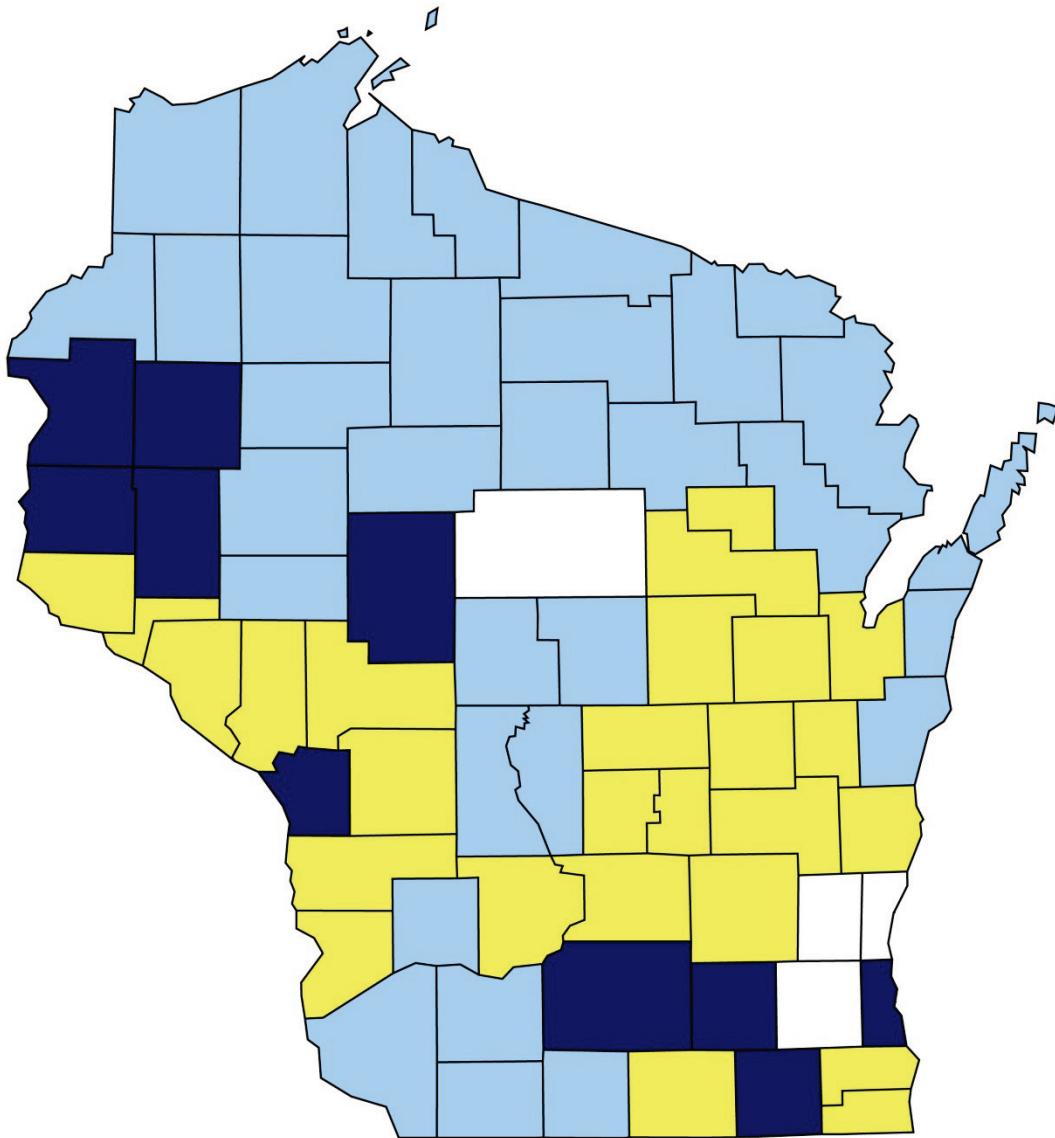


Wisconsin Poverty Report: Technical Appendix



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APPENDIX A. PUBLIC USE MICRODATA AREAS IN WISCONSIN

The U.S. Census Bureau has divided Wisconsin into 31 Wisconsin Public Use Microdata Areas (PUMAs), with boundaries set to follow county boundaries and ensure at least 100,000 residents in each unit. For our imputations and poverty results, we have grouped these 31 PUMAs into 22 areas, consisting of the 10 largest counties in Wisconsin and the remaining 12 PUMAs that group between 2 and 10 counties into one area (see Table A 1).

Table A 1. Guide to Counties, Multi-County Areas, and PUMAs

County or Multi-County Area	Public Use Microdata Area (PUMA)	Counties
Milwaukee	02001, 02002, 02003, 02004, 02101, 02102	Milwaukee
Dane (Madison)	01100, 01200	Dane
Waukesha	02201, 02202, 02203	Waukesha
Brown (Green Bay)	00200, 00300	Brown
Racine	01900	Racine
Kenosha	01800	Kenosha
Rock (Janesville)	02400	Rock
Marathon	01600	Marathon
Sheboygan	02500	Sheboygan
La Crosse	0900	La Crosse
10-county area (Superior)	00100	Ashland / Bayfield / Burnett / Douglas / Iron / Price / Rusk / Sawyer / Taylor / Washburn
Calumet/Outagamie/Winnebago (Appleton)	01500	Calumet/ Outagamie / Winnebago
9-county area (Stevens Point, Crandon)	00600	Adams / Forest / Juneau / Langlade / Lincoln / Oneida / Portage / Vilas / Wood
7-county area (Fond du Lac)	01400	Fond du Lac / Green Lake / Marquette / Menominee / Shawano / Waupaca / Waushara
5-county area (Menomonie)	00400	Barron / Clark / Dunn / Polk / St. Croix
Ozaukee/ Washington	02300	Ozaukee / Washington
6-county area (Manitowoc)	01300	Door / Florence / Kewaunee / Manitowoc / Marinette / Oconto
Columbia/Dodge/ Sauk (Baraboo)	01000	Columbia / Dodge / Sauk
8-county area (Sparta)	00700	Buffalo / Crawford / Jackson / Monroe / Pepin / Pierce / Trempealeau / Vernon
Jefferson/Walworth	01700	Jefferson / Walworth
Chippewa/Eau Claire	00500	Chippewa / Eau Claire
5-county area (Dodgeville)	0800	Grant / Green / Iowa / Lafayette / Richland

APPENDIX B. POVERTY UNITS AND POVERTY UNIVERSE

We chose poverty units that reflect patterns of income and consumption sharing across families and individuals living within households. We also chose to expand the poverty universe to include foster children.¹ Our poverty unit is expanded beyond the Census Bureau family unit to include unmarried partners who cohabit, minor and adult children of the cohabiting partner,² foster children, and unrelated minor children. Yet our units are smaller than household units because we split unrelated subfamilies and unrelated adults into separate small poverty units within the household.

First, we created a primary poverty unit (expanded family unit) in each household, consisting of:

- a. The head of household and any individual related to the head of household (using the IPUMS variable RELATED)
- b. Unmarried partner of the head of household
- c. Unmarried partner's children (identified with IPUMS child/parent flags)
- d. Foster children
- e. Unrelated minor children

Second, we allowed for additional poverty units with the household, created out of individuals who are unrelated to the household head. If the individuals are related to each other, they are grouped together into a unit, forming what might be thought of as an unrelated subfamily. Otherwise, any remaining unrelated individuals 18 years of age and older are each their own single-person poverty unit. Table B 1 shows the sample and weighted sample counts for each unit of analysis within our study.

