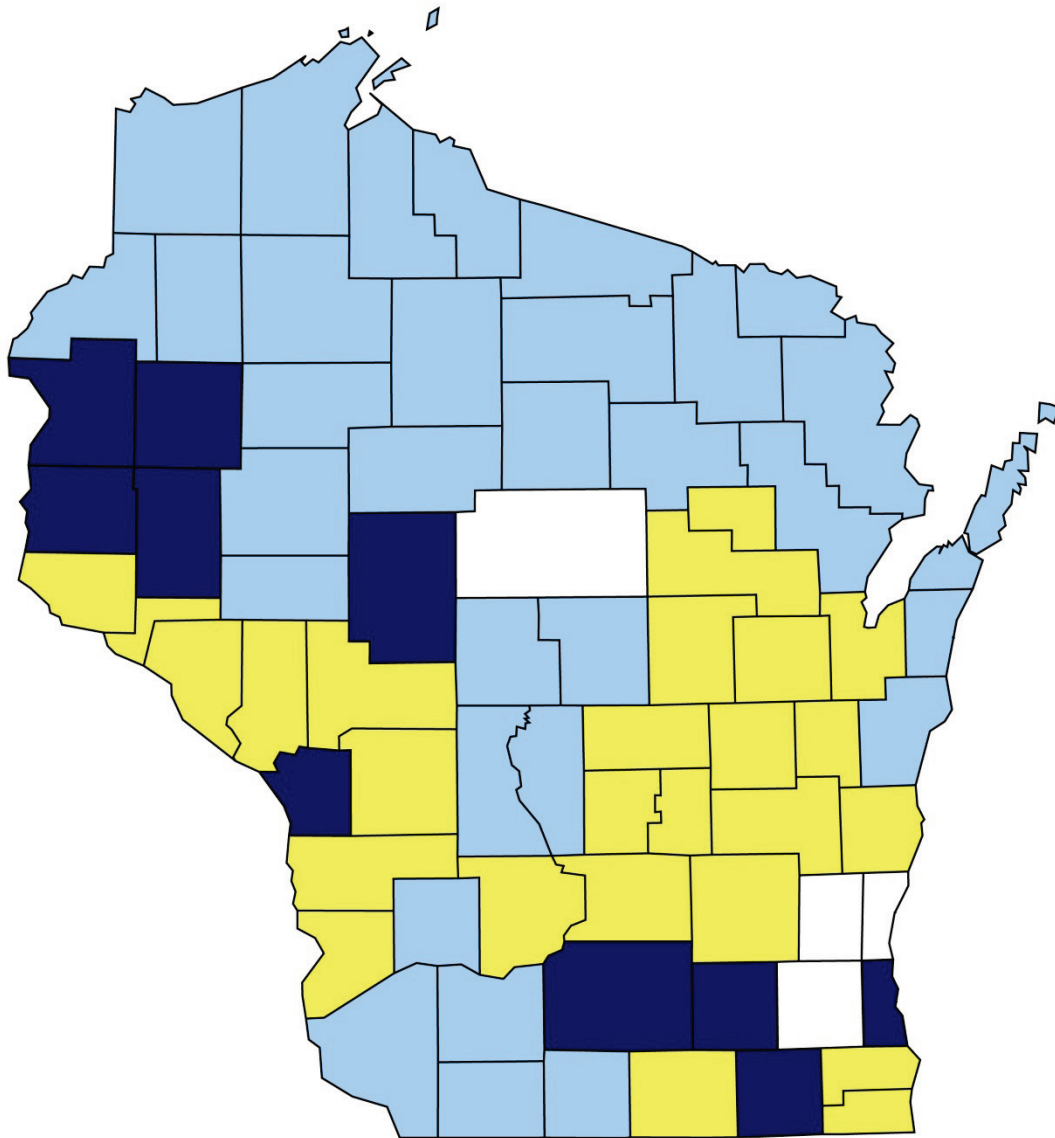


# *Wisconsin Poverty Report: Methodology and Results for 2008*



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This report is available in a printable format on IRP's Web site at [www.irp.wisc.edu](http://www.irp.wisc.edu). Two companion reports—*Wisconsin Poverty Report: New Measure, Broader View* and *Wisconsin Poverty Report: Technical Appendix*—are also available at [www.irp.wisc.edu](http://www.irp.wisc.edu).



The Institute for Research on Poverty is a unit within the College of Letters and Science at the University of Wisconsin–Madison. It was established in 1966 as the nation's original poverty research center to study the causes, consequences, and cures of poverty and social inequality in the United States. Major funding is provided by the Assistant Secretary for Planning and Evaluation in the U.S. Department of Health and Human Services.



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## EXECUTIVE SUMMARY

If we are to fight poverty and promote opportunity on the federal and state and local level, we need to define the problem first. Where is high poverty located within Wisconsin? Which populations are most affected? Is poverty growing or receding? We also need to be able to evaluate the impact of current and proposed antipoverty policies on poverty so we know what works—and what doesn't work. We have developed the new Wisconsin poverty measure as a tool for measuring progress against poverty and for gaining insight into populations in need within our state.

All poverty measures require two components: a measure of economic need (i.e., the poverty threshold) and a comparable and consistent measure of resources (like income) to meet these needs. The federal government is in the process of developing a new supplemental poverty measure (SPM) which measures need and resources in a better way than under the official poverty measure, but their first report with new rates is not expected until September 2011. Our new Wisconsin poverty measure provides a preview of the forthcoming federal SPM, though it differs from the SPM in important respects.

Our measure of resources includes cash income, plus major non-cash benefits: taxes, food stamps, public housing, and energy assistance, less work expenses like child care and transportation. Our threshold is based on a threshold recommended by the National Academy of Sciences, but we make adjustments for Wisconsin's lower cost of living relative to the nation, for differences in cost of housing by type, for differences across geographic regions within the state, for differences in family size and composition, and for expected medical expenses to calculate a threshold level for each poverty unit, which was then compared to the unit's available resources to determine poverty status.

Our improved Wisconsin measure finds a somewhat higher poverty rate in Wisconsin, 11.2 percent, rather than 10.2 percent in the official measure. This change of 1.0 percentage points is the net impact of many offsetting changes (definition of poverty units, inclusion of taxes and non-cash benefits in family resources, and use of higher base thresholds and adjustments to that threshold for family size and medical outlays). Poverty rates under the Wisconsin poverty measure are higher than official poverty rates for both children and elderly sub-groups, as well. Elderly poverty increases from 7.1 percent to 10.4 percent and child poverty also increases, though by less, from 13.3 percent to 13.6 percent.

Under the Wisconsin measure, the poverty rate ranges from 18.8 percent in Milwaukee to 4.6 percent in the two-county area of Ozaukee/Washington, two of Milwaukee's most affluent suburbs. Most counties and multi-county areas have poverty rates that are roughly 0.5 to 2.5 percentage points higher under the Wisconsin measure than the official poverty rate.

We hope that the Wisconsin measure, both now and as it is further refined, can serve as a national model so that other states and localities can follow our lead and create their own measure, substituting their own state and local data and their own choices in poverty measurement.



# Wisconsin Poverty Report: Methodology and Results for 2008

## I. INTRODUCTION

The State of Wisconsin has a long tradition of leading the nation in social policy, from being the first state to establish worker's compensation and unemployment insurance laws in the early 1900s to being the architects of welfare reform in the mid-1990s to implementing a nearly comprehensive health care and health insurance program for its low-income residents (BadgerCare) a few years later. Wisconsin has set the standard for the collaboration of policymakers and researchers nationwide in tackling our toughest social problems. This approach, the "Wisconsin Idea," involves collaboration and innovation among policymakers at the local, state, and national levels and University of Wisconsin researchers.

Last year, the Institute for Research on Poverty (IRP) submitted a first report on poverty within Wisconsin (Isaacs and Smeeding, 2009). As then, we still find ourselves in the midst of a deep and long-lasting recession. Many are struggling to feed their families, hold onto their homes, and find new jobs. Policy efforts have been underway at the federal (American Recovery and Reinvestment Act, or ARRA), state, and local levels to address the current recession, as are efforts to fight structural poverty and unequal opportunity more generally.

If we are to fight poverty and promote opportunity, we need to define the problem—we need to know where poverty is within our state, which populations are most affected, whether it is growing or receding, and how severe income poverty has become in Wisconsin. Moreover, we need to be able to evaluate the impact of current and proposed antipoverty policies on poverty so we know what works—and what doesn't work.

In this second report on poverty within Wisconsin, we describe a new Wisconsin poverty measure and the process by which it was constructed.<sup>1</sup> Our goal in developing a new Wisconsin poverty measure is to create a more useful tool for measuring progress (or regress) against poverty and for gaining insight into populations in need within the state. We create a realistic standard of need and a measure of resources to meet those needs based on methods suggested by the National Academy of Sciences (Citro and Michael, 1995; Iceland, 2005). These methods also reflect the goals and concerns of Wisconsin residents and policymakers and, in the end, will provide a tool to measure state and federal antipoverty program effects.

Our hope is that our Wisconsin poverty measure can serve as an open and transparent model that will assist other researchers and practitioners who would create similar measures for their own states and localities, using both the techniques that we undertake and their own inputs (choices of parameters and administrative data) to design a measure that is appropriate to meet the needs and policy priorities of the clients they serve.

### Background

All poverty measures require two components: a measure of economic need (i.e., the poverty threshold or poverty line) and a comparable and consistent measure of resources (like income) to meet these needs. They also require a population universe over which to measure poverty and a unit of account which shares resources to meet those needs.

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<sup>1</sup>This paper presents the methods used and results from in our work on the Wisconsin Poverty Measure. Two companion reports are also available on the IRP Web site at <http://www.irp.wisc.edu>: *Wisconsin Poverty Report: New Measure, Broader View* (a shorter report of key findings) and *Wisconsin Poverty Report: Technical Appendix* (a longer report with additional details on our methodology).

The official poverty measure is still widely used—and was used in last year’s report to assess economic deprivation in Wisconsin—despite the fact that it was first used in 1963 and is based on 1955 data—that is, data that are more than a half century old. In 1963, the poverty line needs-standard was fully half the middle family’s income; now, in 2008, at about \$17,000 for a three-person family and \$22,000 for family of four, it is only 28 percent of median family income (Smeeding, 2006; Blank, 2008). Further, the resource measure for official poverty statistics includes only cash income without adjustments for income and payroll taxes, food stamp benefits (known as FoodShare in Wisconsin and as the Supplemental Nutrition Assistance Program, or SNAP, on the federal level), public housing benefits, homestead tax credits, and other state and local refundable tax credits.

The official poverty measure employed by the United States government is clearly out of sync with reality and with recent policy actions (Burtless, 2009). For instance, the expansions in refundable tax credits and SNAP included in the ARRA stimulus package in 2009 are not counted as reducing poverty by the official statistics, because taxes and non-cash benefits are outside the bounds of the current poverty measure. In another demonstration of the limitations of the official approach to measuring economic deprivation, policymakers in Wisconsin and the rest of the nation are increasingly setting eligibility for major public programs for children and other low-income groups at higher levels. For example, households that are eligible for SNAP can have a gross monthly income equal to or less than 130 percent of the federal poverty threshold. In Wisconsin, the eligibility threshold for BadgerCare is 200 percent of the official poverty line, for the Low-Income Home Energy Assistance Program it is 150 percent, and for subsidized child care, 185 percent.

Clearly, a new and better poverty measure is needed to represent populations whom are deemed in need of aid in Wisconsin and elsewhere. The 1995 National Academy of Sciences (NAS) panel on poverty measurement (Citro and Michael, 1995) proposed a poverty measure based on how much it costs a household to buy a set of necessities—defined as food, shelter, clothing, and utilities. The NAS conducted a follow-up meeting in 2005 to reflect on progress since that time (Iceland, 2005) and other efforts have been underway at the Department of Commerce and Bureau of Labor Statistics to further improve these measures.

