THE NEW DEMOGRAPHY OF POVERTY: THE WISCONSIN POVERTY MEASURE AND EFFECTS OF FEDERAL AND STATE POLICIES IN WISCONSIN

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ABSTRACT

This paper describes efforts to develop a more comprehensive and up-to-date measure of poverty in Wisconsin as a model for other states to follow. The Wisconsin model uses American Community Survey data to measure the level, depth, and trends in poverty and the effects on poverty of such programs as the Supplemental Nutrition Assistance Program (SNAP, formerly food stamps) and refundable tax credits, as well as out-of-pocket health care costs and work-related expenses including child care. In many ways, the Wisconsin measure, which was unveiled in September 2010, is a preview of the forthcoming federal Supplemental Poverty Measure (SPM). However, the two measures differ in important respects. After a brief review of methodology underlying the Wisconsin measure, this paper focuses on a comparison of poverty across two vulnerable demographic subgroups, children and the elderly, and analyzes how specific federal and state policies affect low-income children and elderly in Wisconsin. Poverty rates in 2008 under the Wisconsin Poverty Measure are higher than official poverty rates for both children and the elderly, with child poverty rising from 13.3 percent to 13.6 percent and elderly poverty rising much more, from 7.1 percent to 10.4 percent. Our analysis suggests that child poverty would be even higher but for the Earned Income Tax Credit and SNAP benefits, and that expansions in benefits under the American Recovery and Reinvestment Act of 2009 played a role in mitigating the rise in child poverty during the recession.

INTRODUCTION

New poverty measures are needed to better understand the effectiveness of federal and state policies in reducing poverty and promoting economic well-being. The current official poverty measure only captures cash income, and so while it captures decreases in poverty due to expansions in cash benefits (e.g., Social Security or unemployment compensation), it does not capture changes in economic well-being due to expansions of tax credits and noncash benefits. The official measure therefore misses the effects of policy innovations such as the recent expansions of tax credits and nutrition assistance benefits under the American Recovery and Reinvestment Act (ARRA) of 2009. Additionally, it is based on an old standard of relative costs of living, one that has fallen from 50 percent of median income in 1963 to under 30 percent of the median today (Blank, 2008; Smeeding, 2006).

To get a broader, more precise view of poverty in the State of Wisconsin, the authors have developed the Wisconsin Poverty Measure, which reflects not only income, but the value of taxes and public benefits available to low-income Wisconsin residents as well. In this paper we briefly review the methodology underlying our measure, and then turn to our results.

The demography of who is poor in a given place is likely to change in new poverty measures such as ours, because the benefits and expenses included in a comprehensive measure of poverty (e.g., tax credits, nutrition benefits, housing benefits, home ownership, medical care costs, child care costs, and costs of transportation to work) are distributed unevenly across demographic groups. Here we focus on a comparison of poverty across two vulnerable demographic subgroups, children and the elderly, and we analyze how specific federal and state policies affect low-income children and elderly in our state.

METHODS

All poverty measures require two components: a measure of economic need and a comparable and consistent measure of resources, such as income, to meet those needs. Our Wisconsin Poverty Measure takes a broad view of resources, incorporating not only pre-tax cash income, but also the estimated value of other federal and state resources to offset need, specifically, tax credits, food assistance under the Supplemental Nutrition Assistance Program (SNAP, formerly known as food stamps and called FoodShare in Wisconsin), energy assistance, and public housing. It also considers work-related components that potentially reduce resources, including transportation costs, child care costs, out-of-pocket medical expenses, and payroll and income taxes, all of which reduce income that could be spent on food, housing, and other basic needs. These resources are measured over a family unit that is expanded beyond the family in traditional poverty measures to include unmarried partners, foster children, and unrelated minor children.

Our threshold (measure of need) is based on a threshold recommended by the National Academy of Sciences, but we make an adjustment for Wisconsin's lower cost of living relative to the nation. We also make adjustments to need for families within Wisconsin based on differences in housing tenure (rent versus own outright versus own with a mortgage), regional differences in cost of living within the state, differences in family size and composition, and differences in expected out-of-pocket medical expenses. These adjustments determine a level of need specific to each family unit, which is then compared to the family's available resources to determine poverty status. In Table 1 we show our base thresholds for a four-person family, showing variation by housing tenure, geographic region within the state of Wisconsin, and expected out-of-pocket medical expenses. Thresholds for families of other sizes are not shown, but are calculated using the same three-parameter equivalence scale that is used in most alternative poverty measures and is proposed for the Supplemental Poverty Measure (Betson, 1996; Iceland, 2005).