¹ Foster children are not included in the poverty universe under the official measure, though they are proposed to be included in the SPM.

² We identified family members of the unmarried partner using the IPUMS variable FAMUNIT.

Table B 1. Unweighted and Weighted Sample Counts by Units of Analysis

Dataset	Number of People		Number of Family Units		Number of Households		Number of Poverty Units	
	Sample	Weighted sample	Sample	Weighted sample	Sample	Weighted sample	Sample	Weighted sample
2008 ACS sub-sample from IPUMS Modified dataset excluding people living in group quarters and using IRP-defined poverty units	58,204	5,627,968	27,182	2,661,732	25,096	2,412,764	N/A	N/A
	56,572	5,464,836	25,550	2,498,600	23,464	2,249,632	24,244	2,354,055

Our poverty units, while more inclusive than the usual Census practice of families and unrelated individuals, are less inclusive than households, where all members sharing the same basic unit (common areas like living room, kitchen, heating, lights, etc.) are treated as fully sharing income. The overall poverty rate would fall from 11.2 to 10.4 percent using households as the poverty unit. Poverty rates fell for all counties and multi-county areas using households as the unit of analysis, with the largest differences in Dane and Brown Counties and the 5-county area including Dodgeville. Table B 2 presents poverty rates using households as the unit of analysis rather than our poverty units.

Table B 2. Poverty Rates Under the Wisconsin Measure, Using Poverty Units and Household Units

	Wisconsin Measure	Wisconsin Measure but with Household as Unit	Difference (percentage points)*
County			
Milwaukee	18.8%	17.8	-1.0
Dane (Madison)	13.1	11.4	-1.7
Waukesha	6.1	5.9	-0.2
Brown (Green Bay)	9.5	7.8	-1.6
Racine	9.1	8.5	-0.7
Kenosha	9.3	8.9	-0.4
Rock (Janesville)	9.1	7.8	-1.3
Marathon (Wausau)	6.1	5.2	-1.0
Sheboygan	9.0	8.2	-0.8
La Crosse	13.9	13.2	-0.7
Multi-County Area			
Ozaukee/Washington	4.6	3.9	-0.7
Jefferson/Walworth	12.3	11.9	-0.4
Chippewa/Eau Claire	10.7	9.4	-1.2
Calumet/Outagamie/ Winnebago (Appleton)	9.7	9.0	-0.7
Columbia/Dodge/Sauk (Baraboo)	9.0	8.8	-0.2
5-county area (Menomonee)	12.3	11.7	-0.6
5-county area (Dodgeville)	11.9	10.1	-1.8
6-county area (Manitowoc)	10.0	9.5	-0.6
7-county area (Fond du Lac)	8.0	7.8	-0.2
8-county area (Sparta)	9.0	8.5	-0.6
9-county area (Stevens Point, Crandon)	10.0	9.3	-0.7
10-county area (Superior)	11.2	11.1	-0.1
State Total	11.2	10.4	-0.8

Source: IRP tabulations of 2008 American Community Survey data.

*Differences may not sum due to rounding.

APPENDIX C. POVERTY UNIVERSE AND TREATMENT OF COLLEGE STUDENTS

Our poverty universe excludes individuals in group quarters from our analysis. We have since learned that Census Bureau includes individuals in certain types of non-institutional group quarters in the poverty universe for the official measure. We have not done so, partly because the detailed coding for types of group quarters is not available on the IPUMS version of the ACS, but also because it would be difficult to impute non-cash resources for such individuals. Our exclusion of all individuals in group quarters is consistent with other researchers in New York City, Minnesota and Connecticut.

We are exploring the merits and drawbacks of a possible additional exclusion from the poverty universe, namely undergraduate students living in off-campus housing. Under the official poverty measure, ACS poverty rates in areas with large numbers of college students are higher than CPS poverty rates due to the survey design. Unlike the CPS, the ACS is conducted throughout the year, meaning college students may be surveyed when they are away from their parents' homes and therefore treated as independent consumer units.³ Students may report that they are living alone or with roommates, and that they have little or no income; however, in many cases they are relying on the income of family elsewhere or financial aid to meet their food, clothing, shelter, and utility needs. In these cases, it might not be appropriate to consider these individuals as living in poverty.

As an initial exploration, we did a sensitivity test eliminating those individuals from our sample who were attending college, 18 through 23 years of age, and not living with parents or other family members (see Table C 1). These individuals accounted for approximately 460 people in our data set. Excluding them from the universe would reduce poverty rates by one percentage point overall and by more in La Crosse, Dane and several other counties. For instance, in Dane County (Madison), the poverty rate under the Wisconsin measure decreased from 13.1 to 10.2 percent when college students were removed from the sample.

We are continuing to explore this possible refinement. We want to investigate further, to determine how many of our "students" are indeed traditional, full-time students, and how many may be part-time students, combining classes at community college with part-time work. While the ACS does not have a variable on full-time versus part-time status, it does have information on employment that may help refine our measure of students.

³ Individuals in group quarters, such as college dormitories, are excluded from our poverty universe. This discussion on treatment of college students pertains strictly to those individuals living in off-campus housing.

Table C 1. Poverty Rates Under the Wisconsin Measure, With and Without College Students Living Off-Campus and Away from Home

County	Wisconsin Measure (includes off-campus college students)	Wisconsin Measure excluding most college students	Difference (percentage points)*
Milwaukee	18.8%	17.8	-1.0
Dane (Madison)	13.1	10.2	-2.9
Waukesha	6.1	5.6	-0.5
Brown (Green Bay)	9.5	8.4	-1.1
Racine	9.1	9.2	0.1
Kenosha	9.3	9.1	-0.2
Rock (Janesville)	9.1	9.1	0.0
Marathon (Wausau)	6.1	6.2	0.1
Sheboygan	9.0	8.5	-0.5
La Crosse	13.9	9.4	-4.4
Multi-County Area			
Ozaukee/Washington (West Bend)	4.6	4.5	-0.1
Jefferson/Walworth	12.3	10.0	-2.3
Chippewa/Eau Claire	10.7	8.7	-2.0
Cal. /Out. / Winnebago (Appleton)	9.7	8.8	-1.0
Columbia/Dodge/Sauk (Baraboo)	9.0	8.9	-0.1
5-county area (Menomonie)	12.3	11.0	-1.3
5-county area (Dodgeville)	11.9	10.3	-1.5
6-county area (Manitowoc)	10.0	9.5	-0.6
7-county area (Fond du Lac)	8.0	7.8	-0.2
8-county area (Sparta)	9.0	7.6	-1.5
9-county area (Stevens Point, Crandon)	10.0	9.3	-0.7
10-county area (Superior)	11.2	11.3	0.1
State Total	11.2	10.2	-1.0

Source: IRP tabulations of 2008 American Community Survey data.

*Differences may not sum due to rounding.

APPENDIX D. SIMULATING INCOME AND PAYROLL TAXES

The estimation process includes a detailed model to simulate federal and state income taxes and mandatory payroll taxes. The tax model used is, to a large extent, based on the model now used by the Bureau of the Census for estimating taxes for the March Current Population Survey (CPS). Changes were made to adapt the model to the set of information available from the American Community Survey (ACS) for 2008. Adaptation of the model centered around creation of an input data set that resembled the one used by the CPS model and then adapting the program code to account for differences that could not be resolved.