Over the past year, the United States House of Representatives and Senate have considered legislation to develop a new poverty measure largely based on the NAS recommendations. Already, New York City has used the approach proposed by the NAS panel to define its own poverty measure, and other states and localities, including Connecticut and Minnesota, have developed their own measures as well. In February 2010, the U.S. Department of Commerce announced an effort to develop a new federal supplemental poverty measure (SPM) that would improve the policy usefulness and quality of the current federal measure without replacing it (Johnson, 2010). The initial announcement provides broad guidance, but without final details. The first national SPM report with estimated poverty rates for 2010 will be available in fall 2011.

## **The New Wisconsin Poverty Measure**

The new Wisconsin poverty measure we report on today is a counterpart to these efforts, developed to provide a more accurate picture of poverty in Wisconsin and a better understanding of the effectiveness of antipoverty programs in our state. The specific choices we made in constructing our model reflect the research efforts of the 1995 National Academy of Sciences panel and others developing alternative poverty measures, as well as inputs from dozens of Wisconsinites—interested public, stakeholders, and experts—who provided feedback to our team on the type of measure needed and shared concerns about how the measure would meet Wisconsin’s needs and policy priorities.

In brief, our Wisconsin measure starts with an alternative poverty threshold developed by the Census Bureau in response to the 1995 National Academy of Sciences panel. We adjust this threshold to reflect



the cost of living in Wisconsin, and also make adjustments for homeownership costs and medical expenses, as detailed in the report. Our resources measure includes cash income minus taxes paid, along with tax credits received (EITC, refundable tax credits) and in-kind benefits that help a family acquire the necessities defined in the threshold, including food and housing assistance. The resource measure subtracts income that is not available to meet these basic necessities, such as work expenses like child care and transportation, viewing these expenses as obligatory payments that are required for obtaining labor market income and which reduce the amount of income available to help the family purchase the basic necessities considered in the poverty thresholds.

With funding from the federal government, we built a model to estimate taxes, housing adjustments, and other Wisconsin priorities. This is our first report on the results of this model. With adequate funding beyond this year, we hope that this report can become an annual fixture and milestone for assessing poverty within Wisconsin and how well we do in reducing poverty using federal and state antipoverty tools. Once completed, the Wisconsin model will be made available as a national model over the course of the next year so that other states can follow our lead and create their own measures.

## Outline of Report

The rest of this report is in two sections: methods and results. We begin with a conceptual model that explains how we measure both resources and needs and the effects these choices made on the state poverty measure as a whole. We then report our results within Wisconsin counties, cities, and sampling units, and compare our measure to the official one. We also discuss how our results would vary under alternate specifications. In our conclusion we discuss our plans to further improve the Wisconsin poverty measure in 2010–2011, to be ready to incorporate the new federal SPM once available in 2011, and to provide a basis on which we can simulate the effects of actual changes in income support at the federal and state levels as well as newly proposed policies to reduce poverty in our state. A series of technical appendices will be posted on IRP's Web site to allow others to mimic this report using the same techniques for their state.

## II. CONCEPTUAL BACKGROUND: RESOURCES AND THRESHOLDS

In many ways, the Wisconsin measure is a preview of the forthcoming federal Supplemental Poverty Measure, though it has important differences. Both measures start with a needs standard recommended by the National Academy of Sciences, and use a comprehensive measure of resources that goes beyond cash income to take into account the effects of taxes, tax credits, non-cash benefits, medical expenses, work and child care expenses, homeownership costs, and geographic differences in the cost of living. Yet our measure differs in important respects. In particular, our model differs from the SPM in its data source (the ACS vs. the CPS), its use of within-state adjustments for regional cost of living differences, the base family unit used in setting the needs standard, and its treatment of medical expenses, as well as other smaller issues. Below we describe our approach, beginning with our choice of data set, and then discussing our definition of poverty unit (and universe over which we measure poverty),<sup>2</sup> calculation of resources, and setting of poverty thresholds. As a preview, Table 1 compares the treatment of these key

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<sup>2</sup>The poverty universe for the official measure excludes unrelated children under 15 years (including foster children), individuals in institutional group quarters, and individuals in college dormitories or military barracks. It includes individuals in the following non-institutional group quarters: emergency and transitional shelters, non-correctional group homes for adults, workers' group living quarters and Job Corps centers, and religious group quarters.

elements (data, unit and universe, resources, and thresholds) in the official, Supplemental, and Wisconsin Poverty Measures, respectively.<sup>3</sup>

## Data Source

A number of differences flow from our use of a different data source. The Current Population Survey (CPS), which is used for national poverty estimates under both the official measure and the SPM, is not a good source of data for state and local poverty estimates. Instead, we use the American Community Survey (ACS), supplemented with administrative data collected in the state of Wisconsin.

The ACS provides annual data on incomes, housing costs, and other variables for a representative sample of more than 135,000 Wisconsin residents every year (and more than 40 percent of these, or approximately 58,000 individuals, are included in the public use data set available to researchers outside the Census Bureau).<sup>4</sup> The ACS collects sufficient data to allow us to report poverty rates for the 10 largest counties in Wisconsin (including six sub-county breakdowns within Milwaukee), as well as for 12 multi-county areas that encompass the rest of the state. (The 12 multi-county areas correspond to the Census Bureau's sampling units, called Public Use Microdata Areas [PUMAs], and their boundaries are set by the Census Bureau to ensure at least 100,000 residents in each unit. The multi-county areas can cover as many as 10 counties in the more rural areas of the state, as detailed in the tables and maps in our results section and in Technical Appendix A.) In addition, the ACS includes a vast amount of information on housing costs, allowing us to bore down within the state to adjust for regional differences in housing costs across Wisconsin.

While the detailed housing data and large sample size of ACS provide opportunities for improving on the federal measure, the ACS does not have as much detail on income and resources as the Current Population Survey (CPS). For instance, the ACS asks respondents whether they receive SNAP, but not the amount of the benefit. With the help of detailed administrative data, we were able to impute FoodShare (SNAP) benefit amounts. Other in-kind benefits (e.g., energy assistance and public housing) were more difficult because there were no ACS questions to indicate receipt. Therefore, we had to impute both receipt and benefit amounts based on ACS income data and state administrative data on program participation and benefits, as explained below.

Another challenge affecting poverty measurement is that, until recently, neither the ACS nor CPS had good data on medical, child care, or other work expenses paid by families. A number of questions directly pertaining to these expenses and other components of poverty measures were added to the CPS in 2010, but researchers using the ACS still need to make some imputation or adjustment for such expenses. In the future, the addition of questions about actual medical and child care expenses in the CPS may lead to more accurate estimations of the ways in which these components impact poverty at the federal level and then maybe also at the state level.

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<sup>3</sup>For further detail on the model components and related imputations, please see the longer companion report, *Wisconsin Poverty Report: Technical Appendix*.

<sup>4</sup>We analyzed the ACS using a data extract from the Integrated Public Use Microdata Series (IPUMS). The 2008 ACS subsample for Wisconsin in IPUMS contained 58,204 individuals, including individuals living in group quarters (Ruggles et al., 2010).

**Table 1. Comparison of Components of Official, Supplemental, and Wisconsin Poverty Measures**

<b>Component</b>	<b>Official Measure</b>	<b>Supplemental Poverty Measure</b>	<b>Wisconsin Poverty Measure</b>
Data Source	CPS	CPS	ACS
Poverty or Family Unit	Individual or family unit.	Expanded family unit includes unmarried partners, their children, and any unrelated children (including foster children).	Expanded family unit includes unmarried partners, their children, and any unrelated children (including foster children).
Poverty Universe <sup>a</sup>	Universe excludes unrelated children under 15 years (including foster children), and people in institutional group quarters, college dormitories, and military barracks.	Universe includes unrelated children under 15 years (including foster children). It excludes people in institutional group quarters, college dormitories, and military barracks.	Universe includes unrelated children under 15 years (including foster children). It excludes people in group quarters (institutional and non-), college dormitories, and military barracks.
Resources	Cash Income Wages, salaries, self employment Interest, dividends, rent, trusts Social Security & Railroad Retirement Pensions Disability benefits Unemployment compensation Child Support Veterans benefits Educational assistance Supplemental Security Income TANF Other cash public assistance	Cash income (as defined in official measure).  Near-cash resources to meet food, clothing, shelter, and utility needs (as data permit): + Food Stamps/SNAP + Housing Subsidies + School Meals + etc.  - Taxes + Tax credits  - Out-of-pocket medical expenses - Child support payments paid out - Work expenses (transportation and child care)	Cash Income (as measured in the ACS).  Near-cash resources to meet food, clothing, shelter, and utility needs: + Food Stamps/SNAP (FoodShare) + Housing Subsidies + LIHEAP  - Taxes + Tax credits (including Wisconsin Homestead Credit)  - Work expenses (transportation and child care)
		(table continues)	

**Table 1, continued**

Component	Official Measure	Supplemental Poverty Measure	Wisconsin Poverty Measure
Thresholds	<p>Base threshold is calculated for two-parent, two-child families, based on food costs and the share of income spent on food in 1963.</p> <p>Thresholds are adjusted for</p> <ul style="list-style-type: none"> <li>• differences in family size and number of children and adults</li> <li>• age, with separate thresholds for individuals and couples ages 65 and older.</li> </ul>	<p>Base threshold is calculated for all families with two children, based on 5-year average of expenses at the 33<sup>rd</sup> percentile for food, clothing, shelter and utilities (FCSU), times 1.2 for “a little bit more</p> <p>Thresholds are adjusted for</p> <ul style="list-style-type: none"> <li>• differences in family size and number of children and adults using a three-parameter scale</li> <li>• geographic adjustments by state (and metro vs. non-metro within each state) based on five years of ACS data on rental costs</li> <li>• variation by housing tenure (rent vs. own vs. own outright), including all mortgage expenses in shelter costs</li> </ul>	<p>Base threshold is calculated for two-parent, two-child families, based on expenses at the 33<sup>rd</sup> percentile for food, clothing, shelter and utilities (FCSU), times 1.2 for “a little bit more.”</p> <p>Thresholds are adjusted for</p> <ul style="list-style-type: none"> <li>• differences in family size and number of children and adults using a three-parameter scale</li> <li>• geographic adjustments by state (from Census Bureau) and six regions within state (authors’ calculations from ACS)</li> <li>• variation by housing tenure (rent vs. own vs. own outright), including all mortgage expenses in shelter costs</li> <li>• out-of-pocket medical expenses (MIT), with differences based on risk factors (elder presence, family size, health insurance, and health status).</li> </ul>

**Source:** Table adapted from Zedlewski et al. (2010) and modified to include information on the SPM and Wisconsin report choices.

**Note:** See Footnote 2 for further detail on treatment of individuals in group quarters under these measures and the distinction between institutional and non-institutional group quarters.

## Poverty Units and Universe over which Poverty is Measured

To compare the resources families have to the needs they face, we grouped individuals into poverty units, which are larger than family units. We chose poverty units that reflected patterns of income and consumption sharing across families and individuals living within households. Our poverty unit is expanded beyond the Census Bureau family unit to include unmarried partners who cohabit, 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.<sup>5</sup> We excluded individuals in group quarters (such as nursing homes, assisted living facilities, prisons, college dormitories, and other institutions) from our analysis.<sup>6</sup> Our final sample was 56,572 people living in 23,464 households. The vast majority of these households contained a single poverty unit (22,872 households, or 97.5 percent of all unweighted households), while 592 of the households contained multiple poverty units (see Technical Appendix B).

## Family Resources

Our calculation of family resources starts with cash income, summed across all individuals in the poverty unit based on amounts reported in the ACS. To this we add (or subtract) simulated federal and state income taxes and mandatory payroll taxes, using a tax model developed by John Coder of Sentier Research LLC for this project. The tax model incorporates Wisconsin-specific taxes, including the Wisconsin Homestead Credit (see Technical Appendix D).

