

## Methods of Modeling Tax Units to Estimate Tax Credits

Bruce H. Webster Jr.  
U.S. Census Bureau

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### Abstract

The Census Bureau produces alternative poverty estimates using data from the Current Population Survey (CPS) Annual Social and Economic Supplement (ASEC). As a part of these alternative estimates, the Census Bureau produces estimates of federal and state taxes, including estimates of several tax credits. One key step in the tax modeling process is constructing tax units from the members of sampled households. This paper compares estimates of tax credits across different methods of forming tax units, and evaluates how these credit estimates compare to each other. These estimates will also be compared to what is reported in tax returns using IRS aggregate data.

**Keywords:** CPS ASEC, Taxes, Modeling

### 1. Introduction

This paper discusses the process the Census Bureau uses to produce estimates of federal and state taxes based on responses to the Current Population Survey (CPS) Annual Social and Economic Supplement (ASEC). Data for each respondent household and the individual persons are used to first formulate tax units, then to calculate their adjusted gross income (AGI), and finally to estimate the federal and state taxes paid, along with estimates of several major tax credits. CPS ASEC data is augmented with public use information received from the Statistics of Income (SOI) department of the Internal Revenue Service to fill any gaps in the CPS ASEC data.

The estimates from this tax model are key components to the Census Bureau's alternative income and poverty measures, and will be a component in the Supplemental Poverty Measures that will be released later this year. As such, it is important for the tax model estimates to reflect accurately the taxes collected and credits claimed for each tax unit. One of the current shortfalls of the model is the underreporting of the Earned Income Tax credit. When weighted results of the tax model are compared to IRS benchmarks, the tax model underreports both the number of units claiming the credit and the aggregate amount of the credit claimed. The goal of this research is to increase these estimates to bring them closer in line with the IRS benchmarks.

The focus of this paper is the first step in the tax model process; tax unit creation, as there are some assumptions that must be made as part of tax unit creation. Changing these assumptions will lead to changes in the composition of tax units formed in complicated households. These altered tax units will lead to changes in the estimates of taxes paid and in the amounts of tax credits received within households. By studying the impacts of these changes in tax unit creation and comparing these results to IRS benchmarks, we

hope to improve our federal and state tax estimates, which will also lead to improved alternative poverty measures.

## 2. Background

### 2.1 CPS ASEC Description

The survey used in this research is the 2011 CPS ASEC<sup>1</sup>. The minimum age to be asked the income questions is 15. The primary goal of the CPS is to collect monthly information on the labor force characteristics of the population of the United States. In 2011, the survey was conducted in about 50,000 households per month. Included in the survey each spring is the ASEC containing questions covering over 50 income sources, such as earnings, property income, transfer payments, and retirement. Household-level questions are used to screen respondents for receipt of income from the 50 sources followed by person-level questions on reciprocity and amounts. Household screener questions are used to reduce respondent burden.

The CPS ASEC used a series of questions designed to identify over 50 income sources, to assist the respondent in making calculations and to make it easier for respondents to remember correct information. Questions such as “What is the easiest way for you tell us your (specified income source); monthly, quarterly or yearly?”, “How much did you receive (chosen timeframe) in (specified income source) in 2010?”, and “For how many (chosen timeframe) did you receive (specified income source) in 2010?” are used to assist in more accurate reporting. Using one or more repetitions of these questions, the ASEC portion of the CPS questionnaire devotes whole sections (in some cases more than one) to covering each individual income component.

These detailed income questions allow the Census Bureau to publish income data for households, families, and individual people, both for total income and for the individual income sources. The responses from these questions are also important as a part of the tax model, as many of the income sources are needed to fill in the items on both the main tax forms and numerous tax schedules. The survey data used for all of the analysis in this paper is the 2011 CPS ASEC data. The implications of using the same sample for all of the calculations are discussed in the analysis section of this paper.

### 2.2 Supplemental Data

The tax model requires additional data that has not been collected as a part of the CPS ASEC to complete the required tax forms. SOI public use data is used to fill in these gaps. The public use data is created from a sample of completed 1040 tax forms. More information on SOI’s methods is available on the SOI section of the IRS website.