Basic Elements of the Model

The model logically is divided into four elements: calculation of payroll taxes, provisional assignment of tax units, provisional calculation of federal income taxes, calculation of state income taxes, and final computation of federal income taxes with state taxes as potential itemized deduction.

Payroll Taxes- The computation of payroll taxes assumes that, with a few minor exceptions, all persons reporting wage and salary income pay FICA taxes. The computation is straightforward following the tax rates for each component of the tax. The simulation also attempts to estimate that proportion of workers reporting their class of worker as “Federal Government,” are under the CSRS and assigns payroll taxes corresponding to that system. Taxes paid on income from self-employment are estimated as part of the federal income tax portion of the model.

Provisional Tax Units- Sample persons are organized into provisional tax units based on household/family relationship. Persons who are members of a primary family excluding related subfamily members are placed in a tax unit and assigned either as “married, filing jointly” or “head of household” for type of return. Primary unrelated individuals are assigned “single” for type of return. Members of subfamilies, both related and unrelated, are placed in tax units with the same possibilities for type of return. Finally, a provisional tax unit is generated for each person age 15 years old and over who is not the household reference person or spouse of the household reference person. All persons unrelated to the householder, under age 15, and not in an unrelated subfamily were assigned to the tax return of the householder. A routine was added to identify primary families where the householder appeared to be dependent on other family members. In these situations another family member was chosen as the head of the tax unit and the householder was relegated to an exemption on that return.

Provisional Calculation of Federal Income Tax- A provisional tax return is generated for each of the tax units in order to establish details needed to simulate a state income tax return.

Calculation of State Income Tax- Wisconsin state income taxes were simulated using the provisional federal return. The simulation of state taxes originally developed for the Census Bureau model was updated to current provisions and revised to include Wisconsin-specific taxes and credits: the Homestead Credit, the School Property Tax Credit, and the Working Family Credit.

Final Calculation of Federal Income Tax- Once the state income tax computation is completed, the state tax liability is appended to the provisional federal return and the final computation of federal taxes is made, first for tax units derived from subfamilies. It is at this point that a determination is made as to whether or not a tax unit is likely or legally required to file. If it is determined that the unit is a “nonfiler” the provisional unit is dissolved. This releases the children into the pool of likely exemptions on the tax unit formed around the householder and the adults as single returns.

Tax Simulation Details

There are many aspects of federal and state income taxes that cannot be simulated because the data are not available from the 2008 ACS. The March CPS tax simulation has similar limitations. In the case of the March CPS tax simulation some of this missing information was obtained by statistically matching the survey based tax returns to the public use sample of tax returns known as the Statistics of Income, or the SOI. Other information such as property taxes and mortgage interest were obtained through statistical matches to the Annual Housing Survey. The Census Bureau has, however, suspended matching to the SOI in order to expedite release of their annual income and poverty report. As we do not have access to the SOI, this model also lacks this enhancement. Items that are excluded as a result are as follows:

- Child care expenses
- Adjustments to income for health insurance premium for self-employed
- Adjustments to income for contributions to IRA's, SEP's, profit sharing, and other retirement plans
- Itemized deductions for medical expenses and other items
- Capital gains and losses

Neither model contains provisions to simulate the Alternative Minimum Tax.

The ACS collects income amounts at the person level for eight “sources” of income. Seven of the eight sources are more or less for a single, well-defined type of income. The eighth source is actually the total amount of income received from a combination of income sources without a provision for identifying the underlying types. This catch-all amount can include one or more of the following:

- Survivor pensions of certain types
- Disability pensions of certain types
- Veterans' pensions and compensation
- Unemployment compensation
- Workers' compensation
- Child support
- Alimony
- Regular financial Assistance from outside the household
- Educational assistance

Since this income source contains a mix of taxable and nontaxable income the model does not include it in simulating taxes. Unemployment compensation and alimony are the only two sources that one can be

sure are taxable on the federal income tax return. Unemployment compensation is not taxable on the state return for Wisconsin.

The model uses very crude methods to simulate the child care credit. The Census Bureau provided a set of parameters for estimating child care expenses. The resulting expenses amounts were then used to compute the credit based on other data reported in the ACS. As there was no information provided to determine which tax units actually had child care expenses, a Monte Carlo method was used to randomly choose tax units to have the credit. This assignment of the credit assured that the resulting number of tax units with the credit approximated the number of returns published by the IRS for the state of Wisconsin for 2007 (the most recent year available).

Unlike the March CPS, the ACS does collect information on the amount of property taxes paid by homeowners and the amount of the monthly mortgage payment for owner-occupied housing. These were used in simulation of itemized deductions. The property tax amount was used directly. The deductible interest amount paid was computed by multiplying the monthly mortgage amount by .80.

Evaluation- Table D 1 provides detailed comparisons of tax simulation results with administrative counts derived from publications from the Wisconsin DOR and IRS Statistics of Income (SOI).

Table D 1. Comparison of 2008 Tax Model Results with 2007 Wisconsin Department of Revenue or IRS Statistics

Selected Items	Model Based on 2008 ACS	Wisconsin Department of Revenue (DOR) 2007	Ratio Model to DOR
Total Number of Filers*	2,566,962	2,889,872	0.89
Number of Single Filers	1,258,202	1,196,498	1.05
Number of Married Couple Joint Filers	1,069,827	1,165,608	0.92
Number of Head of Household Filers	238,933	261,387	0.91
Number of Dependent Filers	175,070	247,199	0.71
Aggregate Amount of Adjusted Gross Income	\$136,189,235,294	\$137,396,029,979	0.99
Number of Filers with Taxable Income	1,922,791	2,227,676	0.86
Aggregate Amount of Taxable Income	\$117,389,214,385	\$119,002,402,728	0.99
Number of Filers with Exemptions	2,460,300	2,160,773	1.14
Aggregate Exemption Amount	3,560,469,500	\$3,285,143,117	1.08
Number of Filers with Nonzero Standard Deduction	2,230,956	2,397,806	0.93
Aggregate Standard Deduction Amount	16,541,254,526	\$16,127,194,256	1.03
Aggregate Tax Liability Before All Credits (DOR'S GROSS TAX)	\$7,157,046,993	\$7,308,171,984	0.98
Aggregate Tax Liability After Refundable Credits (DOR's NET TAX)	\$6,151,312,057	\$6,137,189,443	1.00
Aggregate Tax Liability After All Credits	\$6,103,176,829	\$5,934,951,801	1.03
Number of Filers with Homestead Credit	208,286	220,489	0.94
Aggregate Amount of Homestead Credit	\$85,521,885	\$112,688,680	0.76
Number of Filers with School Property Tax/Rent Credit	1,884,782	1,977,870	0.95
Aggregate Amount of School Property Tax/Rent Credit	\$463,976,819	\$446,997,403	1.04
Number of Filers with Married Couple Credit	768,841	734,751	1.05
Aggregate Amount of Married Couple Credit	\$309,254,764	\$280,325,200	1.10
Number of Filers with Working Family Credit	7,075	4,737	1.49
Aggregate Amount of Working Family Credit	\$1,691,239	\$149,559	11.31
Number of Filers with EIC Credit	224,883	236,691	0.95
Aggregate Amount of EIC Credit	\$90,390,637	\$89,548,962	1.01

(continued on next page)