Our estimate of family resources also includes three important non-cash benefits: FoodShare (SNAP), energy assistance (LIHEAP), and public housing.<sup>7</sup> For each of these we develop a simulation model, in which we first estimate eligibility using annual income data from the ACS, and then randomly draw participants from eligibility groups sorted by county or multi-county sampling area and demographic characteristics common to the ACS and state administrative data. The final step is to impute annual benefit amounts, again drawing from the state administrative data. In the case of FoodShare, we had access to detailed microdata; for LIHEAP and public housing, we drew from aggregate data reported on state and federal web sites (see Technical Appendices E, F and G).

We subtract child care and other work-related expenses from the sum of cash income, taxes and tax credits and non-cash benefits in order to determine final family resources that will be compared to the poverty thresholds.<sup>8</sup> Our estimate of work expenses starts from the Census Bureau approach to be used in SPM, but with a small adjustment to account for longer commuting distance (and thus higher transportation expenses) for residents in rural areas of Wisconsin. Our approach to work-related child care expenses differs somewhat from that in the SPM, because we chose the alternate of two approaches developed by the Census Bureau. Specifically, we model expected, rather than actual, costs for work-related child care expenses (see Technical Appendix H). With the addition of questions about actual child care expenses to the 2010 CPS, better estimates of child care expenses may be available in the future.

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<sup>5</sup>We also show how poverty rates would differ if we had included all members of the household as one poverty unit (as reported under results and Technical Appendix A).

<sup>6</sup>We also show how poverty rates would differ if we excluded certain students living off-campus as well as students in dormitories (as reported under results and Technical Appendix B).

<sup>7</sup>We did not include free or reduced price school meals or WIC benefits; note that school meal benefits are not purchased by families and thus are not included in the “food, clothing, shelter and utilities” expenses on which poverty thresholds are based.

<sup>8</sup>As noted above, we differ from the SPM in not subtracting medical expenses, but instead adjusting for such expenses in the threshold. Another difference from SPM is that we do not attempt to subtract child support payments paid out to other household members, though the new SPM plans to do so.

To sum up, calculation of total resources for a poverty unit requires adding these various cash and non-cash resources. The summation is complicated by the fact that some resources are measured at the person level, some at the household level, and some for a unit that is between person and household. To calculate resources in the poverty unit, we followed the schematic below:

Sum of personal cash income for all persons in the poverty unit
+
Sum of federal and state income tax (+ or -) for all heads of tax filing units in the poverty unit + sum of payroll tax (-) for all working individuals in the poverty unit
+
Sum of FoodShare benefits for all food stamp unit heads in the poverty unit
+
Share of household LIHEAP benefit that goes to poverty unit
+
Share of household public housing benefit that goes to poverty unit
-
Child care and work expenses for the poverty unit

## Setting the Line

Poverty status is determined by comparing resources to need. The poverty threshold is a “line” based on a number of factors to capture a floor on what is needed to get by. Once resources are calculated, thresholds must be set as a comparison. Our threshold incorporates feedback from Wisconsin residents on priorities specific to the state, as well as prior research on poverty measurement methods.

The basic starting point is the current experimental federal poverty lines, published by the Census Bureau and based on food, clothing, shelter, and other expenses (FCSU), set at 78 percent to 83 percent of median national consumption, or roughly the 33<sup>rd</sup> percentile of national consumption. The national threshold for a two-adult, two-child unit under current Census Bureau procedures was \$27,043 in 2008.<sup>9, 10</sup>

The poverty threshold for Wisconsin is lower than for the nation as a whole, because the cost of living is lower in Wisconsin than in many other parts of the United States (as measured by the rental cost of housing within our state compared to other states). We therefore used adjustments developed by the Census Bureau specific to each state; the Wisconsin adjustment was 0.9186 times the federal

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<sup>9</sup>The Census Bureau has calculated four different versions of the threshold for 1999–2008, as shown in Technical Appendix I and found at [http://www.census.gov/hhes/www/povmeas/web\\_tab5\\_povertythres2008.xls](http://www.census.gov/hhes/www/povmeas/web_tab5_povertythres2008.xls). 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).

<sup>10</sup>The SPM proposes to move to a two-child reference family (with one, two, or more adults), and possibly will also change the point in the consumption distribution where the budget is drawn. But such thresholds have not yet been published. We are waiting for federal leadership in the development of the SPM before we consider moving to the two-child reference family at a given percentile of consumption.

experimental threshold.<sup>11</sup> This left us with a base poverty threshold without medical expenses of \$24,842 in Wisconsin compared to \$27,043 in the United States as a whole in 2008. For comparison, the official U.S. poverty line for a two-child, two-adult family in 2008 was \$21,834.

When we chatted with Wisconsin stakeholders, people expressed the view that those who own their own homes ought to need less money to get along than those who have monthly rent or mortgage payments. Our team discussed the Garner and Betson (2010) argument that the poverty threshold facing those who own their homes outright ought to differ from the thresholds for others. We decided that some adjustment for homeownership is the right way to go for poverty measurement. Our Wisconsin measure thus has three thresholds by housing status: renters, owners with mortgage, and owners with no mortgage (see Table 2). Our thresholds for renters and owners with mortgages are very similar, and so the biggest distinction is between those who own outright, and everyone else. We test the sensitivity of this approach by comparing our three-type threshold to a single weighted threshold, as will be shown in our results.

**Table 2. Ratios of Housing Costs by Housing Tenure**

Housing Tenure	Ratio	Base Threshold
All	n.a.	\$24,842
Renter	1.03	\$25,587
Owner with mortgage	1.01	\$25,090
Owner with no mortgage	0.78	\$19,377

**Source:** Garner and Betson, 2010, and authors' calculations.

We also wanted to incorporate the variation in expenses facing people in different parts of the state. The ACS is the perfect database for making these comparisons because of its inclusive measures of housing costs across the entire state. We analyzed a subset of low- to moderate-income households, by housing tenure, and calculated median annual housing costs for each group.<sup>12</sup> From these costs, we constructed an index of housing costs for renters based on areas of the state with similar costs and geographic types.<sup>13</sup> We grouped 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 Figure 1. We used differences in housing costs to generate cost-of-living ratios and sample thresholds for the six regions shown in Table 3.<sup>14, 15</sup>

<sup>11</sup>Adjustment factors provided through email correspondence from Trudi Renwick to Julia Isaacs, January 22, 2010. The Census Bureau actually has two adjustments for Wisconsin, one for metro and one for non-metro; to get a statewide measure, we averaged the two adjustments together based on the share of the population in metro and non-metro areas in Wisconsin.

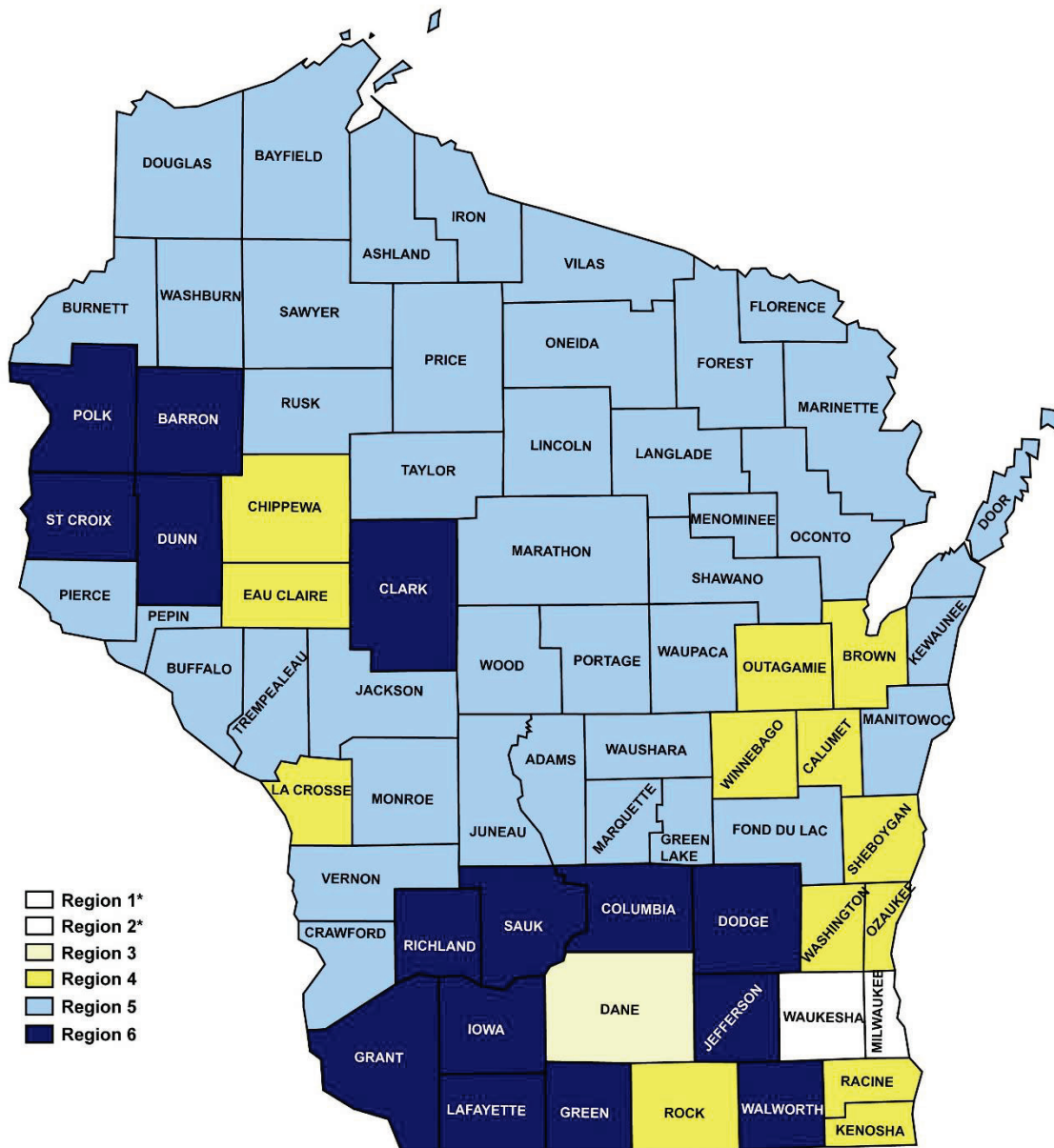
<sup>12</sup>We ranked households by income, then selected those households in the 28<sup>th</sup> to 38<sup>th</sup> percentiles of income for this analysis.

<sup>13</sup>The rent index is the ratio of the median annual costs for renters within the 28<sup>th</sup> to 38<sup>th</sup> 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 28<sup>th</sup> to 38<sup>th</sup> percentiles of income was \$8,640.

<sup>14</sup>We took our differences in rental costs (calculated from ACS data) and applied them to 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.

<sup>15</sup>We also explored within-state geographic adjustment based on variation in shelter costs for renters in 2-bedroom units, the method that will be used in the SPM. We will present a comparison of our method to the restricted 2-bedroom sample in the final version of our Technical Appendix.

**Figure 1. Map of Regions Used for Within-State Geographic Adjustment<sup>16</sup>**



<sup>16</sup>The central parts of Milwaukee (PUMAs 2002, 2003, and 2004) are in Region 1, while the outskirts (PUMAs 2001, 2101, and 2102) plus Waukesha (PUMAs 2201, 2202, and 2203) form Region 2. Region 3 is Dane County, site of Madison, the second-largest city. 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.