Examples of the data that is used from the SOI public use data set include presence of mortgage, childcare costs, IRA contributions, and calculated tax amounts collected from several of the 1040 supplemental forms (such as Schedules C, E, and F). Some of this information was added to the CPS ASEC questionnaire in 2010, and data is now available on the presence of a mortgage, childcare costs and medical out of pocket

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<sup>1</sup> Data are subject to error arising from a variety of sources. For more information on sampling and non-sampling error, see [www.census.gov/aprd/techdoc/cps/cpsmar11.pdf](http://www.census.gov/aprd/techdoc/cps/cpsmar11.pdf) (accessed June 29, 2012).

expenses. Research into phasing out the use of SOI data and using the newer CPS ASEC variables is ongoing, and the status of this research will be discussed later in this paper.

Additional SOI data on items that are in the CPS ASEC questionnaire are also required as a part of the imputation process, to ensure a proper match between CPS ASEC created tax units and SOI public use tax files. This data includes number of dependents, filing status and numerous income components, as well as others. For all of the analysis in this paper, no changes were made in the SOI data originally appended to the CPS ASEC, and the imputation portion of the tax model process remained unchanged throughout the research process, so this data has minimal effect on the results of this study.

### **2.3 Tax Unit Creation**

The main component of the tax model in this analysis is the creation of tax units. The current process to create tax units takes several steps. The first step starts with the creation of a CPS ASEC person extract file, which contain necessary income data, along with some key demographic information that show the relationship of a person to the other people within a household. The second step is to separate this new extract into married couples and single persons, using a spouse pointer variable. A nonzero value for this variable indicates that the person is married, and identifies the line number of their spouse, and ensures that the record is included in a married couples extract. A zero value for this variable indicates a single person, and ensures that the record is included in a single persons extract. The third step is to split the single persons extract into children and unmarried adults, using a parent pointer variable. The original tax model uses a pointer to the mother if present in the household, or the father otherwise. A nonzero value for this variable indicates that the person is a child, and identifies the line number of one of their parents. This will ensure that the record is included in the children extract. A zero value for this variable indicates that the person is not a child, and ensures that the record is included in the unmarried adults extract. In the fourth and final step some checks are performed, to make sure that none of the children are over the age of 18, or between 18 and 25 and currently enrolled in school (any children that are not in one of these categories are treated as unmarried adults), and to check for any other irregularities.

After the person file is split into the three extracts (married couples, unmarried adults and children), tax units are created by combining the spouses into a single observation. Then the children are appended to their parents, for both the married couples and the single parents in the unmarried adults group. When the children are added in, the original person file has been reorganized into four types of tax units; namely married partners with children, married partners without children, single people with children, and single people with no children. The first two groups are both treated as married partners filing jointly for tax purposes, the third group is treated as filing heads of households for tax purposes, and the last group is single filers.

In order to assign credits, the groups needing further consideration are the heads of households and the single units. The married partners and their children can only be organized as one whole tax unit – if we assume that they are filing jointly, there is no alternative way to create the tax unit. However, in a household with unmarried partners with children, one of the partners is assigned the child and would file their taxes as a head of household, while the other partner files as a single filer. In the production version of the CPS ASEC tax model, using a single parent pointer recode means there is only one way to organize this household into units.

In 2007, however, the CPS ASEC added questions to identify the presence of two parents (if both resided in the household), one variable pointing to a father, and another variable pointing to a mother. Starting in 2010, research has been conducted into using the two parent pointer variables as opposed to the current production method of using the single variable. Having both parent pointers available allows the tax model more flexibility to as to how to assign children in unmarried partner situations.

## **2.4 IRS Tax Codes and Tax Credits**

The CPS ASEC tax model applies, as best it can (based on the information available), the federal tax code, and tax codes for all of the states. The federal tax portion of the model applies both the shorter version (using standard deductions), and the longer version (with itemized deductions), then chooses which version to use based on the lowest taxes liability. The number of tax credits is limited by the amount of data available from the ASEC and/or imputed from the SOI. Credits not included in the model are discussed in the limitations section.

Two of the largest credits (both in terms of number of units claiming and aggregate credits) in the federal tax model are the Child Tax Credit and the Earned Income Tax Credit. The amount of adjusted gross income (AGI) and the number of eligible children in each tax unit limit both of these credits. Changing the structure of tax units by reassigning children to different parents will change the unit's eligibility status for these credits.