Selected Items	Model Based on 2008 ACS	Wisconsin Department of Revenue (DOR) 2007	Ratio Model to DOR
Number of Filers with Farm Property Tax Relief Credit	36,113	11,871	3.04
Aggregate Amount of Farm Relief Property Tax Credit	\$22,510,657	\$3,395,098	6.63
Number of Filers with Itemized Deduction Credit	688,679	812,707	0.85
Aggregate Amount of Itemized Deduction Credit	\$276,013,397	\$412,532,012	0.67
Number of Filers with Property Taxes Paid	1,374,146	1,371,657	1.00
Aggregate Property Taxes Paid	\$4,646,806,076	\$4,470,589,292	1.04
Number of Filers with Interest Paid	1,922,791	707,633	2.72
Aggregate Amount of Interest Paid	\$9,375,681,400	\$7,369,422,814	1.27
Computations by Sentier Research LLC			

APPENDIX E. SIMULATION OF SNAP BENEFITS

While the ACS data contains information on receipt of food stamp or SNAP benefits, the 2008 survey does not include information on the amount. Moreover, families under-reported their receipt of food stamps; the total count of food stamp units on the ACS in Wisconsin (using a definition of units defined below) was only 60 percent of the number of food stamp units in the administrative data from the Wisconsin Shares system. To address this under-reporting of receipt and to model food stamp benefits, we therefore created a model with five key steps. As outlined below, the steps are: 1) Define food stamp unit; 2) Identify households receiving food stamps; 3) Simulate eligibility pool; 4) Select additional recipients among non-recipient eligibles; and 5) simulate benefit amounts.

1. Define food stamp unit. We did not just use the ACS household as the food stamp unit, because the Center for Economic Opportunity (CEO) modeling poverty for New York City found this approach resulted in larger unit size than in the administrative data. Instead, we followed CEO’s approach of keeping spouse/parents/children together in units, but otherwise split household up into “maximal Food Stamp units,” assuming that unrelated subfamilies and unrelated individuals will apply as separate units to maximize the amount of food stamp benefits received. This approach resulted in a lot of single-person units and may overestimate the population of eligible one-person units. However, as discussed below, we had a low participation rate for units without children, (and thus for single-person units), and so we did not end up with a disproportionate number of one-person units with simulated receipt. In fact, our simulated receipt by food stamp unit size matches well to administrative data (see Table E 1). In fact, the average size of the simulated units was slightly larger than in the administrative targets, despite our work at splitting households into smaller units.

Table E 1. Summary of Food Stamp Units, Eligibles, and Receipt

Food Stamp Unit Size	ACS data			Administrative Data
	SNAP Eligibles	Reported SNAP Receipt	Simulated SNAP Receipt	
1	62%	37%	45%	44%
2	15%	21%	19%	22%
3	10%	18%	16%	15%
4	6%	10%	9%	10%
5	4%	7%	6%	5%
6	2%	4%	3%	2%
7	1%	2%	1%	1%
8+	1%	1%	1%	1%
Total	100%	100%	100%	100%

2. Identify households receiving food stamps in ACS data. We included all ACS households reporting receipt. Where we divided an ACS household into two or more food stamp units, we assumed each food stamp unit received food stamp benefits. This approach maximizes the number of units with reported food stamp receipt. Even so, we had only 150,738 units receiving food stamps on ACS, or 60 percent of the

252,981 from the administrative data.⁴ Our next step was to estimate eligibles from which to draw the additional 100,000 units needed.

3. Simulate eligibility households. We initially simulated households as eligible if they had annual income below the monthly food stamp eligibility guidelines, annualized. We used the guidelines for fiscal year 2008 (roughly equal to 130 percent of poverty). However, our second and final simulation multiplied the annualized levels by 15/13, that is, families with annual income below about 150 percent of poverty. Food stamp eligibility is based on monthly income, and many families with annual income above 130 percent of poverty may qualify for part of the year, and thus receive food stamps. With the lower (130 percent) limits, only 70 percent of those with reported food stamp receipt were “eligible;” under the higher (150 percent) limits, it was 77 percent. In addition, with the 130 percent limit, we had fewer eligible 3- and 4- person units than in the administrative data.

We did not adjust for whether or not the household head was a citizen, because we found similar proportions (5 percent) of non-citizen heads among the simulated eligible population and the administrative data. While some non-documented non-citizens are in-eligible, a sizable percentage of non-citizens are refugees who are eligible and in fact have a high participation rate. And so there was no need to adjust for citizenship status.

4. Select additional participants among eligibles. We defined our pool of eligible units as all eligible units who did not already report food stamp receipt. We divided all eligibles into three categories:

1. Households with Public Assistance (i.e., TANF, PA, or SSI income)
2. Units with children (and no PA/SSI)
3. All others

We assumed 100 percent participation for all households with PA or SSI income. Even so, we had fewer such households in our simulation than in the administrative data, particularly in Milwaukee. Where we did not have enough units with public assistance income, we compensated by adding more of the other two types of units (e.g., units with children and all others).⁵ We assumed county/PUMA- specific participation rates among the second category, households with children, so as to hit county/PUMA administrative targets. These participation rates ranged from 0 to 100 percent, with a median of 41 percent. We assumed much lower participation rates for other units (units without children or PA or SSI income), ranging from 0 to 58 percent and a median of 7 percent. Once we had calculated target participation rates for each county or multi-county PUMA, we used a random number generator to assign random numbers within these cells, and selected households with random numbers below the target participation rate.

⁴ Our administrative data totals are based on any households receiving benefits over a 12-month period (July 2007-June 2008) to mimic the report of any food stamp receipt in the past twelve months.

⁵ In future versions, we may subdivide this category of those with PA or SSI income into those with children and those without children. Both groups would have 100 percent participation, but in counties where we did not find enough PA units, we would have a better sense of whether to add more units with children or more units without children. We used a rough method for determining this in the current model.

5. Simulate Amount of Annual Benefits Received. We developed an ordinary least squares (OLS) regression that estimated annual benefits in the administrative data (not shown). The dependent variable was the sum of food stamp benefits received over a 12-month period (an amount that might be based upon 1 to 12 months of benefits). Our main model is shown in Table E 2:

Table E 2. Summary of Model Used for Food Stamp Imputation

Model: MODEL1					
Dependent Variable: bentot Total					
FS benefits over 12 months					
N	252981	R-Square=.4423			
Variable	Label	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	650	10.2	63.86	<.0001
Nfsel	Count of all individuals in household receiving FS	104	5.4	19.22	<.0001
nfselchildren	Count of children in household receiving FS	605	5.7	106.18	<.0001
oneperson		-126	7.4	-17.02	<.0001
Any60up	Anyone 60 or older in household	-73.8	8.2	-8.92	<.0001
anyssi	SSI received by any household member	-27.2	6.0	-4.56	<.0001
Anyw2cash		1056	11.9	89.05	<.0001
anyss_ssdi		-165	6.4	-25.72	<.0001
Milwaukee		265	5.6	47.3	<.0001
OthCity	Other city*	117	7.2	16.27	<.0001

* Brown County (Green Bay), Kenosha, Racine, or Rock (Janesville). These are urban counties that appeared to have higher than average benefits, which might reflect more long-term food stamp receipt.

Food stamps increase with the size of the household, with particularly large increases for each additional child. (Both children and adults increase benefit size equally, except adults are likely to bring in income, which will have an offsetting decrease in benefits). Single-person households have particularly low benefits. Households with TANF income are very poor and have very high benefits. Households with Social Security or Disability Income are relatively well-off (among low-income households) and so have lower benefits. Benefits are significantly higher in Milwaukee, and also in other cities in the state, likely reflecting more impoverished areas with more long-term (12-month) receipt and/or low incomes.

