3    |
| 2      | 30    | 32     | 30     | 30    | 31       | 35       | 36       | 41     | 41     | 46     | 49     | 49     |
| 3      | 97    | 106    | 106    | 105   | 101      | 111      | 114      | 126    | 134    | 150    | 162    | 165    |
| 4      | 224   | 247    | 255    | 251   | 237      | 257      | 267      | 288    | 311    | 343    | 373    | 382    |
| 5      | 440   | 476    | 502    | 493   | 466      | 495      | 512      | 554    | 600    | 653    | 703    | 709    |
| 6      | 734   | 794    | 830    | 833   | 785      | 833      | 883      | 956    | 1,013  | 1,097  | 1,160  | 1,155  |
| 7      | 1,146 | 1,224  | 1,273  | 1,266 | 1,213    | 1,296    | 1,377    | 1,489  | 1,574  | 1,681  | 1,757  | 1,738  |
| 8      | 1,716 | 1,806  | 1,878  | 1,874 | 1,826    | 1,936    | 2,048    | 2,208  | 2,326  | 2,477  | 2,573  | 2,533  |
| 9      | 2,632 | 2,761  | 2,848  | 2,852 | 2,793    | 2,959    | 3,145    | 3,385  | 3,550  | 3,769  | 3,899  | 3,862  |
| 10     | 9,872 | 10,386 | 10,363 | 9,563 | 8,809    | 9,530    | 10,218   | 11,986 | 11,086 | 11,974 | 13,005 | 12,674 |

|        |      |       |       | Avera | ge Total | Credit b | y Income | Decile |       |       |       |       |
|--------|------|-------|-------|-------|----------|----------|----------|--------|-------|-------|-------|-------|
| Decile | 2005 | 2006  | 2007  | 2008  | 2009     | 2010     | 2011     | 2012   | 2013  | 2014  | 2015  | 2016  |
| 1      | \$54 | \$52  | \$61  | \$64  | \$69     | \$69     | \$67     | \$67   | \$62  | \$57  | \$58  | \$61  |
| 2      | 52   | 51    | 47    | 50    | 52       | 52       | 47       | 44     | 42    | 39    | 40    | 42    |
| 3      | 47   | 43    | 41    | 44    | 43       | 43       | 38       | 34     | 32    | 30    | 30    | 31    |
| 4      | 33   | 31    | 31    | 30    | 30       | 28       | 26       | 25     | 26    | 25    | 23    | 22    |
| 5      | 27   | 29    | 32    | 28    | 29       | 32       | 27       | 24     | 27    | 27    | 25    | 25    |
| 6      | 29   | 35    | 41    | 36    | 38       | 44       | 33       | 32     | 35    | 38    | 33    | 33    |
| 7      | 40   | 50    | 61    | 51    | 56       | 65       | 50       | 48     | 54    | 56    | 55    | 51    |
| 8      | 62   | 76    | 95    | 78    | 84       | 95       | 72       | 77     | 82    | 92    | 84    | 78    |
| 9      | 93   | 116   | 151   | 124   | 132      | 148      | 120      | 122    | 138   | 153   | 143   | 128   |
| 10     | 935  | 1,167 | 1,430 | 1,161 | 946      | 1,057    | 965      | 1,278  | 1,206 | 1,527 | 1,484 | 1,381 |

As stated on the previous page, the calculation of effective tax rate after credits is limited because it assumes all credits are refundable. The credit primarily claimed by taxpayers in the lower income deciles—the elderly homeowner/renter credit—is refundable, so the calculated change in effective tax rate for those taxpayers is likely close to the actual change. The effective tax rate after credits for the higher income deciles, in which taxpayers are primarily claiming the non-refundable capital gains credit, likely shows too high of a decline under this calculation.