The eligibility criteria for the Child Tax Credit are simple--if a tax unit is filing jointly, their AGI must be under \$110,000, if the tax unit is filing as a single or head of household tax unit, their AGI must be under \$75,000. If this criterion is met, then the tax unit can receive up to \$1,000 in credit per child. The eligibility criteria for the Earned Income Tax Credit are slightly more complicated. The main criteria include minimum AGI cutoffs and maximum AGI cutoffs for tax units based on filing status and number of dependents. Specifically, in 2010, the maximum AGI for any tax unit to be eligible for the credit is \$48,362, which means that any tax unit with children that is eligible for the Earned Income Tax Credit is also eligible for the Child Tax Credit. This means that any attempt to refine tax unit creation in the CPS ASEC tax model in order to maximize the amount of tax credits received should focus on assigning children based on the Earned Income Tax Credit eligibility criteria. There are other rules that affect eligibility for the Earned Income Tax Credit, and these are discussed later.

Many states offer a version of one or both of these credits as well. However, the state eligibility for these credits is generally based on percentages of the federal tax credit amounts. If a tax unit is not eligible for the federal tax credit, then they are generally not eligible for the state tax credit. Thus, only the federal tax credit eligibility rules are taken into account for this analysis.

As noted, the role of children in the eligibility criteria for credits is critical. Thus, the proper assignment of children to a tax unit is paramount. It is often the case, however, that dependent children could be assigned to more than one tax unit and it is not always clear how to make that assignment. If a child's parents are in separate tax units, there are several rules that determine which tax unit can claim the child. The rule followed for this analysis is the assignment of a child to the parent with the higher AGI. Since AGI is not

yet calculated during the formation of tax units, total money income of the unit is used as a substitute. However, a waiver can be filed that allows any parent or guardian that meets the basic eligibility requirements to be allowed to claim the child as their dependent. For this analysis, two extreme models are evaluated— one where all children are assigned to the parent with the most AGI, another representing the other end of the spectrum – where an eligibility waiver is always assumed to allow every eligible parent with the lowest AGI to claim the child.<sup>2</sup>

### 3. Methods

#### 3.1 Unit Construction

The following analysis examines four tax model variations based on tax unit constructs. The first method, production CPS ASEC tax model, uses a single pointer variable on a child's record to identify a parent. This is the only variation of constructing tax units using the single parent pointer. All the other variations required using two parent pointers.

The next two methods are the two extremes models discussed previously. The second assumes that all unmarried partner households follow the IRS tax requirement that children be assigned to the parent with the highest total income, without any waivers. The third method is the opposite assumption, all unmarried partner households children are assigned to the parent with the lowest total income. Neither of these tax models is likely to maximize the amount of tax credits these units receive, as always choosing the parent with the highest income should produce more tax units with too much income to be eligible, while always choosing the parent with the lowest income should produce more tax units with not enough income to claim the credit. However, at the very least, they are both useful as benchmarks.

As mentioned before, the Earned Income Tax Credit rules should be a focus point for any attempt to maximize the credits amounts in the CPS ASEC tax model. In order to maximize the Earned Income Tax Credit, children who can be assigned to different tax units should always be assigned to the one that would be eligible to get the largest benefit. The eligibility criteria for the Earned Income Tax Credit, as mentioned previously include an overall maximum AGI of \$48,362. If a tax unit has an AGI under that maximum amount, than the number of dependents is factored in to determine exactly how much AGI the unit can claim and still be eligible. The highest percentage of tax units Earned Income Tax Credit eligibility should be achieved by assigning children to the parent with the highest AGI under the maximum cutoff.

#### 3.2 Limitations

There are several limitations that impact the CPS ASEC tax model, and therefore impact this research as well. The CPS ASEC collects information on many detailed income sources, as well as many demographic characteristics, but there are numerous topics that the CPS ASEC does not include that are important components to the tax code – including citizenship, business profits and losses, farm expenses, and capital gains and

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<sup>2</sup> Information on these topics, including dependent assignment rules, the Earned Income Tax credit, the Child Tax Credit, and the federal and state tax codes is available through the IRS website.

losses. Some of these limitations are overcome by using data imputed from the SOI. One major area of importance that can not be filled, even by SOI, is capital gains data. Because the difference in time between the availability of SOI data and the current CPS ASEC data, capital gains information is not useful. Another shortcoming is the lack of citizenship data, which is not available from any independent source.