Finally, we used the coefficients from OLS equation from the administrative data to estimate annual food stamp benefits in ACS. Our initial simulation finds 102 percent of the units in the administrative data (see Table E 3), and 103 percent of aggregate benefits (not shown). Future models could explore an alternate specification using the log of estimated 12-month income for the food stamp unit, a variable used in the CEO poverty measure. We were wary of doing so, however, because the annual incomes reported in the ACS cover a 12-month period, while any estimate of 12-month incomes from administrative data must be extrapolated from the months (1-12) in which the unit participates in food stamps.

Table E 3. Results of SNAP Simulation and Comparison to Administrative Data

County / PUMA	Number of Food Stamp Units		Ratio of Simulated to Administrative
	Simulation	Administrative Data	
Milwaukee	87,202	87,748	99%
Dane (Madison)	15,867	15,587	102%
Waukesha	4,722	4,437	106%
Brown (Green Bay)	9,868	9,711	102%
Racine	11,212	10,843	103%
Kenosha	9,926	10,128	98%
Rock (Janesville)	9,159	9,157	100%
Marathon (Wausau)	4,555	4,622	99%
Sheboygan	5,261	3,841	137%
La Crosse	4,801	4,882	98%
Ozaukee/Washington (West Bend)	4,379	3,859	113%
Jefferson/Walworth	5,296	5,506	96%
Chippewa/Eau Claire	6,724	7,126	94%
Calumet/Outagamie/ Winnebago (Appleton)	10,625	10,082	105%
Columbia/Dodge/Sauk (Baraboo)	6,306	6,352	99%
5-county area (Menomonie)	8,236	8,202	100%
5-county area (Dodgeville)	5,050	4,560	111%
6-county area (Manitowoc)	8,864	6,959	127%
7-county area (Fond du Lac)	8,704	8,786	99%
8-county area (Sparta)	6,672	6,256	107%
9-county area (Stevens Point, Crandon)	13,751	14,029	98%
10-county area (Superior)	10,280	10,308	100%
Total	257,460	252,981	102%
Milwaukee	87,202	87,748	99%
Outside Milwaukee	170,258	165,233	103%

APPENDIX F. SIMULATION OF LIHEAP BENEFITS

The American Community Survey does not contain any questions related to home energy assistance; therefore, in accordance with most other state and municipal poverty measures, we imputed the value of this benefit. We determined household eligibility using program rules and then randomly assigned eligible households to simulate a caseload approximating the state administrative data. We then applied the average benefit amount by PUMA to the selected subset of eligible households.

States have flexibility in determining the eligibility and benefits for LIHEAP receipt. In Wisconsin, WHEAP provides one-time electric (non-heating) assistance during the heating season and one-time payment for heating assistance, with payment typically made directly to the utility provider, to assist with a portion (not all) of costs. The payment amount is primarily based on household income and annual energy costs,⁶ but may also be based on number of rooms in the home, number of people in the household, type of fuel used and annual fuel usage.

Among eligible households, those with the lowest incomes receive benefits that are a larger percentage of annual energy costs compared to those with higher incomes. In FFY 2008, Wisconsin's LIHEAP program paid 159,708 households and 401,355 persons. The program made a total of \$102,785,083 in payments that year. The maximum heating assistance benefit paid that year was \$1,200, the maximum non-heating electric (Public Benefits) benefit was \$706 for a total Wisconsin Home Energy Assistance Program (WHEAP) maximum benefit of \$1,906.⁷

The Wisconsin Home Energy Assistance Program (WHEAP) reports data on a fiscal year basis. We used administrative data from FFY 2008 to be as close to the timing of data on other transfers as possible.⁸ The data was available by county, for eight tribes (in addition to Menominee, where tribal land is contiguous with county), and statewide. For the purposes of our analysis, counties were combined into their respective PUMAs, and tribes were assigned to PUMAs based on location of the tribal office for WHEAP.⁹

We determined eligibility for WHEAP/LIHEAP by household, using household size, household income, and the above guidelines.¹⁰ We divided the number of households actually paid by the total number of eligible households within each PUMA to determine the percent actually paid among those eligible. Then we randomly selected the given percentage of households among those eligible to assign benefit receipt. For the selected subset of eligible households, we converted average benefit amounts by county to average benefit amounts by PUMA, then applied the average annual benefit for the given PUMA to all cases.

Table F 1 shows the administrative data and the results of our LIHEAP simulation. Like the Minnesota report (Zedlewski, Giannarelli, Wheaton, and Morton, 2010), selecting this “subset of eligibles” simulated

⁶ March 3, 2010, email from Jane Blank (Wisconsin Department of Administration) to Joanna Marks.

⁷ March 3, 2010, email from Jane Blank (Wisconsin Department of Administration) to Joanna Marks. Maximum benefit amounts are not published in the Home Energy Reports.

⁸ See https://wheap.doa.state.wi.us/reports/FFY_Heat_view.asp?ispublic=true.

⁹ This method is consistent with our treatment of SNAP benefits to tribal offices.

¹⁰ As with other components of our model, we applied an adjustment factor from the Census Bureau to the dollar values of household income in IPUMS to convert responses to calendar year dollars.

a caseload size approximating the state administrative data; however, the simulated caseload likely differs from the administrative data in terms of certain demographic characteristics. We plan to explore this in future work.

Table F 1. Results of LIHEAP Simulation and Comparison to Administrative Data

County / PUMA	Administrative data		Simulation	
	Number of households receiving	Payment total	Number of households receiving	Payment total
Milwaukee	44,171	\$34,691,254	44,127	\$34,656,697
Dane (Madison)	6,676	3,619,720	6,582	3,568,753
Waukesha	3,333	1,768,427	3,337	1,770,549
Brown (Green Bay)	4,583	5,730,173	4,594	2,820,676
Racine	5,503	3,918,288	5,543	3,946,769
Kenosha	4,821	3,173,778	4,841	3,186,944
Rock (Janesville)	4,745	3,139,930	4,712	3,118,093
Marathon (Wausau)	3,999	2,564,457	4,008	2,570,228
Sheboygan	2,561	1,390,472	2,594	1,408,389
La Crosse	3,237	1,764,632	3,164	1,724,836
Ozaukee/Washington	2,041	1,112,580	2,097	1,143,106
Jefferson/Walworth	3,084	1,811,281	3,044	1,787,788
Chippewa/Eau Claire	5,006	2,582,518	5,060	2,610,376
Calumet/Outagamie/ Winnebago (Appleton)	7,575	4,202,174	7,539	4,182,203
Columbia/Dodge/Sauk (Baraboo)	4,664	2,465,212	4,632	2,448,298
5-county area (Menomonie)	6,762	3,893,440	6,756	3,889,985
5-county area (Dodgeville)	4,076	2,398,526	4,072	2,396,172
6-county area (Manitowoc)	7,079	3,826,735	7,006	3,787,273
7-county area (Fond du Lac)	7,985	4,862,208	7,990	4,865,253
8-county area (Sparta)	6,187	3,382,783	6,197	3,388,251
9-county area (Stevens Point, Crandon)	11,554	6,835,368	11,538	6,825,902
10-county area (Superior)	9,894	6,458,038	9,871	6,443,025
Wisconsin	159,708	\$102,785,083	159,304	\$102,539,570

After we simulated recipients and benefit amounts, we compared results to actual administrative caseload and amount paid (statewide and by county or PUMA). Using the above method, we were able to simulate a caseload within 99.7 percent of households paid and within 99.8 percent of dollars paid.