**Table 3. Multi-PUMA Regions, Ratio of Costs to Statewide Costs, and Sample Thresholds for Within-State Geographic Adjustment**

Region	Ratio for Within-State Geographic Adjustment	Sample Threshold for Renters*
<b>Statewide</b>	<b>n.a.</b>	<b>\$25,587</b>
1. Inner Milwaukee	1.00	\$25,587
2. Outer Milwaukee and Waukesha	1.05	\$26,867
3. Dane County	1.04	\$26,611
4. Other Metro areas (Red in Figure 1)	0.99	\$25,331
5. Rural 1 + Marathon (Pink in Figure 1)	0.92	\$23,540
6. Rural 2 (Brown in Figure 1)	0.98	\$25,076

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

Recognizing that families of different sizes and compositions face different costs, we applied the three-parameter equivalence scale to the reference family threshold (Betson, 1996; Iceland, 2005). The reference family for this scale is a two-parent, two-child family and adjustments to the threshold are made up or down based on the number of adults and children. All portions of the threshold—except for medical expenses in the threshold (MIT)—are equivalized using this scale. Mathematically, the three-parameter scale is defined as follows:

single individual: 1.00

childless couple only: 1.41

single-parent families:  $(A + \alpha + P*(C - 1))^F$

all other families:  $(A + P*C)^F$ ,

As in the basic formula, where  $\alpha = 0.8$ ,  $P = 0.5$ , and  $F = 0.7$ ; A=number of adults; and C= number of children (less than 18 years of age). We used these formulas to calculate the number of equivalent adults per unit, divided that by 2.16, then multiplied by the appropriate threshold (based on housing tenure and geographic region) to determine the poverty line for each unit. Table 4 provides sample poverty thresholds based on the number of adults and children in the poverty unit using our method.

**Table 4. Sample Poverty Thresholds**

Size of Poverty Unit (Number of people)	Number of Adults	Number of Children	Poverty Threshold
1	1	0	\$11,513
2	2	0	\$16,234
2	1	1	\$17,374
3	1	2	\$20,626
3	2	1	\$21,866
4	2	2	\$24,842

There are two basic approaches to the treatment of medical expenses in alternative poverty measures. One approach, followed in the SPM and New York City, but not in Minnesota or Connecticut, attempts to impute and subtract actual medical expenses from individual families. We were wary, however, about basing poverty estimates on imputations that include very high medical expenses in the tail of the distribution, particularly for older families. It is problematic to adjust for extraordinary health care costs without taking into account the role of assets in paying for health care catastrophes, and Shapiro (2009) found that even in the face of large medical bills, the elderly do not reduce other consumption. After talking to Wisconsinites, we chose an alternate approach, one that adjusts the threshold for “expected normal expenses” for average families, and then adjusts for presence of elderly, health status, and insurance type. Wisconsinites are believers in their BadgerCare program, which combines Medicaid and SCHIP to form a solid safety net for all members of families with children up to 200 percent of the poverty line, with childless adults being added into coverage as well. With Wisconsin’s BadgerCare coverage, the medical expenses in the threshold (MIT) approach (based on expected expenses for different groups in the population) is more sensible and easier to explain to the public and to policymakers. We wonder if this will become the national norm once health care reform spreads and more states’ programs look like Wisconsin’s BadgerCare program.

To estimate medical out-of-pocket expenses in the thresholds (MIT), we followed the Census Bureau method of applying specific adjustments for risk factors for presence of elder, health status, and health insurance status to calculate MIT, which was then added on to the adjusted threshold.<sup>17</sup> To illustrate how these thresholds would vary after the adjustments for medical care (including insurance premiums, and out-of-pocket outlays for co-insurance, deductibles, and uncovered expenses), consider the following examples for a two-parent, two-child family in good health with no elderly members:

- A (four-person) family owning its home with a mortgage in Dane County (Madison) with private health insurance would have a threshold of \$28,195, (compared to \$26,611 without adjustments for medical expenses, a \$2,584 difference for health care costs);
- A (four-person) family renting its home in inner Milwaukee with public health insurance would have a threshold of \$25,650; and
- A (four-person) family owning its home outright in rural Wisconsin (Region 6) with no health insurance would have a threshold of \$21,132.

In summary, we combined the above adjustments for Wisconsin’s lower cost of living relative to the nation, housing tenure type, geographic region within the state, family size and composition, and expected medical expenses to calculate a threshold level for each poverty unit, which was then compared to the unit’s available resources to determine poverty status.

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<sup>17</sup>See Table A-10 in Short (2001) and Technical Appendix K for additional detail on these risk factors.

### III. POVERTY WITHIN AND ACROSS WISCONSIN UNDER THE WISCONSIN MEASURE AND THE OFFICIAL MEASURE

As a prelude to examining poverty across and within Wisconsin, a brief comparison between Wisconsin and the rest of the nation is in order. Poverty rates in the state of Wisconsin are generally lower than poverty in the United States as a whole. Under the official poverty measure, the overall poverty rate in Wisconsin was 10.2 percent in 2008, compared to 13.2 percent for the nation as a whole according to data from the 2008 American Community Survey (ACS). Roughly three-fourths of the states have higher poverty rates than Wisconsin. The generally lower poverty rates in Wisconsin hold true for both child<sup>18</sup> and elderly populations: the child poverty rate in Wisconsin was 13.3 percent in 2008, compared to 18.2 percent for children nationally, and the elderly poverty rates were 7.1 percent in Wisconsin and 9.9 percent for the nation as a whole.<sup>19</sup>

These poverty statistics are based on the official measure, which, as noted above, has been subject to considerable criticism. Our improved Wisconsin measure finds a somewhat higher poverty rate in Wisconsin, 11.2 percent, rather than 10.2 percent in the official measure.<sup>20, 21</sup> This change of 1.0 percentage points is the net impact of many offsetting changes (e.g., in poverty units, inclusion of taxes and non-cash benefits in family resources, use of higher base threshold and adjustments to that threshold), as discussed below. Other researchers also have found somewhat higher poverty rates under their improved measures (e.g., alternative poverty measures in New York City and Minnesota). Because each local measure has been done independently, we cannot compare poverty in Wisconsin under the Wisconsin measure to poverty in other parts of the country. Instead, the strength of the Wisconsin poverty measure is to compare poverty across different demographic subgroups *within* the state (in this report we focus on children and the elderly) as well as across different counties and regions within the state. Poverty rates by age and region are presented below, followed by a discussion of the sensitivity of the poverty rates to various measurement decisions; that is, the extent to which poverty rates are sensitive to our treatment of homeownership, medical expenses, within-state differences in cost of living, etc. Finally, the section concludes by looking at the extent to which families have income just above poverty, but below 125 percent or 150 percent of poverty, highlighting the sensitivity of poverty rates to the placement of the threshold.

#### Poverty by Age

Poverty rates under the Wisconsin poverty measure are higher than official poverty rates for both children and elderly sub-groups, as well as for the population overall (see Figure 2). The increase in measured

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<sup>18</sup>We define children as all individuals less than 18 years of age.

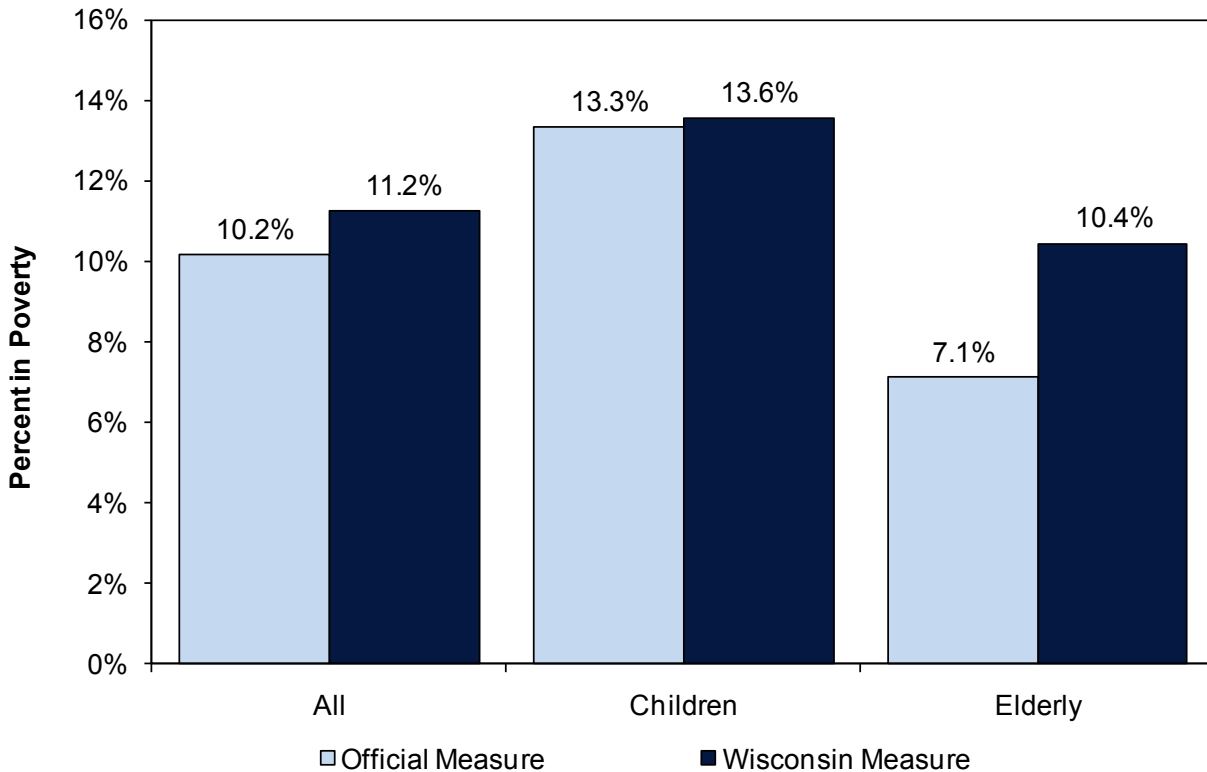
<sup>19</sup>The official poverty rates in Wisconsin shown here are based on our tabulations of the IPUMS ACS; published data show a slightly higher rate in Wisconsin overall (10.4 vs. 10.2 percent), the same rate for children, and a considerably higher rate for the elderly (8.4 rather than 7.1 percent). The major difference is that while we excluded individuals in all group quarters from our estimates of both official and Wisconsin poverty measure rates, the Census Bureau includes individuals in certain types of non-institutional group quarters in the poverty universe for the official measure. In addition, some of the differences may reflect sampling error (the public use data is based on a 40 percent sample of the original data underlying the published reports).

<sup>20</sup>We found a margin of error of 0.5 percent for the state poverty rate under the Wisconsin Poverty Measure, or a 90 percent confidence interval from 10.7 to 11.8 percent. See Technical Appendix L for confidence intervals of the estimates.

<sup>21</sup>Poverty rates for 2008 reported in this report should not be compared to the poverty rates for 2007 reported in *The First Wisconsin Poverty Rate*, because the rates for 2008 are calculated under a broader poverty measure.

poverty is particularly steep for the elderly, whose poverty rate increases from 7.1 percent to 10.4 percent. As discussed further below, a fair number of senior citizens are living with incomes just slightly above the official poverty threshold and are re-classified as poor when the threshold is increased slightly and adjusted for the high cost of medical-out-of-pocket expenses for the elderly, especially for those in poor health. Child poverty also increases, though by less, rising from 13.3 percent to 13.6 percent. Child poverty remains considerably higher than elderly poverty under the Wisconsin measure (13.6 percent compared to 10.4 percent).

**Figure 2. Poverty Rates in 2008 in Wisconsin by Age under the Official Poverty Measure and Wisconsin Poverty Measure**



Source: IRP tabulations of 2008 American Community Survey data.

### Poverty by County or Multi-County Area

Consistent with our report approach last year, we have generated estimated poverty rates for the 10 largest counties in Wisconsin, as well as for 12 multi-county areas that encompass the remaining areas of the state. The multi-county areas used in this report were predetermined by the boundary lines for the Census Bureau’s Public Use Microdata Areas (PUMAs) and cannot be disaggregated further for single-year poverty estimates.<sup>22</sup> While some of the multi-county areas comprise only two counties (e.g., Ozaukee and Washington), others require as many as seven to ten of the more rural counties in order to gain sufficient sample size to obtain reliable estimates.

<sup>22</sup>The ACS collects data on a continuous basis, and this year, the Census Bureau plans to release a five-year data file (2005–2009) that will allow estimates at the county level.

Under the Wisconsin measure, the poverty rate ranges from 18.8 percent in Milwaukee to 4.6 percent in the two-county area of Ozaukee/Washington, two of Milwaukee's most affluent suburbs. Under the official measure, the range was slightly smaller, from 17.4 percent in Milwaukee to 3.6 percent in Waukesha County (another wealthy Milwaukee suburb). The two sets of poverty rates are shown in Table 5, which first lists the 10 largest counties (ranked in order of population size in 2008) and then lists the 12 multi-county areas (ranked by the number of counties in the multi-county areas and thus from more urban to more rural).