Some shortcomings are being addressed in the CPS ASEC. Several topics have been recently added to the CPS ASEC to fill voids, including medical out of pocket expense, presence of a mortgage, and child care expenses. The CPS ASEC tax model does use data on these items to estimate deductions, but still relies on the SOI tax extract to impute values for these items. Research into using these newer CPS ASEC items is ongoing.

Another set of limitations are the assumptions made in assigning filing status and dependents. All married couples are considered to be filing jointly. If married couples were modeled to possibly file separately, the experimental models discussed in this paper would affect more households. Additionally, data is not available to determine the eligibility of a tax unit for certain other tax credits and these credits are assumed to be zero – these include education expenses credits, energy credits, employment credits and numerous other federal and state credits. Also, some tax units with low nonzero wages may file taxes to get their wage tax withholdings returned to them if they did not owe any taxes, but the CPS ASEC only collects data on gross income, and the tax model can not account for these units.

Finally, data linking children to their parents is only available for persons in the household – if an unmarried partner parent is living outside of the household, the CPS ASEC tax model will not have the ability to assign them the child. This could lead to children being assigned to the wrong tax unit due to the lack of available information. Additionally, in looking at assigning children to tax units, the current process assigns one child at a time. The model does not take into account how many children have been previously assigned to a parent as a part of assigning a child. This means that in every household with two unmarried partners who are the parents of multiple children, one parent will have all of the children assigned to them in a tax unit, and the other parent will be a single filer with no additional exemptions. Dynamically assigning multiple children at the same time in a similar situation may result in two tax units each with children assigned to them. In a small number of households this might have resulted in more tax units being eligible for the Earned Income Tax Credit.

## 4. Results

### 4.1. Tax Model Assigning Children Using a Single Parent Pointer

Before discussing the results of any of the experimental models, it is important to discuss the results of the published tax model, which will be used as a baseline for all of the experimental models. The first column of Table 1 shows some key estimates for these default results.<sup>3</sup> In this and all of the other tables, the percentages shown are all percentages of constructed tax units, and the means shown are for all tax units with a nonzero value of the measure. Of all tax units, 77.7% are expected to file a return (either because they owe taxes, they will receive refundable credits, or the tax laws otherwise

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<sup>3</sup> Margins of error for these estimates and all of the other estimates in Table 1 are presented in Table 2.

require that they file a return). The mean AGI of all tax units with nonzero AGI is \$55,760, and the mean taxable income of all tax units is \$49,624. 13.6% of all tax units receive the Child Tax Credit, and the mean credit for those units is \$1,358. 12.5% of all tax units receive the Earned Income Tax Credit, and the mean credit for those units is \$1,966. The mean federal tax for tax units with nonzero tax liability, after all credits are taken into account, is \$6,458. These amounts are the baseline that will be compared with all of the experimental results.

#### **4.2. Tax Model Assigning Children to the Parent with the Highest Income**

The first experimental model to discuss is the one which assigns all children of unmarried partners to the parent that has the highest income. The second column of Table 1 shows the key estimates for this experimental model. As in the baseline model, 77.7% of all tax units are expected to file a return<sup>4</sup>. The mean AGI of all tax units with nonzero AGI is \$55,761, and the mean taxable income of all tax units is \$49,618. These mean amounts are not statistically different from the mean amounts for the baseline model. 13.8% of all tax units receive the Child Tax Credit, and the mean credit for those units is \$1,350. 12.6% of all tax units receive the Earned Income Tax Credit, and the mean credit for those units is \$1,977. The percentage of tax units earning these credits is higher than the baseline, and so has the mean amount of the Earned Income Tax Credit. The mean amount of the Child Tax Credit is lower than the baseline. The implications of increasing means for the EITC and decreasing means for the CTC will be discussed in the conclusions. The mean federal tax for tax units with nonzero tax liability, after all credits are taken into account<sup>5</sup>, is lower than the baseline at \$6,439.