As a final note, we estimated LIHEAP benefits for a household, which in some cases is different from a poverty unit. Thus when we calculated family resources per poverty unit, we had to estimate the share of LIHEAP household benefits that went to each poverty unit. If there was one poverty unit per household, the share was simply 1.00. In cases where there are 2 or more poverty units in the household, we allocated the benefit across the poverty units based on the number of people in each poverty unit. For example, if a 5-person household consisting of a 2-person and a 3-person poverty unit receives \$2,0000 in LIHEAP benefits, 40% (2/5) goes to the 2-person unit and 60% (3/5) to the poverty unit. If an 8-person household has a 4-person, 3-person and 1-person units, we divided benefits as 4/8, 3/8 and 1/8.

APPENDIX G. SIMULATION OF PUBLIC HOUSING BENEFITS

Public housing benefits help people living in poverty to obtain shelter. The American Community Survey does not ask whether respondents receive public housing benefits. Therefore, we imputed the value of this benefit for the Wisconsin poverty measure using administrative data from the federal report *A Picture of Subsidized Housing – 2008*.¹¹

Income Limits

Individuals and families qualify for public housing assistance based on annual gross income; status as elderly, as a person with a disability, or as a family; and status as a U.S. citizen or eligible immigrant. HUD has three sets of income limits:

- a) below 80% of median income for the given county/metropolitan area, referred to as “low income”;
- b) below 50% of median income, referred to as “very low income”; and,
- c) below 30% of median income, referred to as “extremely low income”.¹²

For this analysis, we used the broadest definition (below 80% of median income). We will explore a more restricted eligibility for the report on 2009 poverty.

Annual income is defined as *expected* total income for the year “from all sources received from the family head and spouse, and each additional member of the family 18 years of age or older”.¹³ Since we did not have expected income we used actual income in our simulations. In general, the rent payment is 30 percent of monthly adjusted income. However, Housing Authorities may exclude the following allowances from gross annual income to determine adjusted annual income:

- \$480 for each dependent;
- \$400 for any elderly family;
- \$400 for any person with a disability; and,
- some medical deductions for families headed by an elderly person or a person with disabilities.

Determining Eligibility

Given the limited data on public housing in both the ACS and the administrative data from HUD—we defined adjusted income and determined eligibility as follows:¹⁴

¹¹ Report and database available at <http://www.huduser.org/portal/picture2008/index.html>.

¹² See <http://www.huduser.org/datasets/il.html> for further detail on income limits.

¹³ See http://portal.hud.gov/portal/page/portal/HUD/topics/rental_assistance/phprog for further details.

¹⁴ We are unable to assign additional medical deductions as Housing Authorities sometimes do, given the limitations of our data.

- Adjusted annual household income using the ACS adjustment factor, as for other measure components;
- Selected only those households in the dataset which were renters
- Compared adjusted income to public housing eligibility guidelines as described above, including allowances based on certain demographic and health characteristics, income limits, household size, and PUMA;

As with LIHEAP receipt, we saw more households eligible for public housing assistance than the number who actually received it in the administrative data.

Assigning Public Housing Receipt

This approach relied on the same logic and methodology as used in the LIHEAP simulation in order to select recipients from the pool of eligibles. We assigned a random number to each eligible household, by PUMA. We then ranked these household records by their random numbers, by PUMA, and selected the appropriate number of households needed to achieve the number of household recipients (weighted) comparable to the administrative data.

Assigning Public Housing Benefits

We assigned annual out of pocket rent to households receiving public housing benefits by multiplying adjusted income by 0.30. We calculated the annual value of the subsidy as the annualized fair market rent (FMR) for the PUMA, minus 30 percent of annual adjusted income.^{15,16} The annual subsidy value was prorated among individuals in the household, then summed for poverty units and household units for the respective poverty calculations.

Comparison of Simulation Results to Administrative Data

Unlike the administrative data for LIHEAP, where dollar amounts were available for total payouts and average payments by county, our data source for public housing receipt does not contain any fiscal data. Therefore, we are only able to compare the numbers of people and households served in administrative data to our simulated data, and not do a comparison of payments within PUMA; we do, however, estimate the subsidy value by county or PUMA and for the state as a whole (see Table G 1).

As in the case of LIHEAP benefits, public housing benefits are estimated for a household unit, which in some cases differs from the poverty unit. As explained above for LIHEAP benefits, in cases where there are 2 or more poverty units in the household, we allocated the benefit across the poverty units based on the number of people in each poverty unit.

¹⁵ Note that FMRs were based on the numbers of bedrooms as reported in the ACS, with all responses for four or more bedrooms collapsed into a single category and assigned the 4-bedroom FMR.

¹⁶ To avoid negative subsidy values, the subsidy value was set to zero if 30 percent of household income exceeded the FMR for the given household.

Table G 1. Results of Public Housing Simulation and Comparison to Administrative Data

County / PUMA	Administrative data	Simulation	
	Number of households receiving	Number of households receiving	Payment total
Milwaukee	12,987	12,934	\$56,498,907
Dane (Madison)	3,559	3,619	15,263,323
Waukesha	1,662	1,371	3,454,244
Brown (Green Bay)	1,288	1,272	5,640,059
Racine	1,495	1,460	6,396,554
Kenosha	978	1,007	2,490,920
Rock (Janesville)	1,002	1,014	4,140,537
Marathon (Wausau)	619	426	723,925
Sheboygan	862	830	807,379
La Crosse	1,227	1,223	4,742,537
Ozaukee/Washington	937	882	1,610,223
Jefferson/Walworth	1,152	1,073	4,295,862
Chippewa/Eau Claire	1,217	1,232	3,441,656
Calumet/Outagamie/ Winnebago (Appleton)	2,486	2,533	3,300,336
Columbia/Dodge/Sauk (Baraboo)	991	1,024	3,954,178
5-county area (Menomonie)	1,911	1,899	6,251,783
5-county area (Dodgeville)	996	982	2,100,656
6-county area (Manitowoc)	1,661	1,774	1,084,891
7-county area (Fond du Lac)	2,054	2,083	6,119,191
8-county area (Sparta)	1,217	1,207	2,658,856
9-county area (Stevens Point, Crandon)	2,153	2,267	3,814,867
10-county area (Superior)	2,564	2,490	6,267,812
Wisconsin	45,018	44,602	\$145,058,694

APPENDIX H. ESTIMATION OF WORK-RELATED EXPENSES

We wanted to account for the expenses families face when going to work—namely child care costs and transportation expenses. Yet the ACS contains no questions about child care expenses and limited ones about getting to work. For child care, we debated the two main approaches that the Census Bureau has considered—modeling actual costs and modeling expected costs—and ultimately chose to use the latter approach. Additional work on the SPM and new questions in the CPS may make use of actual costs preferable in the future. For the time being, we assumed everyone who has children under a certain age (12) and has no non-working parents has some minimal child care expenses. Some variation was built in, with the median varies by number and age of children, but within those categories it is a flat amount.

Child care expenses were calculated by multiplying a “base amount” by the weeks worked by the worker with the fewest weeks, but subject to a cap of the annual earnings of the worker with the lowest earnings.¹⁷ The base amount is 85 percent of median weekly family expenses on child care, varying by the number of children less than age 5 and the number of children less than age 12, and based on unpublished tabulations of the spring 2005 Survey on Income and Program Participation (personal communication with K. Short, March 26, 2010). Table H 1 shows the base weekly amount for child care expenses for families by numbers of children less than age 5 years and less than age 12 years, adjusted for inflation to 2008.