|        |      |      | Eff  | ective Ta | x Rate B | efore Cr | edits by l | ncome D | ecile |      |      |      |
|--------|------|------|------|-----------|----------|----------|------------|---------|-------|------|------|------|
| Decile | 2005 | 2006 | 2007 | 2008      | 2009     | 2010     | 2011       | 2012    | 2013  | 2014 | 2015 | 2016 |
| 1      | 0.1% | 0.1% | 0.1% | 0.1%      | 0.1%     | 0.1%     | 0.1%       | 0.1%    | 0.1%  | 0.1% | 0.1% | 0.1% |
| 2      | 0.4% | 0.4% | 0.4% | 0.4%      | 0.4%     | 0.4%     | 0.4%       | 0.5%    | 0.4%  | 0.5% | 0.5% | 0.5% |
| 3      | 0.8% | 0.8% | 0.8% | 0.8%      | 0.8%     | 0.8%     | 0.8%       | 0.9%    | 0.9%  | 0.9% | 1.0% | 1.0% |
| 4      | 1.3% | 1.3% | 1.4% | 1.3%      | 1.2%     | 1.3%     | 1.3%       | 1.4%    | 1.4%  | 1.5% | 1.6% | 1.6% |
| 5      | 1.9% | 1.9% | 2.0% | 1.9%      | 1.8%     | 1.8%     | 1.9%       | 2.0%    | 2.0%  | 2.1% | 2.2% | 2.2% |
| 6      | 2.4% | 2.4% | 2.4% | 2.4%      | 2.3%     | 2.3%     | 2.4%       | 2.5%    | 2.6%  | 2.7% | 2.8% | 2.8% |
| 7      | 2.8% | 2.8% | 2.8% | 2.8%      | 2.7%     | 2.8%     | 2.8%       | 2.9%    | 3.0%  | 3.1% | 3.2% | 3.1% |
| 8      | 3.2% | 3.1% | 3.1% | 3.1%      | 3.1%     | 3.1%     | 3.2%       | 3.3%    | 3.3%  | 3.4% | 3.5% | 3.4% |
| 9      | 3.6% | 3.6% | 3.5% | 3.5%      | 3.5%     | 3.5%     | 3.6%       | 3.7%    | 3.8%  | 3.9% | 3.9% | 3.9% |
| 10     | 5.2% | 5.0% | 4.7% | 4.7%      | 4.7%     | 4.8%     | 5.0%       | 5.2%    | 5.0%  | 5.0% | 5.3% | 5.2% |

|        |       |       | Ef    | fective T | ax Rate | After Cre | dits by In | come De | cile  |       |       |       |
|--------|-------|-------|-------|-----------|---------|-----------|------------|---------|-------|-------|-------|-------|
| Decile | 2005  | 2006  | 2007  | 2008      | 2009    | 2010      | 2011       | 2012    | 2013  | 2014  | 2015  | 2016  |
| 1      | -1.9% | -1.7% | -2.2% | -2.1%     | -2.3%   | -2.1%     | -2.0%      | -2.0%   | -1.8% | -1.6% | -1.6% | -1.6% |
| 2      | -0.3% | -0.2% | -0.2% | -0.2%     | -0.3%   | -0.2%     | -0.1%      | 0.0%    | 0.0%  | 0.1%  | 0.1%  | 0.1%  |
| 3      | 0.4%  | 0.5%  | 0.5%  | 0.5%      | 0.4%    | 0.5%      | 0.5%       | 0.6%    | 0.7%  | 0.7%  | 0.8%  | 0.8%  |
| 4      | 1.1%  | 1.2%  | 1.2%  | 1.1%      | 1.1%    | 1.1%      | 1.2%       | 1.3%    | 1.3%  | 1.4%  | 1.5%  | 1.5%  |
| 5      | 1.8%  | 1.8%  | 1.8%  | 1.8%      | 1.7%    | 1.7%      | 1.8%       | 1.9%    | 1.9%  | 2.0%  | 2.2%  | 2.2%  |
| 6      | 2.3%  | 2.3%  | 2.3%  | 2.3%      | 2.2%    | 2.2%      | 2.3%       | 2.4%    | 2.5%  | 2.6%  | 2.7%  | 2.7%  |
| 7      | 2.7%  | 2.7%  | 2.7%  | 2.6%      | 2.6%    | 2.6%      | 2.7%       | 2.9%    | 2.9%  | 3.0%  | 3.1%  | 3.0%  |
| 8      | 3.0%  | 3.0%  | 3.0%  | 3.0%      | 2.9%    | 3.0%      | 3.1%       | 3.2%    | 3.2%  | 3.3%  | 3.4%  | 3.3%  |
| 9      | 3.5%  | 3.4%  | 3.3%  | 3.3%      | 3.3%    | 3.4%      | 3.5%       | 3.6%    | 3.6%  | 3.7%  | 3.8%  | 3.7%  |
| 10     | 4.7%  | 4.4%  | 4.1%  | 4.2%      | 4.2%    | 4.2%      | 4.5%       | 4.7%    | 4.4%  | 4.4%  | 4.7%  | 4.6%  |