In many ways, the Wisconsin measure, which was unveiled in September 2010, is a preview of the forthcoming federal Supplemental Poverty Measure (SPM) (Interagency Technical Working Group, 2010). Both measures use a comprehensive measure of resources that adjusts for taxes, noncash benefits, and certain nondiscretionary expenses; both use thresholds based on a needs standard recommended by the National Academy of Sciences, with adjustments for renters, owners with mortgages, and owners without mortgages; both use an expanded definition of family; and both use the same equivalence scale for adjusting for family size. However, the two measures differ in important respects. Our threshold is based on the need standard for a two-parent, two-child family, as originally recommended by the National Academy of Sciences, rather than the new need standard for a two-child family with one, two, or more adults as proposed in the new Supplemental Poverty Measure. In addition, the new Wisconsin Poverty Measure moves beyond the proposed federal SPM in allowing not only for geographic differences in cost of living in the state relative to the nation as a whole, but also allowing for differences among regions within the state. We also adjust for out-of-pocket medical expenses by setting different poverty thresholds for families with varying levels of expected medical need, rather than imputing and subtracting actual medical expenses from each family's resources.

Table 1. Steps Toward Building Poverty Thresholds for a Family of Four in Wisconsin, 2008

	Adjustment	Threshold
(1) National NAS-Type Threshold for U.S.		$27,043
(2) Adjusted for Wisconsin Cost of Living	0.9186	$24,842
(3) Adjusted for Housing Tenure		
Renter	1.03	$25,587
Owner with mortgage	1.01	$25,090
Owner with no mortgage	0.78	$19,377
(4) Adjusted for Within-State Costs		Shown for Renters
1. Inner Milwaukee County	1.00	$25,587
2. Outer Milwaukee County and Waukesha County	1.05	$26,867
3. Dane County	1.04	$26,611
4. Other Metro areas	0.99	$25,331
5. Rural 1 + Marathon County	0.92	$23,540
6. Rural 2	0.98	$25,076
(5) Adjusted for Medical-Out-of-Pocket Expenses (selected examples)		Shown for Inner Milwaukee Renters
Non-elderly, private ins., good health	+$2,101	$27,688
Non-elderly, public ins., good health	+$63	$25,650
Elderly, public ins., fair/poor health	+$2,122	$27,709
Official Poverty Line (for comparison)		$21,834

Sources and Notes:

(1) See http://www.census.gov/hhes/www/povmeas/web_tab5_povertythres2008.xls. We used the threshold that included repayment of mortgage principal for owned housing but did not include medical expenses (see step five). These published thresholds are for a two-adult, two-child family. The SPM proposes to move to a two-child reference family (with one, two, or more adults), and we may move to such a reference family in the future.

(2) The Census Bureau calculates two adjustments for Wisconsin, one for metro and one for non-metro; we averaged the two adjustments together based on the share of the population in metro and non-metro areas in Wisconsin.

(3) Authors' calculations based on Garner and Betson, 2010.

(4) Authors' calculations using ACS data on housing costs for renter households in the 28th to 38th percentiles of income in Wisconsin.

(5) These three examples are all shown for a four-person family. The full list of 22 different adjustments for medical thresholds is shown in the Appendix K to the second annual *Wisconsin Poverty Report* and includes adjustments by age (family with no elderly vs. family with elderly); health insurance status (private, public, uninsured among non-elderly); and family size (one, two, and three or more for non-elderly, one vs. two or more for elderly). The Wisconsin base medical allowance of $2,101 for a four-person family is based on the national

median of $2,287, from U.S. Census Bureau (2009), adjusted downward for Wisconsin's standard of living. The other MOOP thresholds are calculated from risk factors in Short (2001).

Another key difference in the Wisconsin Measure is the data used to estimate poverty rates. Our measure is based on the U.S. Census Bureau's 2008 American Community Survey (ACS), supplemented with administrative data collected in the state of Wisconsin.[1] In contrast, the SPM, like the official poverty measure, is based on data from the Annual Social and Economic Supplement to the Current Population Survey (CPS). 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 multicounty areas that encompass the rest of the state. 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.

The detailed housing data and large sample size are strengths of the ACS; however, the survey does not collect as much detailed information on benefits and expenses as is found in the CPS. For instance, the ACS asks respondents whether they receive SNAP benefits, but not the amount of the benefit. With the help of detailed administrative data, we were able to impute SNAP benefit amounts. For other in-kind benefits such as energy assistance and public housing we had to estimate both who received benefits and how much, based on ACS income data and on detailed state administrative data on program participation, age, and other characteristics of beneficiaries and amounts of benefits by local area.