Most counties and multi-county areas have poverty rates that are roughly 0.5 to 2.5 percentage points higher under the Wisconsin measure than the official poverty rate (see Table 5).<sup>23</sup> However, there are some exceptions. Most notably, two rural areas see poverty drop under the new measure by 0.5 to 2 percentage points: a 10-county rural area in northwestern Wisconsin around Lake Superior, and an 8-county rural area along the Mississippi River. Some of the people classified as poor under the old measure are re-classified as above poverty under the new Wisconsin measure, because the poverty threshold is adjusted to reflect differences in cost of living (including lower costs of housing in much of rural Wisconsin).

Milwaukee and La Crosse counties have poverty rates considerably above the average for the state (18.8 percent and 13.9 percent, respectively). The third highest poverty rate is in Dane County (Madison) (13.1 percent), followed by a five-county area near the city of Menomonie (12.3 percent) and the two-county area of Jefferson/Walworth (12.3 percent). These five areas—three counties and two multi-county areas—have poverty rates above 12 percent in 2008 under the Wisconsin measure (see Figure 3). In the map, dark blue shading is used to denote counties or multi-county areas with poverty rates above 12 percent, light blue and yellow are used to denote those with poverty between 10 and 12 percent and 8 to 10 percent, respectively, and white is used for the areas with poverty of less than 8 percent.

Only three areas have poverty of less than 8 percent under the Wisconsin Poverty Measure: Waukesha County (6.1 percent), Marathon County (6.1 percent), and Ozaukee/Washington counties (4.6 percent). These three areas also had the three lowest poverty rates under the official measure, although the exact ranking differs under the two measures.

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<sup>23</sup> Due to the smaller sample sizes of these within-state areas, the margins of error are larger than those for the statewide poverty rate. For some counties and multicounty areas, there is no statistically significant difference in poverty between the official measure and the Wisconsin Poverty Measure. Margins of error can be found in the *Wisconsin Poverty Report: Technical Appendix*.

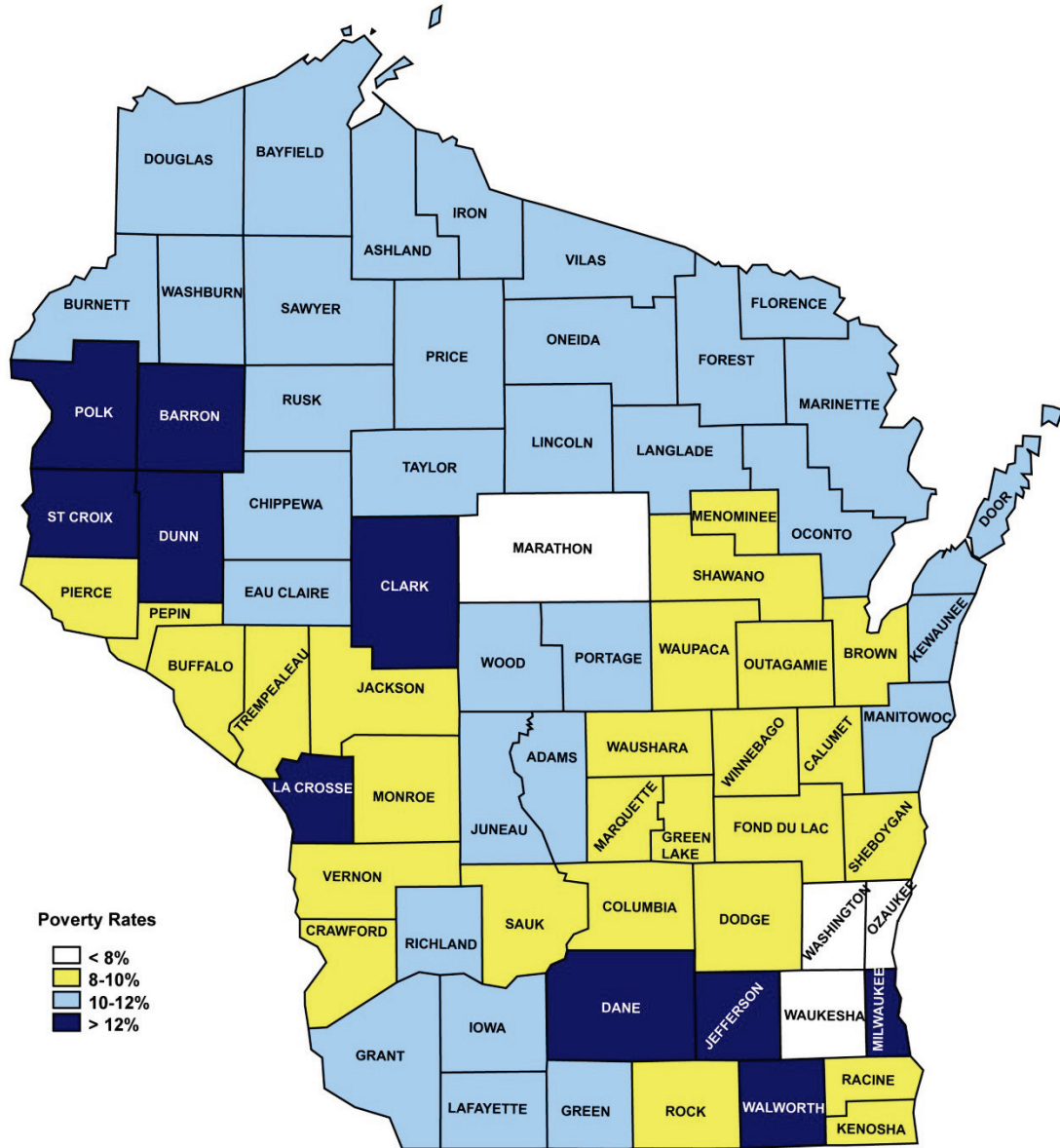
**Table 5. Poverty Rates in 2008 by County or Multi-County Area Under Official and Wisconsin Poverty Measures**

	<b>Official Measure</b>	<b>Wisconsin Measure</b>	<b>Difference (percentage points)*</b>
<b>County</b>			
Milwaukee	17.4%	18.8%	1.4
Dane (Madison)	11.6	13.1	1.5
Waukesha	3.6	6.1	2.5
Brown (Green Bay)	8.1	9.5	1.3
Racine	8.9	9.1	0.3
Kenosha	9.0	9.3	0.3
Rock (Janesville)	9.5	9.1	-0.5
Marathon (Wausau)	4.2	6.1	1.9
Sheboygan	7.9	9.0	1.1
La Crosse	13.2	13.9	0.7
<b>Multi-County Area</b>			
Ozaukee/Washington	4.2	4.6	0.4
Jefferson/Walworth	12.0	12.3	0.3
Chippewa/Eau Claire	8.0	10.7	2.7
Calumet/Outagamie/ Winnebago (Appleton)	7.0	9.7	2.7
Columbia/Dodge/Sauk (Baraboo)	7.0	9.0	2.1
5-county area (Menomonie)	10.2	12.3	2.1
5-county area (Dodgeville)	9.6	11.9	2.2
6-county area (Manitowoc)	10.1	10.0	0.0
7-county area (Fond du Lac)	8.0	8.0	0.0
8-county area (Sparta)	10.9	9.0	-1.9
9-county area (Stevens Point, Crandon)	10.4	10.0	-0.4
10-county area (Superior)	12.0	11.2	-0.8
<b>State Total</b>	<b>10.2</b>	<b>11.2</b>	<b>1.0</b>

**Source:** IRP tabulations of 2008 American Community Survey data.

\*Differences may not sum due to rounding.

**Figure 3. Wisconsin Poverty Rates in 2008 under the Wisconsin Poverty Measure, by County and Multi-County Area**



## Variance in Poverty within Large Counties

The ACS data allow us to provide more detailed tabulations of poverty within Milwaukee and Dane counties.<sup>24</sup> There is a wide ranging diversity of suburban versus central city poverty in Milwaukee, in particular. Under the Wisconsin poverty measure, poverty rates for the six Public Use Microdata Areas (PUMAs) within Milwaukee County range from 39 percent in the central city to less than 10 percent in two sampling units outside the city boundaries (see Table 6 and Figure 4). All four sampling units within the city limits have poverty rates above 18 percent. Poverty rates are high in Milwaukee under the Wisconsin Poverty Measure, as they were under the official measure. Most regions within Milwaukee have similar poverty rates under the two measures; one exception is the northern and eastern suburban parts of the county, where poverty rates are somewhat higher under the Wisconsin Poverty Measure than the official measure, reflecting the higher cost of living in those suburbs.

**Table 6. Poverty Rates Within Milwaukee and Dane Counties in 2008 Under Official and Wisconsin Poverty Measures**

County/Area	Official Measure	Wisconsin Measure	Difference (percentage points)
<b>Milwaukee (overall)</b>	<b>17.4%</b>	<b>18.8%</b>	<b>1.4</b>
Outer Northeast and East	17.4	22.2	4.8
Inner North	25.1	27.4	2.3
Central	39.3	38.5	-0.8
South	18.2	18.1	-0.1
Brown Deer, Glendale, Shorewood, Wauwatosa, Whitefish Bay, Other	5.7	6.3	0.6
Southern Suburbs*	7.9	9.1	1.2
<b>Dane (Overall)</b>	<b>11.6</b>	<b>13.1</b>	<b>1.5</b>
Madison	16.9	18.7	1.8
Fitchburg, Middleton, Stoughton, Sun Prairie, Other	7.4	8.7	1.3

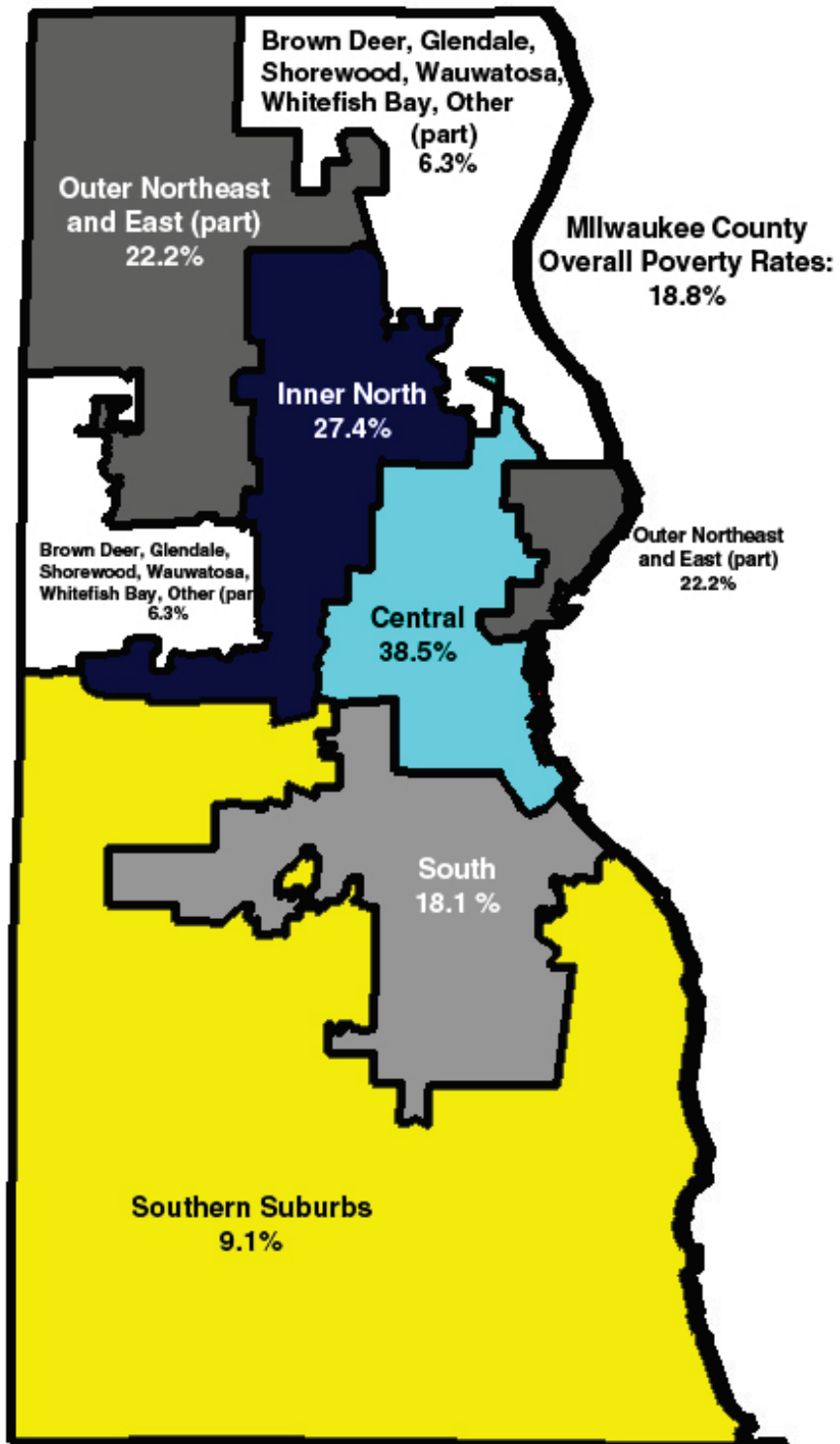
**Source:** IRP tabulations of 2008 American Community Survey data.