#### **4.3. Tax Model Assigning Children to the Parent with the Lowest Income**

The second experimental model to discuss is the one which assigns all children of unmarried partners to the parent that has the lowest income, including zero incomes. The third column of Table 1 shows the key estimates for this experimental model. With this model, 77.8% of all tax units are expected to file a return, an increase from the baseline model. The mean AGI of all tax units with nonzero AGI is \$55,742, a decrease in amount from the baseline model. The mean taxable income of all tax units is \$49,612, not statistically different from the baseline model. 13.4% of all tax units receive the Child Tax Credit, and the mean credit for those units is \$1,357. 12.4% of all tax units receive the Earned Income Tax Credit, and the mean credit for those units is \$1,969. The percentage of tax units earning these credits has decreased when compared to the baseline model, while the mean amounts are not statistically different from the baseline model. These results have been affected by reassigning children from parents who earned income to parents who earned no income. As a result of these changes, the mean federal tax for tax units with nonzero tax liability, after all credits are taken into account, has increased to \$6,464.

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<sup>4</sup> The percent of tax units expected to file a return with the highest income model is not statistically different from the percent of tax units expected to file a return under the baseline model.

<sup>5</sup> The 2010 tax model includes additional credits, including the childcare expense credit, the additional child tax credit, elderly and disabled credits, the making work pay credit, and numerous state credits that are not output as separate variables.

#### 4.4. Tax Model Assigning Children to Optimize EITC Tax Units

The third experimental model to discuss is the one which assigns all children of unmarried partners to the parent using the EITC Guidelines. Again, this means assigning children to the parent earning the highest income under the maximum AGI allowed to claim EITC (\$48,362). The fourth column of Table 1 shows the key estimates for this experimental model. With this model, 77.7% of all tax units are expected to file a return; this percentage is not statistically different from the baseline model. The mean AGI of all tax units with nonzero AGI is \$55,755, and the mean taxable income of all tax units is \$49,646. These amounts are also not statistically different from the baseline model. 13.6% of all tax units receive the Child Tax Credit, and the mean credit for those units is \$1,354. 12.5% of all tax units receive the Earned Income Tax Credit, and the mean credit for those units is \$1,982. Both the percentage of units that are eligible for the Child Tax Credit and percentage of units that are eligible for the Earned Income Tax Credit are both slightly increased<sup>6</sup>. The mean amount of the Earned Income Tax Credit has increased, while the mean amount of the Child Tax Credit has decreased. The mean federal tax for tax units with nonzero tax liability, after all credits are taken into account, has decreased to \$6,448.

#### 4.5. Tax Model Assigning Children to the Parent with the Lowest Nonzero Income

The results of assigning children to the parent with the lowest income, even if that parent earned no income (decreased percentages of tax units claiming the Child Tax Credit and the Earned Income Tax Credit), suggested another experimental model – namely assigning children to the parent with the lowest nonzero income. The expectation is that disregarding nonzero incomes and then taking the lowest income will decrease the underreporting of tax credits. As shown in 4.3, including the nonzero incomes increased the underreporting. This will be discussed further in the later analysis and the conclusions.

The last column of Table 1 shows the key estimates for this, the fourth experimental model. With this model, 77.7% of all tax units are expected to file a return<sup>7</sup>. The mean AGI of all tax units with nonzero AGI is \$55,753, not statistically different from the baseline model. The mean taxable income of all tax units is \$49,660, a increase in mean amount from the baseline model. 13.6% of all tax units receive the Child Tax Credit. This percentage is not statistically different from the baseline model. The mean credit for those units is \$1,353, a statistical decrease from the baseline model. 12.6% of all tax units receive the Earned Income Tax Credit, and the mean credit for those units is \$1,992. The percentage of tax units earning the Earned Income Tax Credit has increased from the baseline tax model, as has the mean credit amount for the units having nonzero Earned Income Tax Credits. As a result, the mean federal tax for tax units with nonzero tax liability, after all credits are taken into account, has decreased to \$6,450.

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<sup>6</sup> Unrounded estimates result in statistical differences at the 95% confidence level due to the high correlation between estimates. Differences that would otherwise appear to not be statistically significant are statistical differences.

<sup>7</sup> The percent of tax units expected to file a return with the lowest nonzero income model is not statistically different from the percent of tax units expected to file a return under the baseline model.