Table H 1. Estimated Child Care Expenses by Family Composition

Number of children, by age	Base weekly amount for child care
1 child under 12 years	
and none under 5 years	\$ 50.50
with 1 under 5 years	97.12
2 or more children under 12 years	
None under 5	77.69
1 under 5	91.05
2 or more under 5	145.67

For work expenses other than child care, we used Census Bureau procedures, modified slightly to adjust for longer commuting times and higher commuting costs for rural households. The standard Census Bureau method is to use 85 percent of median weekly work expenses (derived from the Survey of Income and Program Participation (SIPP), multiplied by usual weeks worked, for each working adult, and constrained to be less than or equal to the person’s annual earnings. The base amount for 2008 is \$32.70*.85 or \$28.70 per week (personal communication, K. Short, December 19, 2009).

We then adjusted work expenses to account for the somewhat longer commuting times and thus higher gasoline costs of rural households. The vast majority (82 percent) of the Census Bureau estimate of work expenses is based on the number of miles driven to and from work (Short, Martin and Eller, 1996). Our tabulations of data from the 2009 National Household Transportation Survey indicate that person living

¹⁷ For this calculation, we defined a working adult as a person who is head, spouse, or other adult 18 years of age or older. If any of these adults were not working, child care expenses were set to zero.

outside metropolitan areas drive an average of 14.8 miles per travel day on trips to work, which is about 0.9 miles, or 6.2 percent, longer than the national average. Persons within metropolitan areas drive an average of 13.7 miles, or 1.3 percent less than the national average. Applying these adjustments to the mileage portion of the work expense estimates resulted in work expenses of \$29.22 for persons outside of MSAs multiplied by weeks worked and \$27.49 for persons within MSAs multiplied by weeks worked.

APPENDIX I. WITHIN-STATE GEOGRAPHIC ADJUSTMENT METHODOLOGY

Our within-state geographic adjustment methodology builds off the approach used by the Census Bureau, in that variation in housing costs is used to model overall geographic differences in cost of living. However, we rely on ACS data on rental costs, rather than HUD estimates of Fair market rents. In addition, rather than showing only two adjustment, metro and non-metro, as in the Census Bureau approach, we ended up grouping the different counties and PUMAs into six different regions.

The ACS provides detailed data on various forms of housing costs. For our initial geographic cost of living index, we analyzed a subset of low- to moderate-income households and calculated median annual housing rents (including utilities) for households in each county or PUMA. We ranked households by income, then selected those households in the 28th to 38th percentiles of income for this analysis. In this index, we are controlling for family income. Under an alternate version of the index, we analyzed rents for two-bedroom units, as is proposed in the SPM. The first version looks at variation in rental housing costs, controlling for family income, while the second version looks at variation, controlling for the number of bedrooms in the housing unit. (We do not have sufficient sample size to control for both).

Our next step was to group the counties into six areas of the state, so as to establish regions of similar type (i.e., metro vs. non-metro), sufficient sample size, and somewhat similar costs (as shown by rental costs in our first index). We ended up grouping the 31 Wisconsin PUMAs into six regions—four metro areas and two generally non-metro areas—to account for these differences in costs of living. As shown in Table I 1, the central parts of Milwaukee (PUMAs 2002, 2003, and 2004) are in Region 1, while the outskirts (PUMAs 2001, 2101, and 2102) plus suburban Waukesha (2201, 2202 and 2203) form Region 2, a region with higher housing costs. Region 3 is Dane County, site of Madison, the second-largest city, and the outskirts of Madison. Region 4 is all other urban areas (encompassing a considerable range of cities). Finally, most rural counties are in Region 5, except more densely populated rural areas (nearer to Madison or Minneapolis) are in Region 6. One small city—Marathon—is grouped with its surrounding rural counties in Region 5.

The next step was to create a rent index equal to the ratio of the median annual costs for renters within the 28th to 38th percentiles of income in the given region to the median annual costs for renters within the same income range statewide. In 2008, the median housing cost for Wisconsin renters within the 28th to 38th percentiles of income was \$8,640. (Under a second index, we plan to compare 2-bedroom units in each region to the median annual costs for renters of 2-bedroom units; these results will be available in a future.)

We then took our rental index (calculated from ACS data) and applied them to a portion of our thresholds, assuming that shelter and utilities costs represented 46 percent of the total threshold, following the methodology used by the Census Bureau in making geographic cost-of-living adjustments. Specifically, we used the following equation: Thresholds with geographic adjustment = [rent index * 0.44] + [1 * 0.56]* base threshold.

Table I 1. Multi-PUMA Regions, Ratio of Costs to Statewide Costs, and Sample Thresholds for Within-State Geographic Adjustment

Region	Corresponding PUMAs	Ratio for Within-State Geographic Adjustment	Sample Threshold for Renters*
Overall	N/A	N/A	\$25,587
1. Inner Milwaukee	2002, 2003, 2004	1.00	\$25,587
2. Outer Milwaukee and Waukesha	2001, 2101, 2102, 2201, 2202, 2203	1.05	\$26,867
3. Dane County	1100, 1200	1.04	\$26,611
4. Other Metro areas	200, 300, 500, 900, 1500, 1800, 1900, 2300, 2400, 2500	0.99	\$25,331
5. Rural 1 + Marathon	100, 600, 1300, 1400, 1600, 1700	0.92	\$23,540
6. Rural 2	400, 800, 1000, 1700	0.98	\$25,076

*Two-Parent, Two-Child Family Renting Their Home by Geographic Region (No Medical Expenses in the Threshold).

APPENDIX J. NAS-BASED POVERTY THRESHOLDS

The Census Bureau has calculated four different versions of thresholds for two-adult, two-child families following NAS Recommendations (see Table J 1). We used the version that included repayment of mortgage principal for owned housing but did not include medical expenses (which we add in separately below). In 2008, this was \$27,043 at the national level.

Table J 1. Poverty Thresholds for Two-Adult-Two-Child Family Following NAS Recommendations, 1999-2008

	Official	FCSU-CE ¹	FCSUM-CE ¹	FCSU ²	FCSUM ²
1999	16,895	17,036	18,671	18,196	19,648
2000	17,463	17,884	19,549	19,097	20,731
2001	17,960	18,709	20,366	19,935	21,640
2002	18,244	19,329	21,088	20,757	22,600
2003	18,660	19,778	21,635	21,218	23,109
2004	19,157	19,984	22,034	21,895	23,738
2005	19,806	20,708	22,841	22,769	24,784
2006	20,444	21,818	23,935	24,026	25,834
2007	21,027	23,465*	25,849*	25,680*	27,744*
2008	21,834	24,755*	27,601*	27,043*	29,654*

Source: U.S. Census Bureau, 2009.

Note: FCSU(M) represents the groups of items deemed as necessary expenditures by the NAS report; food, clothing, shelter, utilities and medical expenditures.