\*Cudahy, Franklin, Greendale, Greenfield, Oak Creek, South Milwaukee, West Allis, Other.

<sup>24</sup>Brown and Waukesha are the only two other counties with large enough sample size to support some disaggregation of poverty within the county.



Figure 4. Milwaukee County Poverty Rates in 2008, by PUMA and Overall, Under the Wisconsin Poverty Measure



In Dane County, the poverty rate of 13 percent under the Wisconsin measure is an average of a higher rate (19 percent) within the city of Madison and a much lower rate (9 percent) in the rest of the county (Fitchburg, Middleton, Stoughton, Sun Prairie, and other smaller areas). The pattern is similar under official poverty rates. Dane County poverty rates are 1.2 to 1.8 percentage points higher under the new measure than under the official measure, slightly higher than the 1.0 percentage point increase for the state as a whole.

## Poverty Rates under Alternative Specifications

As discussed in the second section and summarized in Table 1, the Wisconsin measure differs from the official measure in a number of different ways. In the text and figures that follow, we show the marginal impact of various specifications of the Wisconsin poverty measure. First we discuss alternative definitions of the poverty unit and poverty universe. Then, we show the marginal impact of counting taxes and non-cash benefits, followed by the marginal impact on poverty of adjusting the threshold for medical expenses, work and child care expenses, homeownership, and geographic differences in the cost of living within Wisconsin. We conclude by showing how many people have resources slightly above the poverty threshold.

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. The biggest differences are in Milwaukee, Dane, and Rock counties. See Technical Appendix B for a more complete explanation.

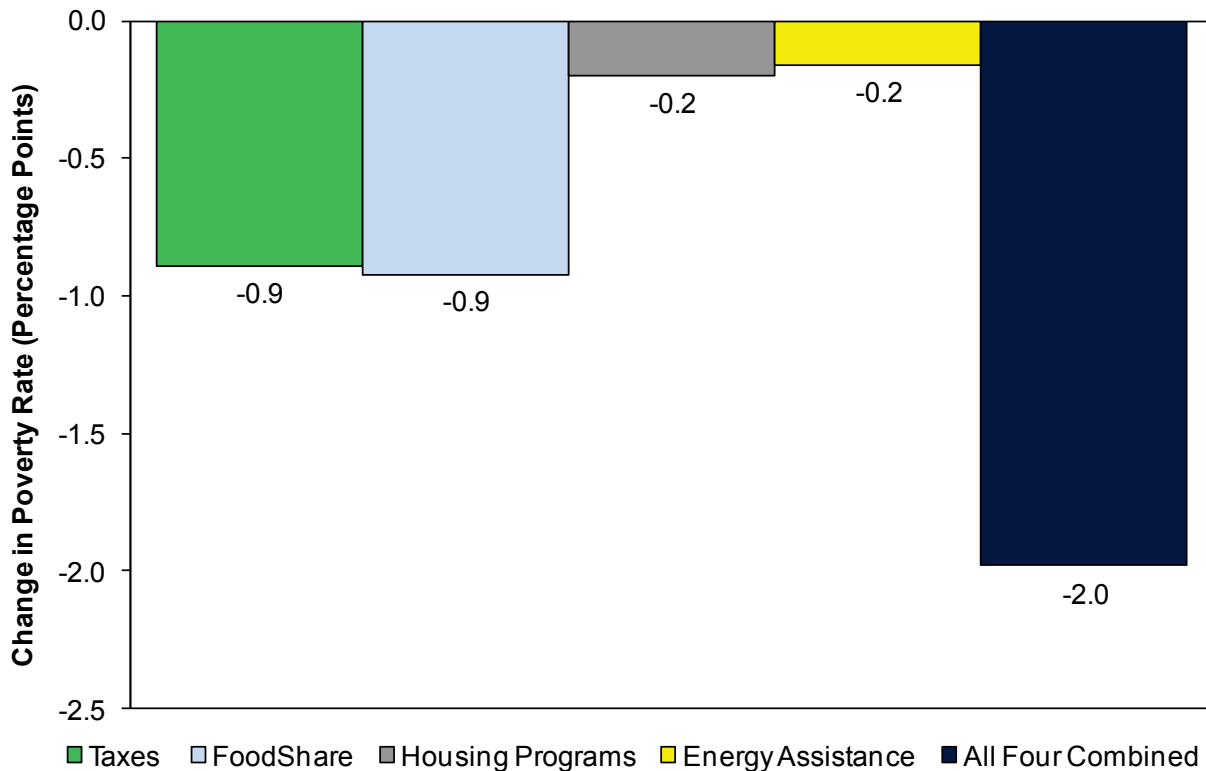
Our poverty universe includes everyone except individuals living in group quarters. One possible adjustment would be to exclude undergraduate students living in off-campus housing (those in dormitories are already excluded) under the rationale that they may have low income but their basic living expenses are met through assistance from parents or financial aid. Such student populations can be significant in cities such as Madison. A preliminary estimate suggests that the Wisconsin poverty rate would drop by one percentage point overall and by more in Dane, La Crosse, and other counties with large student populations, if we were to exclude individuals 18–23 year of age who are enrolled in school and not living with family members from our poverty estimates (see Technical Appendix C). We plan to continue investigating ways to define students and the merits of including or excluding them on various grounds as we continue to improve our poverty estimates.

Our measure of resources includes cash income, plus taxes and major non-cash benefits, namely FoodShare (SNAP), public housing, and LIHEAP. If we had not counted taxes or non-cash benefits, the overall poverty rate in Wisconsin would have been 13.2 percent, or 2.0 percentage points higher than the 11.2 percent in our Wisconsin measure. Stated another way, current policies on taxes, food stamps, public housing and energy assistance serve to reduce poverty in Wisconsin by 2.0 percentage points (see Figure 5).

Most of this poverty reduction comes as a result of taxes and food stamps. As shown in Figure 5, the marginal impact of taxes alone is 0.9 percentage points, and that of FoodShare (SNAP) is slightly more than 0.9 percentage points. Many poor people, especially those with children, receive tax credits that are larger than their owed taxes, as a result of the federal Earned Income Tax Credit (EITC), the Wisconsin EITC, and the Wisconsin Homestead Credit, and thus the net impact of federal and state income and payroll taxes is a reduction in poverty rates. SNAP benefits have an even greater poverty impact, reflecting the size of the program (one out of ten people in Wisconsin received at least one month of SNAP benefits between July 2007 and June 2008) and its focus on providing assistance to low-income populations.

Housing and energy assistance provide assistance to fewer households and have less of a marginal effect on poverty; the existence of these programs (and the inclusion of their value in our poverty measure) reduces poverty by approximately 0.2 percentage points each. As noted above, the combined effect of all four changes is 2.0 percentage points. Also note that, as discussed above and in the technical appendix, we needed to impute the value of taxes, food stamps, public housing, and energy assistance using methods pioneered by the Census Bureau and one of the authors of this report (Smeeding, 1982).

**Figure 5. Effect of Taxes and Public Benefits on Wisconsin Poverty Rates**

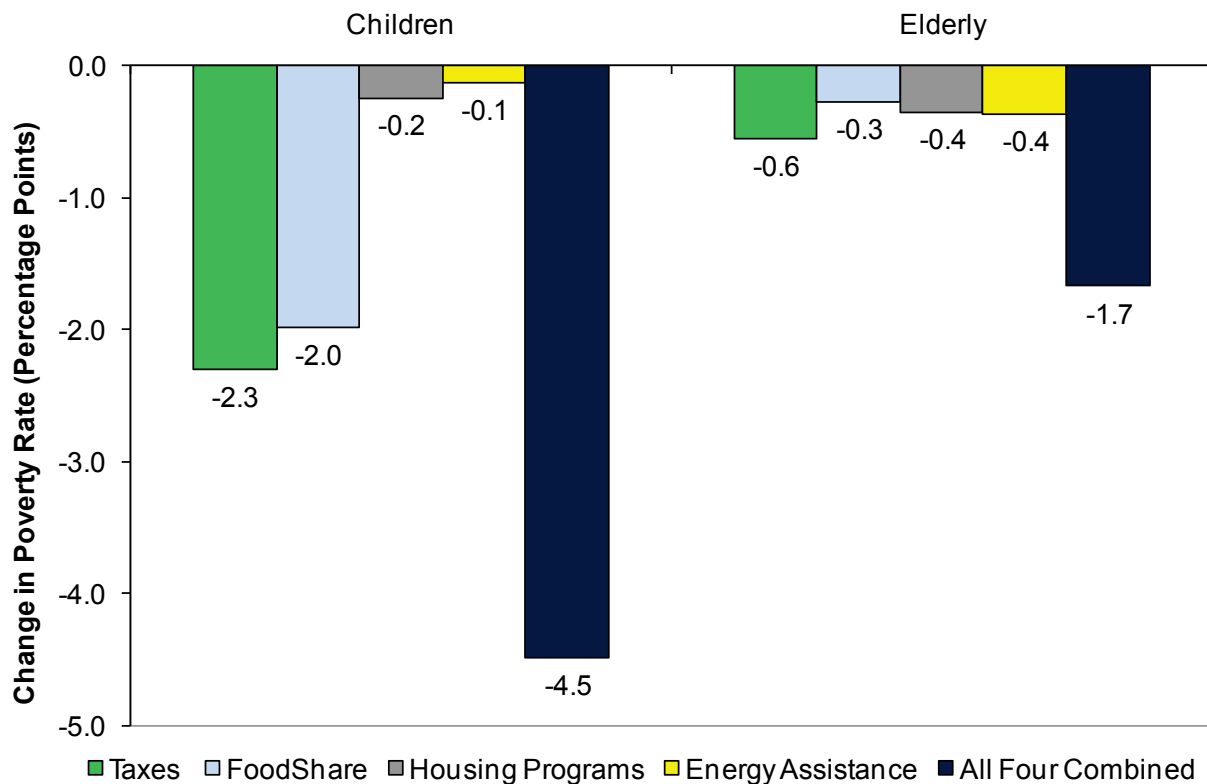


**Source:** IRP tabulations of 2008 American Community Survey data.

**Note:** The first four columns show individual marginal effects. That is, the poverty rate without FoodShare benefits assumes a full Wisconsin measure otherwise (i.e., taxes, housing, and energy assistance are counted). The final column shows the cumulative effect of all four programs.