#### 4.6. Comparing Tax Model EITC Results to SOI Benchmarks

After looking at key estimates for each experimental tax model, it is imperative to compare the results to benchmarks published by IRS. Table 3 presents the weighted number of tax units with nonzero EITC, along with the aggregate EITC claimed under each tax model, as well as benchmarks taken from 2010 IRS Individual Income Tax Returns preliminary administrative records<sup>8</sup>. As mentioned before, our baseline tax model underreports both the number of tax units receiving EITC and the aggregate amount of credit received. The tax model that assigns children to the parent with the lowest income including zeroes underreports the number of tax units receiving EITC even more<sup>9</sup>. The other experimental models reduce the underreporting by a small amount. The model assigning children to the parent with the highest income has the highest number of tax units with nonzero amounts of EITC, while the model assigning children to the parent with the lowest nonzero income has the highest aggregate EITC claimed<sup>10</sup>. The model following the EITC guidelines does not reduce the underreporting of either estimate as much as the highest income model or the lowest nonzero income model.

### 5. Discussion and Conclusions

This analysis leads to some basic conclusions. First, the baseline tax model, which uses the single parent pointer that typically assigns children to their mother, does not organize households into tax units that will claim tax credits at the highest rate. Also, the average amount of the Earned Income Tax Credit that is claimed can also be increased by using the experimental models.

The model that assigns children to the parent with the lowest income will reduce the percent of tax units that claim tax credits, unless the model only assigns children to parents with nonzero incomes. An experimental model that assigns children to the parent with the lowest nonzero income does not have this issue, and, in fact, has similar percentages of tax units claiming tax credits and a higher mean amount of Earned Income Tax Credit claimed than an experimental model designed by specifically using EITC guidelines. This suggests that this model may be the best method to bring the EITC estimates closer in line with IRS benchmarks.

However, the experimental models only slightly reduce the amount of underreporting of EITC as compared to SOI benchmarks. More research should be done to see if treating some married couples as filing separately would increase the benefits of these models. Improving the model by addressing some the issues discussed in the limitations may also allow for more benefits from these changes.

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<sup>8</sup> The IRS data comes from SOI, and is preliminary, because it only takes returns filed between January and August of 2010 into account. The final administrative records data for 2010 has not been released.

<sup>9</sup> The aggregate EITC claimed under the parent with the lowest income model is not statistically different from the aggregate EITC claimed under the baseline model.

<sup>10</sup> The aggregate EITC claimed under the parent with the lowest nonzero income model is not statistically different from the aggregate EITC claimed under the parent with the highest income model.

**Table 1. Estimates from the Tax Models**

Characteristic	Baseline	Highest	Lowest with Zeroes	EITC Optimized Tax Units	Lowest without Zeroes
Percent of tax units who are expected to file a return	77.7	77.7	77.8	77.7	77.7
Mean AGI	55760	55761	55742	55755	55753
Mean taxable income	49624	49618	49612	49646	49660
Percentage of tax units receiving CTC	13.6	13.8	13.4	13.6	13.6
Mean CTC received	1358	1350	1357	1354	1353
Percentage of tax units receiving EITC	12.5	12.6	12.4	12.5	12.6
Mean EITC received	1966	1977	1969	1982	1992
Mean federal tax after credits	6458	6439	6464	6448	6450

**Table 2. Margins of Errors of the Estimates from the Tax Models**

Characteristic	Baseline	Highest	Lowest with Zeroes	EITC Optimized Tax Units	Lowest without Zeroes
Percent of tax units who are expected to file a return	0.312	0.311	0.312	0.311	0.312
Mean AGI	519	518	516	517	516
Mean taxable income	531	529	528	530	531
Percentage of tax units receiving CTC	0.193	0.198	0.193	0.193	0.196
Mean CTC received	11	11	11	11	11
Percentage of tax units receiving EITC	0.191	0.191	0.190	0.190	0.191
Mean EITC received	30	30	30	30	30
Mean federal tax after credits	130	130	130	130	130

**Table 3. Number of Tax Units With Nonzero EITC and Aggregate EITC Claimed by Tax Model**

Tax Model	Number of tax units with nonzero EITC	Standard error of Number	Aggregate EITC claimed	Standard error of Aggregate
SOI preliminary counts	27776521	NA <sup>11</sup>	60931712	NA
Baseline	21209840	20083.9	41705458	521531
Highest	21480920	20030.1	42477405	525101
Lowest with Zeroes	21129850	19990.9	41599846	520366
EITC Optimized Tax Units	21367370	19966.6	42355748	513401
Lowest	21408790	20091.5	42638281	521076

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<sup>11</sup> The SOI number of persons with EITC and aggregate EITC are presented without error terms from the IRS.