|        |          |          | Percen   | tage Dec | crease in | Effective | e Tax Rat | e by Inco | me Deci  | ile      |          |          |
|--------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|
| Decile | 2005     | 2006     | 2007     | 2008     | 2009      | 2010      | 2011      | 2012      | 2013     | 2014     | 2015     | 2016     |
| 1      | -2652.1% | -2546.4% | -3989.8% | -3814.1% | -3669.7%  | -2475.1%  | -2672.3%  | -2614.0%  | -2313.3% | -1951.0% | -1649.5% | -1944.1% |
| 2      | -169.8%  | -156.3%  | -155.3%  | -164.3%  | -168.6%   | -148.6%   | -132.5%   | -109.4%   | -102.7%  | -85.9%   | -80.2%   | -85.0%   |
| 3      | -48.6%   | -40.3%   | -38.4%   | -41.6%   | -42.4%    | -39.0%    | -32.8%    | -26.6%    | -23.7%   | -20.1%   | -18.5%   | -18.8%   |
| 4      | -14.5%   | -12.7%   | -12.3%   | -12.0%   | -12.7%    | -11.1%    | -9.8%     | -8.5%     | -8.3%    | -7.2%    | -6.2%    | -5.8%    |
| 5      | -6.1%    | -6.2%    | -6.4%    | -5.7%    | -6.3%     | -6.4%     | -5.3%     | -4.4%     | -4.5%    | -4.1%    | -3.6%    | -3.5%    |
| 6      | -4.0%    | -4.4%    | -4.9%    | -4.4%    | -4.9%     | -5.2%     | -3.8%     | -3.3%     | -3.5%    | -3.5%    | -2.8%    | -2.9%    |
| 7      | -3.4%    | -4.1%    | -4.8%    | -4.0%    | -4.7%     | -5.0%     | -3.6%     | -3.2%     | -3.5%    | -3.4%    | -3.1%    | -2.9%    |
| 8      | -3.6%    | -4.2%    | -5.1%    | -4.2%    | -4.6%     | -4.9%     | -3.5%     | -3.5%     | -3.5%    | -3.7%    | -3.3%    | -3.1%    |
| 9      | -3.5%    | -4.2%    | -5.3%    | -4.3%    | -4.7%     | -5.0%     | -3.8%     | -3.6%     | -3.9%    | -4.1%    | -3.7%    | -3.3%    |
| 10     | -9.5%    | -11.2%   | -13.8%   | -12.1%   | -10.7%    | -11.1%    | -9.4%     | -10.7%    | -10.9%   | -12.7%   | -11.4%   | -10.9%   |

The three tables below show the percent share by decile of total income, total taxes before credits, and credits. As with the other tables in this section, the analysis is based on full year resident taxpayers with incomes greater than \$0.

| Total Income Percent Share by Income Decile |       |       |       |       |       |       |       |       |       |       |       |       |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Decile                                      | 2005  | 2006  | 2007  | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  |
| 1   | 0.6%  | 0.6%  | 0.5%  | 0.6%  | 0.6%  | 0.6%  | 0.6%  | 0.6%  | 0.6%  | 0.6%  | 0.6%  | 0.6%  |
| 2   | 1.6%  | 1.6%  | 1.5%  | 1.6%  | 1.7%  | 1.7%  | 1.7%  | 1.6%  | 1.7%  | 1.7%  | 1.7%  | 1.7%  |
| 3   | 2.7%  | 2.6%  | 2.6%  | 2.7%  | 2.8%  | 2.8%  | 2.8%  | 2.7%  | 2.7%  | 2.7%  | 2.7%  | 2.8%  |
| 4   | 3.8%  | 3.8%  | 3.7%  | 3.9%  | 4.0%  | 4.0%  | 4.0%  | 3.8%  | 3.9%  | 3.9%  | 3.9%  | 4.0%  |
| 5   | 5.2%  | 5.1%  | 5.0%  | 5.3%  | 5.4%  | 5.4%  | 5.3%  | 5.1%  | 5.3%  | 5.2%  | 5.2%  | 5.3%  |
| 6   | 6.9%  | 6.8%  | 6.7%  | 7.0%  | 7.1%  | 7.1%  | 7.1%  | 6.9%  | 7.0%  | 7.0%  | 6.9%  | 7.0%  |
| 7   | 9.1%  | 9.0%  | 8.9%  | 9.3%  | 9.5%  | 9.4%  | 9.5%  | 9.2%  | 9.4%  | 9.3%  | 9.2%  | 9.2%  |
| 8   | 12.1% | 11.9% | 11.8% | 12.3% | 12.5% | 12.4% | 12.5% | 12.2% | 12.5% | 12.3% | 12.2% | 12.2% |
| 9   | 16.2% | 15.9% | 15.9% | 16.5% | 16.9% | 16.7% | 16.8% | 16.4% | 16.8% | 16.7% | 16.5% | 16.6% |
| 10  | 41.8% | 42.7% | 43.2% | 40.9% | 39.5% | 39.9% | 39.7% | 41.7% | 40.1% | 40.6% | 41.0% | 40.6% |