The marginal antipoverty effects of taxes and SNAP are much larger for children than for the elderly, as shown in Figure 6, which shows the marginal increase in poverty rates by age if not for taxes, SNAP benefits, housing assistance, LIHEAP, and the combined impact of all four policies. Taxes and SNAP benefits each reduce child poverty by approximately 2 percentage points or 15 percent, on the margin. The large impacts of taxes and SNAP benefits on child poverty are not unexpected, given that the Earned Income Tax Credit is largely restricted to families with children, and families with children have a particularly high participation rate in the SNAP program. The elderly do gain a net benefit from tax credits, however, which is likely a reflection of the Wisconsin Homestead Credit. Housing and low-income home energy assistance (LIHEAP) benefits do more to reduce elderly poverty than child poverty. In the case of housing assistance, the outcome is expected because several housing programs are targeted on the elderly and disabled. In the case of energy assistance, the outcome merits further study, including further investigation of the sensitivity of the results to alternate methods for imputing energy assistance.

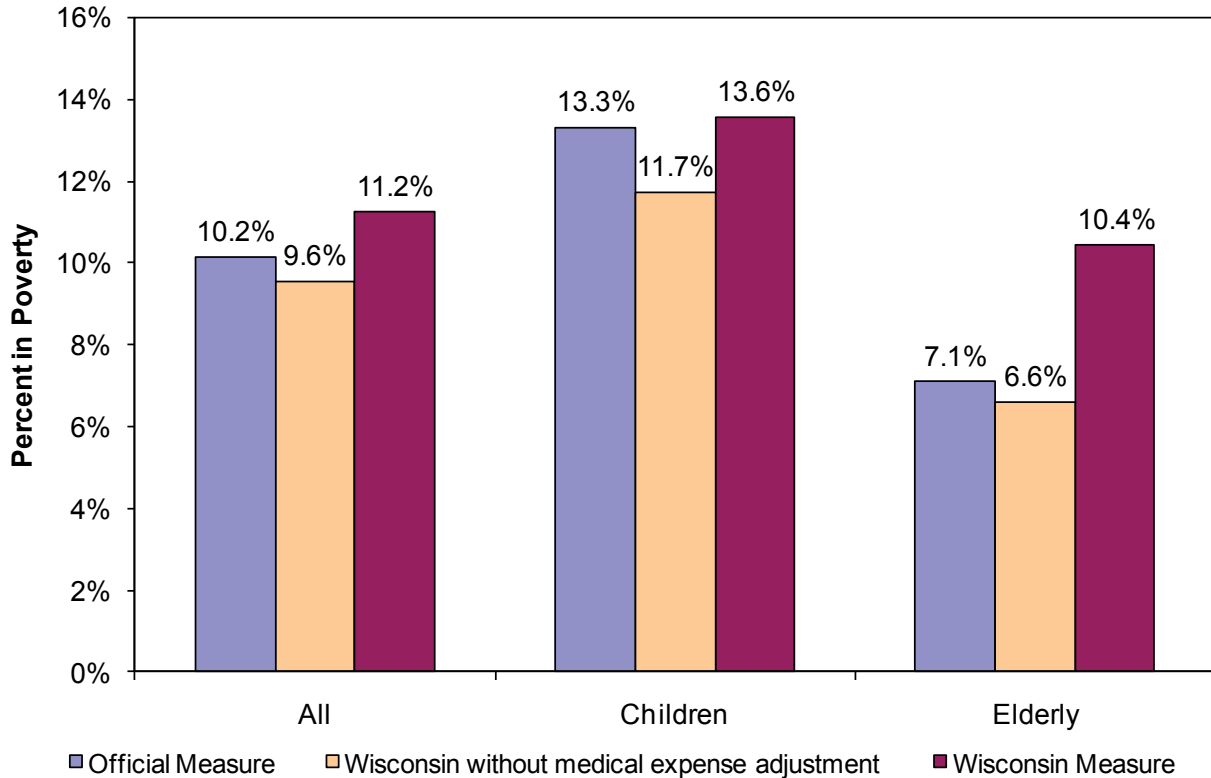
**Figure 6. Effect of Taxes and Public Benefits on Wisconsin Poverty Rates, by Age**



Source: IRP tabulations of 2008 American Community Survey data.

While adding in the value of taxes and non-cash benefits reduces poverty rates, the next adjustment—adjusting for medical expenses—increases poverty rates, particularly for the elderly. The overall poverty rate increases by 1.7 percentage points, from 9.6 to 11.2 percent, when taking into account people’s need to reserve part of their income for out-of-pocket medical expenses such as insurance premiums, co-payments on medical services, prescription and over-the-counter drugs, and uninsured medical expenses. The marginal effect of the medical expense adjustment is highest for the elderly, whose poverty rate increases from 6.6 percent (before the adjustment) to 10.4 percent under the full Wisconsin measure. Adjusting for such expenses also increases poverty among children, but not by as much (see Figure 7). As noted in the methods section, we adjust the thresholds to take into account higher average medical expenses by age, health status, and type of insurance; our results might have differed somewhat if we had adjusted for medical expenses by estimating and subtracting actual medical expenses from income, as is proposed in the federal Supplemental Poverty Measure.

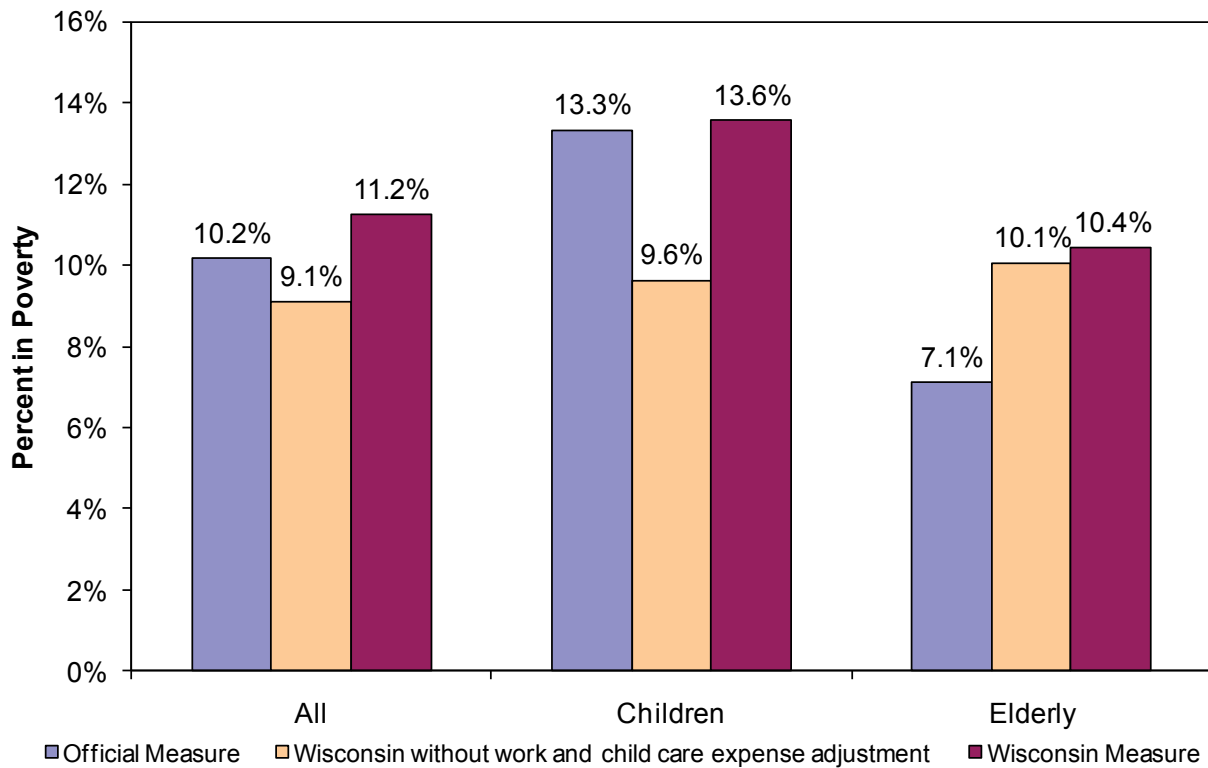
**Figure 7. Poverty Rates by Age with and without Adjusting the Threshold for Health Expenses**



Source: IRP tabulations of 2008 American Community Survey data.

We also adjust for work expenses among families with earnings, with an additional adjustment for child care expenses for working families with children under age 12. Subtracting such expenses from family income has a relatively large impact on overall rates (increasing them by 2.1 percentage points) and an even larger impact on child poverty rates (increasing them by 3.9 percentage points), as shown in Figure 8. It also has a modest impact on poverty rates for the elderly, because some elderly individuals have earnings and thus work expenses, and others are living with family members with work expenses. As with medical expenses, we used typical expenses for different groups of low-income families, but without attempting to capture the full variation in actual amounts families spend in child care and other work related expenses. In this early version of the model, we have not fully captured the reduction in out-of-pocket child care expenses for those families receiving public subsidies and paying modest co-payments, but we hope to do so in future versions.

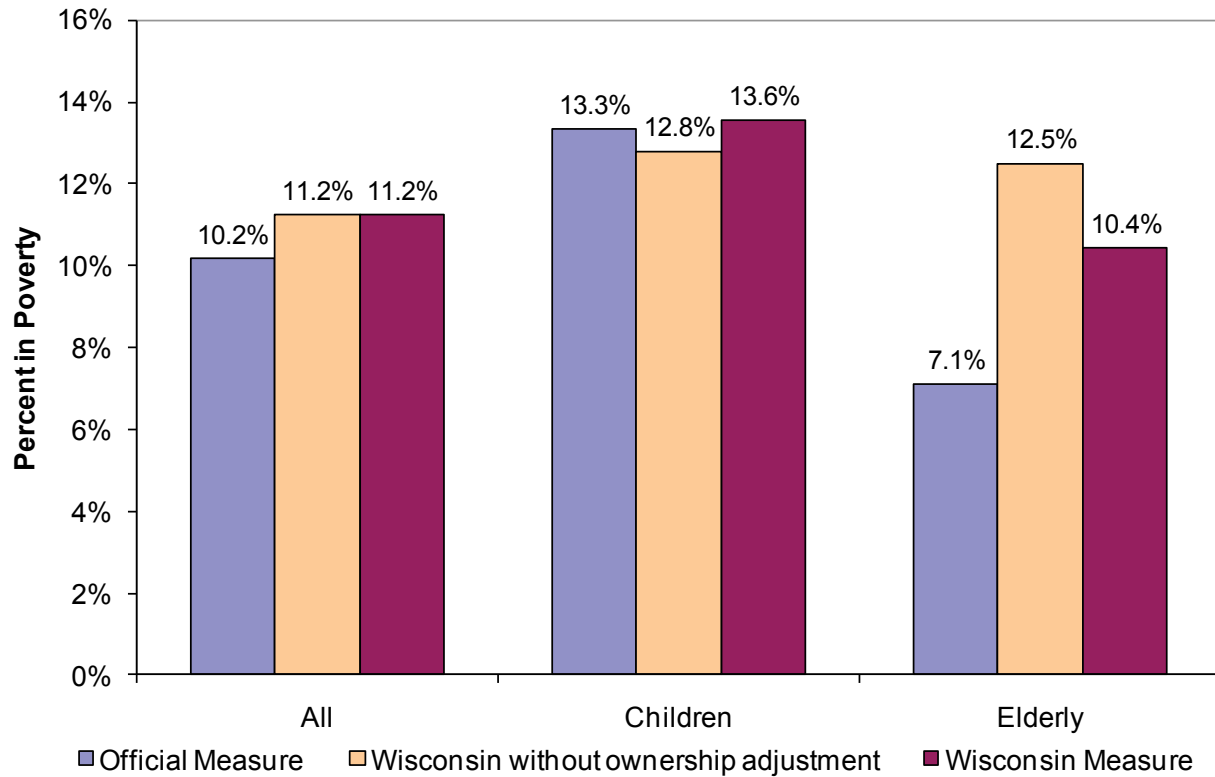
**Figure 8. Poverty Rates by Age with and without Adjusting for Child Care and Other Work-Related Expenses**



**Source:** IRP tabulations of 2008 American Community Survey data.

The Wisconsin poverty measure includes a homeowner adjustment not done in earlier poverty measures, though it is planned to be made in the federal supplemental measure. The adjustment primarily affects elderly poverty rates, which fall after taking into account the lower monthly income needed to meet basic expenses if one owns one's house outright and no longer has to pay rent or mortgage payments every month. If we had not made this adjustment, we would have had an elderly poverty rate of 12.5 percent, 2.1 percentage points higher than our 10.4 percent (see Figure 9).