¹ Based on out-of-pocket expenditures (based on CE definition of spending and omits repayment of mortgage principal for owned housing); food, clothing, shelter plus utilities, and MOOP (FCSUM)

² Based on out-of-pocket expenditures (including repayment of mortgage principal for owned housing)

* Thresholds for 2007 and 2008 reflect implementation of questionnaire improvements about expenditures on food away from home and type of mortgage in the Consumer Expenditures Interview Survey beginning in Quarter 2 of 2007. These results were produced by Thesia I. Garner, Research Economist, Division of Price and Index Number Research, Bureau of Labor Statistics, for research purposes only using the Consumer Expenditures Interview Survey. These results are released to inform interested parties of ongoing research and to encourage discussion of work in progress.

APPENDIX K. CALCULATION OF MEDICAL EXPENSES IN THRESHOLD

We took an approach based on expected medical expenses, incorporating these into the threshold (MIT) rather than subtracting from income (MSI). We followed the Census Bureau methodology for calculating MIT as detailed in Short (2001), but using the Wisconsin-specific starting threshold of \$24,842, which corresponds to a base MIT value of \$2,101 for our two-parent, two-child reference family.

The baseline MIT was then adjusted using risk factors, scaled for family size, based on presence of elder, health status, and health insurance status. Finally, the resulting level of MIT was added to the equivalized threshold to determine the final threshold for each poverty unit. Table K 1 details the risk factors and the corresponding MIT added to the adjusted thresholds.

Table K 1. Estimated Medical Out of Pocket (MOOP) Expenses for Wisconsin, 2008

Characteristics	MOOP in thresholds for Wisconsin*	Risk factors
Reference family	\$2,101	1.00
Families With No Elderly Members		
Private, 1 person		
Good health	882	0.42
Fair/poor health	1,618	0.77
Private, 2 people		
Good health	1,870	0.89
Fair/poor health	2,374	1.13
Private, 3 or more people		
Good health	2,101	1.00
Fair/poor health	2,647	1.26
Public, 1 person		
Good health	42	0.02
Fair/poor health	147	0.07
Public, 2 or more people		
Good health	63	0.03
Fair/poor health	189	0.09
Uninsured, 1 person		
Good health	1,008	0.48
Fair/poor health	1,891	0.90
Uninsured, 2 or more people		
Good health	2,143	1.02
Fair/poor health	2,269	1.08
Families With Elderly Members		
Private, 1 person		
Good health	2,500	1.19
Fair/poor health	2,752	1.31
Private, 2 or more people		
Good health	4,034	1.92
Fair/poor health	4,832	2.30
Public, 1 person		
Good health	1,029	0.49
Fair/poor health	945	0.45
Public, 2 or more people		
Good health	1,912	0.91
Fair/poor health	2,122	1.01

*Wisconsin median of \$2,101 based on national median of \$2,287.
Source: Adapted from Short (2001) and U.S. Census Bureau (2009).

APPENDIX L. POVERTY ESTIMATES WITH LOWER AND UPPER BOUNDS

The following tables show 90% lower and upper bounds to accompany the poverty rates reported under the Wisconsin Poverty Measure in *Wisconsin Poverty Report: New Measure, Broader View* and *Wisconsin Poverty Report: Methodology and Results for 2008*.

Table L 1. Poverty Rates in 2008 in Wisconsin by Age under the Wisconsin Poverty Measure, with 90% Lower and Upper Bounds

	Estimate under the Wisconsin Measure	90% Lower Bound	90% Upper Bound
All	11.2	10.7	11.6
Children	13.6	12.5	14.7
Elderly	10.4	9.6	11.3

Table L 2. Poverty Rates in 2008 by County or Multi-County Area Under the Wisconsin Poverty Measure with 90% Lower and Upper Bounds

	Estimate under the Wisconsin Measure	90% Lower Bound	90% Upper Bound
County			
Milwaukee	18.8%	17.1	20.5
Dane (Madison)	13.1	10.9	15.3
Waukesha	6.1	4.7	7.5
Brown (Green Bay)	9.5	7.3	11.6
Racine	9.1	6.6	11.6
Kenosha	9.3	7.0	11.6
Rock (Janesville)	9.1	6.5	11.7
Marathon (Wausau)	6.1	3.9	8.3
Sheboygan	9.0	5.7	12.3
La Crosse	13.9	9.7	18.2
Multi-County Area			
Ozaukee/Washington	4.6	2.5	6.8
Jefferson/Walworth	12.3	9.4	15.2
Chippewa/Eau Claire	10.7	8.2	13.1
Calumet/Outagamie/ Winnebago (Appleton)	9.7	7.5	11.9
Columbia/Dodge/Sauk (Baraboo)	9.0	6.7	11.3
5-county area (Menomonie)	12.3	10.1	14.5
5-county area (Dodgeville)	11.9	9.0	14.7
6-county area (Manitowoc)	10.0	8.2	11.9
7-county area (Fond du Lac)	8.0	6.6	9.4
8-county area (Sparta)	9.0	7.3	10.8
9-county area (Stevens Point, Crandon)	10.0	8.2	11.7
10-county area (Superior)	11.2	9.1	13.3
State Total	11.2	10.7	11.6

Table L 3. Poverty Rates Within Milwaukee and Dane Counties in 2008 Under the Wisconsin Poverty Measure with 90% Lower and Upper Bounds

County/Area	Estimate under the Wisconsin Measure	90% Lower Bound	90% Upper Bound
Milwaukee (overall)	18.8%	17.1	20.5
Outer Northeast and East	22.2	17.7	26.7
Inner North	27.4	21.4	33.4
Central	38.5	32.3	44.7
South	18.1	12.4	23.7
Brown Deer, Glendale, Shorewood, Wauwatosa, Whitefish Bay, Other	6.3	3.7	8.9
Southern Suburbs*	9.1	6.8	11.3
Dane (Overall)	13.1	10.9	15.3
Madison	18.7	15.4	21.9
Fitchburg, Middleton, Stoughton, Sun Prairie, Other	8.7	6.2	11.1

Table L 4. Wisconsin Poverty Rates without Adjustments to Thresholds and Resources with 90% Lower and Upper Bounds

Measure Specification	Estimated Percent in Poverty	90% Lower Bound	90% Upper Bound
Wisconsin Poverty Measure	11.2%	10.7	11.6
without ownership ratio	11.2	10.7	11.7
without geographic adjustment	11.7	11.2	12.2
without medical expenses in the threshold	9.6	9.1	10.0
without SNAP	12.2	11.7	12.7
without public housing	11.4	10.9	12.0
without LIHEAP	11.4	10.9	11.9
without taxes	12.0	11.5	12.5
without work expenses	9.1	8.7	9.6
without SNAP, public housing, LIHEAP, and SNAP	13.2	12.7	13.8

Table L 5. Estimated Percentages of Individuals with Incomes below 75, 100, 125, and 150 Percent of Poverty, Under Wisconsin Poverty Measure, with Lower and Upper Bounds

Age and Income as a Percent of Poverty	Estimated Percent in Poverty	90% Lower Bound	90% Upper Bound
All Individuals	11.2%	10.7	11.6
Below 75%	6.3	5.8	6.7
75% to 99%	5.0	4.7	5.3
100% to 124%	7.9	7.4	8.4
125% to 149%	8.4	8.0	8.8
Children	13.6	12.5	14.7
Below 75%	7.0	6.1	7.9
75% to 99%	6.6	5.8	7.3
100% to 124%	11.3	10.4	12.2
125% to 149%	10.8	10.0	11.6
Elderly	10.4	9.6	11.3
Below 75%	4.6	4.1	5.2
75% to 99%	5.8	5.2	6.5
100% to 124%	7.8	7.1	8.5
125% to 149%	8.6	8.0	9.3