| Total Tax Percent Share by Income Decile |       |       |       |       |       |       |       |       |       |       |       |       |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Decile                                   | 2005  | 2006  | 2007  | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  |
| 1  | 0.0%  | 0.0%  | 0.0%  | 0.0%  | 0.0%  | 0.0%  | 0.0%  | 0.0%  | 0.0%  | 0.0%  | 0.0%  | 0.0%  |
| 2  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  | 0.2%  |
| 3  | 0.6%  | 0.6%  | 0.6%  | 0.6%  | 0.6%  | 0.6%  | 0.6%  | 0.6%  | 0.6%  | 0.7%  | 0.7%  | 0.7%  |
| 4  | 1.3%  | 1.4%  | 1.4%  | 1.5%  | 1.5%  | 1.5%  | 1.4%  | 1.4%  | 1.5%  | 1.5%  | 1.6%  | 1.6%  |
| 5  | 2.6%  | 2.7%  | 2.8%  | 2.9%  | 2.9%  | 2.8%  | 2.8%  | 2.6%  | 2.9%  | 2.9%  | 3.0%  | 3.0%  |
| 6  | 4.3%  | 4.5%  | 4.6%  | 4.8%  | 4.8%  | 4.8%  | 4.7%  | 4.5%  | 4.9%  | 4.9%  | 4.9%  | 5.0%  |
| 7  | 6.8%  | 6.9%  | 7.0%  | 7.3%  | 7.5%  | 7.4%  | 7.4%  | 7.1%  | 7.6%  | 7.6%  | 7.4%  | 7.5%  |
| 8  | 10.2% | 10.1% | 10.4% | 10.8% | 11.2% | 11.1% | 11.0% | 10.5% | 11.3% | 11.2% | 10.9% | 10.9% |
| 9  | 15.6% | 15.5% | 15.7% | 16.5% | 17.2% | 17.0% | 16.9% | 16.1% | 17.2% | 17.0% | 16.5% | 16.6% |
| 10                                       | 58.4% | 58.2% | 57.3% | 55.4% | 54.2% | 54.6% | 54.9% | 57.0% | 53.7% | 54.0% | 54.9% | 54.5% |

| Total Credit Share by Income Decile |       |       |       |       |       |       |       |       |       |       |       |       |
|-------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Decile                              | 2005  | 2006  | 2007  | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  |
| 1                                   | 3.9%  | 3.2%  | 3.1%  | 3.8%  | 4.6%  | 4.3%  | 4.6%  | 3.9%  | 3.6%  | 2.8%  | 3.0%  | 3.3%  |
| 2                                   | 3.8%  | 3.1%  | 2.4%  | 3.0%  | 3.5%  | 3.2%  | 3.3%  | 2.5%  | 2.5%  | 1.9%  | 2.0%  | 2.2%  |
| 3                                   | 3.5%  | 2.6%  | 2.0%  | 2.6%  | 2.9%  | 2.6%  | 2.6%  | 1.9%  | 1.9%  | 1.5%  | 1.5%  | 1.7%  |
| 4                                   | 2.4%  | 1.9%  | 1.6%  | 1.8%  | 2.0%  | 1.7%  | 1.8%  | 1.4%  | 1.5%  | 1.2%  | 1.2%  | 1.2%  |
| 5                                   | 2.0%  | 1.8%  | 1.6%  | 1.7%  | 2.0%  | 1.9%  | 1.9%  | 1.4%  | 1.6%  | 1.3%  | 1.3%  | 1.3%  |
| 6                                   | 2.1%  | 2.1%  | 2.1%  | 2.2%  | 2.6%  | 2.7%  | 2.3%  | 1.8%  | 2.1%  | 1.9%  | 1.7%  | 1.8%  |
| 7                                   | 2.9%  | 3.0%  | 3.0%  | 3.0%  | 3.8%  | 4.0%  | 3.5%  | 2.7%  | 3.2%  | 2.8%  | 2.8%  | 2.7%  |
| 8                                   | 4.5%  | 4.6%  | 4.8%  | 4.7%  | 5.7%  | 5.8%  | 5.0%  | 4.4%  | 4.8%  | 4.5%  | 4.3%  | 4.2%  |
| 9                                   | 6.8%  | 7.1%  | 7.6%  | 7.4%  | 8.9%  | 9.0%  | 8.3%  | 7.0%  | 8.1%  | 7.5%  | 7.3%  | 6.9%  |
| 10                                  | 68.2% | 70.7% | 71.9% | 69.7% | 63.9% | 64.7% | 66.7% | 73.0% | 70.8% | 74.7% | 75.1% | 74.6% |