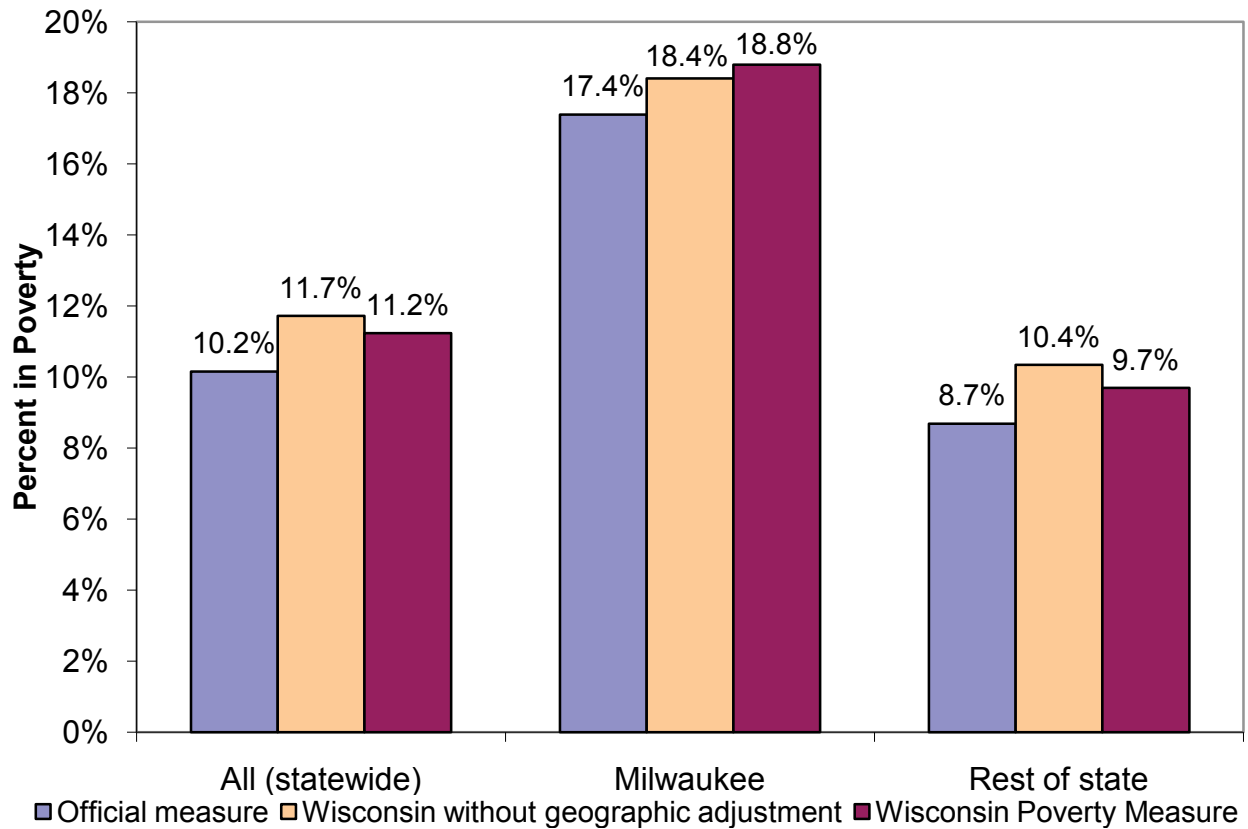
**Figure 9. Poverty Rates by Age with and without Adjusting for Homeownership**



**Source:** IRP tabulations of 2008 American Community Survey data.

Finally, the Wisconsin measure is subject to two cost-of-living adjustments. First, the threshold was adjusted for lower costs in Wisconsin compared to the nation. Without this adjustment, poverty rates in Wisconsin would have been higher (data not shown). Second, the threshold was adjusted for cost-of-living differences within the state. In particular, the threshold was adjusted downward in more rural areas and adjusted upward for some suburban areas outside the city limits of Milwaukee, reflecting rents for moderate-income families in the state. As shown in Figure 10, these adjustments had a relatively modest impact on poverty rates. Without them, poverty rates in Milwaukee County would have been slightly lower, and poverty rates outside Milwaukee would have been slightly higher.

**Figure 10. Poverty Rates in Milwaukee and the Rest of the State, with and without Adjusting for Within-State Cost-of-Living Differences**



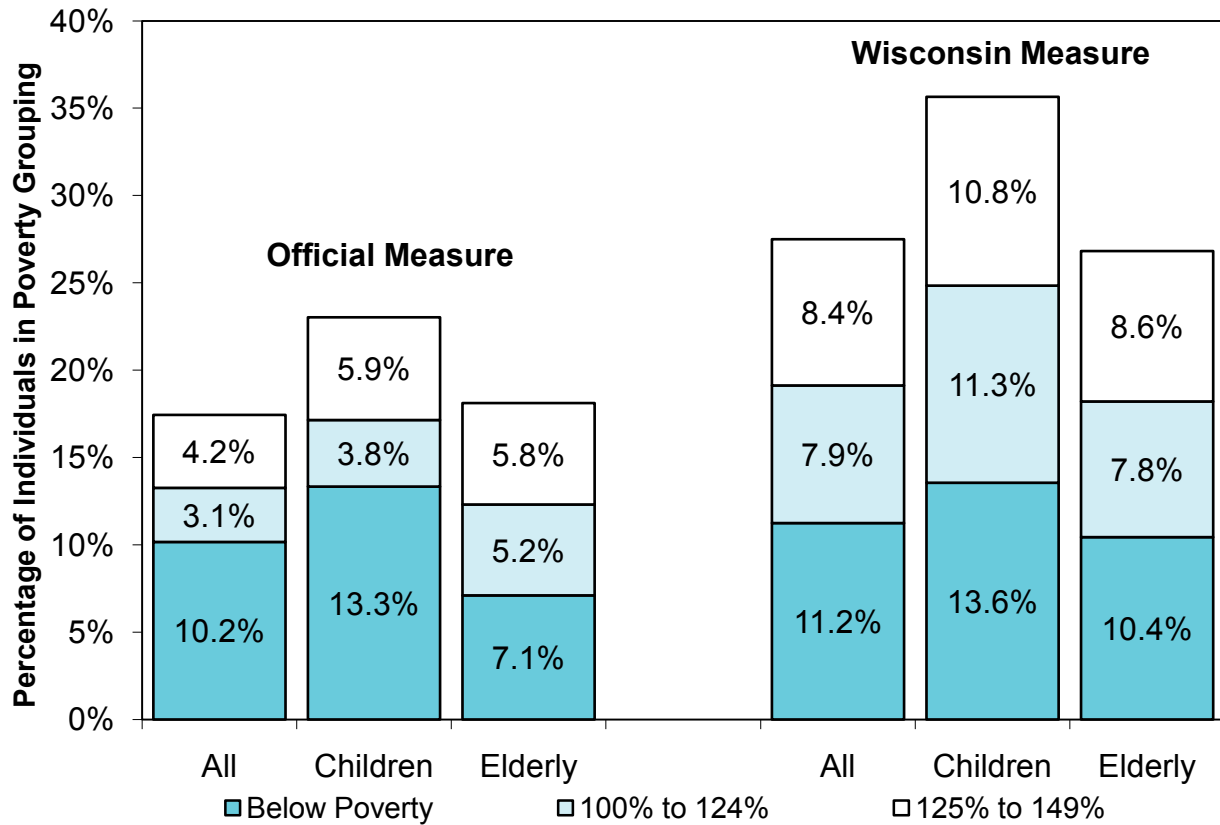
Source: IRP tabulations of 2008 American Community Survey data.

### Individuals with Income Just Above Poverty

Families and individuals with incomes above 100 percent of poverty but below 125 percent or 150 percent of poverty are not always adequately recognized in poverty discussions. Yet, there are obvious policy reasons to pay attention to these families, who often struggle to make ends meet. Many federal and state assistance programs—for example, nutrition assistance, health care, child care, and energy assistance—are extended to families with income above 100 percent of the official measure of poverty as mentioned for Wisconsin above. In addition, these individuals and families are important for measurement reasons. If there are many individuals and families with incomes just slightly above the poverty line, then small changes in the threshold can have a significant impact on poverty rates. Indeed, some of the increase in the elderly poverty rate under the new measure can be explained by the relatively high number of elderly individuals with income between 100 percent and 125 percent of the official measure. As shown in Figure 11, in addition to the 7.1 percent of elderly below poverty in Wisconsin under official measures, there were 5.2 percent of elderly between 100 percent and 125 percent of poverty and another 5.8 percent between 125 percent and 150 percent of poverty. Some of these became classified as poor under the revised measure.



**Figure 11. Individuals with Income below 100, 125, and 150 Percent of Poverty, Under Official and Wisconsin Poverty Measures**



Source: IRP tabulations of 2008 American Community Survey data.

The percentage of individuals with incomes between 100 percent and 125 percent of poverty is larger under the Wisconsin measure than under the official measures, across the board, and for the child and elderly sub-groups. For example, 11 percent of children in Wisconsin have incomes above 100 percent and below 125 percent of poverty. This suggests that the poverty thresholds are set at a fairly crowded point on the income distribution, and poverty rates under the Wisconsin poverty measure may be quite sensitive to the exact level of the threshold. If the thresholds were to be revised upward (or downward) by small amounts, the number and percentage of children below poverty could increase considerably. There also are important policy implications. In addition to the population counted as poor under the Wisconsin measure, there are a large number of individuals and families who are in danger of sinking into poverty if they suffer an income loss of a few thousand dollars.

## IV. CONCLUSION

This report describes our efforts to date at improving the Wisconsin Poverty Measure in order to reflect the needs and concerns of Wisconsin citizens. The measure remains a work in progress as we continue to investigate alternate specifications, such as options for defining the poverty universe (e.g. college students) and geographic adjustment differences (e.g. all rental units versus two-bedroom units). In describing our model, we have tried to explain the choices made to construct a Wisconsin poverty measure and to highlight the effects of our choices. We hope that the Wisconsin model, both now and as it is further refined, can serve as a national model so that other states and localities can follow our lead and create their own measure, substituting their own state and local data and their own choices for poverty measurement, given state and local needs. Our model's components therefore reflect choices based on expert research, including the 1995 National Academy of Sciences panel and the work of other states and localities on alternative poverty measures, and based on discussions with Wisconsinites, who communicated priorities specific to this state. We also were influenced by the data opportunities and challenges of the ACS data and our state's administrative data.

We have developed a number of different modules to incorporate the recommendations of the National Academy of Sciences and the Wisconsin refinements, including modules on poverty units, taxes, benefits of all kinds, and poverty thresholds. Our methods are detailed in a series of technical appendices, in order to assist other states and localities that wish to follow a similar method. By adopting some of our routines, or snap-on modules, researchers can test the sensitivity of our choices, and other states and localities can make refinements to reflect their own choices.

We plan to continue refining the model further next year, when we report on poverty in 2009, a period when the state and nation were more strongly affected by the recession. In addition to refining the model, we will expand capacity for simulating the effects of recent and proposed policy changes at the federal and state levels. For example, we plan to simulate the effect of the 2009 ARRA provisions, including higher levels of tax credits and higher SNAP benefits, on poverty within Wisconsin. Our plans for next year also include making the technical appendices and underlying programming more user-friendly. By spring of 2011, we hope to make available technical user guides and the full simulation model for those who want to simulate the effects of various current or proposed tax and benefit provisions on poverty rates, under our model, or with different adjustments. In following years, we will also try to build the Wisconsin equivalent of the new federal SPM as it unfolds.

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