We also had to simulate work-related child care costs and other work expenses such as costs for transportation to work, since data on work expenses are not collected on the ACS. (The CPS also does not collect work expenses and did not have data on out-of-pocket child care expenses until the survey fielded in March 2010). For child care expenses, we subtracted flat amounts of expected child care expenses for each week if both parents worked, varying by number and age of children, following an approach used several years ago by the Census Bureau. Our estimate of other (non-child care) work expenses starts from a Census Bureau approach using median weekly work expenses based on data from the Survey on Income and Program Participation, but with a small adjustment to account for longer commuting distance (and thus higher transportation expenses) for residents in rural areas of Wisconsin.

Neither the ACS nor the CPS collect much data on taxes paid and tax credits collected. To simulate the effect of federal and state income and payroll taxes on family resources, we use a model developed by John Coder of Sentier Research LLC. The tax model incorporates Wisconsin-specific taxes, including the Wisconsin Homestead Tax Credit.[2]

[1] 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).

[2] For further detail on methods, including our imputation methods, see the *Wisconsin Poverty Report: Methodology and Results for 2008* and *Wisconsin Poverty Report: Technical Appendix* available on the IRP Web site at http://www.irp.wisc.edu.

We summarize our methodological approach in Table 2, which compares the treatment of key elements in the official, Supplemental, and Wisconsin Poverty Measures, respectively.

Table 2. Comparison of Components of Official, Supplemental, and Wisconsin Poverty Measures

Component	Official Measure	Supplemental Poverty Measure	Wisconsin Poverty Measure
Data Source	Current Population Survey	Current Population Survey	American Community Survey (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	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.

(table continues)

Table 2, continued

Component	Official Measure	Supplemental Poverty Measure	Wisconsin Poverty Measure
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)	Cash income (similar in concept to official measure, but collected with less detail about different sources of income in the ACS)
	Does not include near-cash resources	Near-cash resources to meet food, clothing, shelter, and utility needs (as data permit): Food Stamps/SNAP Housing Subsidies School Meals WIC LIHEAP	Near-cash resources to meet food, clothing, shelter, and utility needs: Food Stamps/SNAP (FoodShare) Housing Subsidies LIHEAP
	Does not include tax credits	Tax credits, including the EITC	Tax credits (including Wisconsin Homestead Credit and federal and state EITCs)

(table continues)

Table 2, continued

Component	Official Measure	Supplemental Poverty Measure	Wisconsin Poverty Measure
Expenses	Does not subtract taxes or other expenses from resources	Subtracts taxes from resources Subtracts medical out-of-pocket expenses, child support payments paid out, and work expenses (transportation and child care)	Subtracts taxes from resources Subtracts work expenses (transportation and child care)
Thresholds	Base threshold is calculated for two-parent, two-child families, based on food costs and the share of income spent on food in 1963.	Base threshold is calculated for all families with two children, and three parameters of adults, based on five-year average of expenses at the 33rd percentile for food, clothing, shelter, and utilities (FCSU), times 1.2 for "a little bit more."	Base threshold is calculated for two-parent, two-child families, based on expenses at the 33rd percentile for food, clothing, shelter, and utilities (FCSU), times 1.2 for "a little bit more."
	Thresholds are adjusted for • differences in family size and number of children and adults • age, with separate thresholds for individuals and couples ages 65 and older	Thresholds are adjusted for • differences in family size and number of children and adults using a three-parameter scale[a] • geographic adjustments by state (and metro vs. non-metro within each state) based on five years of ACS data on rental costs for two-bedroom units • variation by housing tenure (rent vs. own vs. own outright), including all mortgage expenses in shelter costs	Thresholds are adjusted for • differences in family size and number of children and adults using a three-parameter scale • geographic adjustments by state (from Census Bureau) and six regions within state (authors' calculations from ACS) • variation by housing tenure (rent vs. own vs. own outright), including all mortgage expenses in shelter costs • out-of-pocket medical expenses, with differences based on risk factors (elder presence, family size, health insurance, and health status).

Sources: Short (2011), Interagency Technical Working Group (2010), Isaacs et al. (2010), and Zedlewski et al. (2010).

[a] The three SPM parameters are: two parents, two children; one parent, two children; and multiple adults in multigenerational families, two children.

Conceptually, the new poverty measure takes account of federal and state policies designed to increase resources for low-income persons such as nutrition assistance, the Wisconsin Homestead Tax Credit, and the federal and state Earned Income Tax Credits (EITC). It also reflects state efforts to insure families and children under BadgerCare and therefore reduce out-of-pocket health care costs. And finally, it takes account of child care expenses, transportation costs, and other work expenses that reduce resources available for low-income workers to meet their family's basic needs. As we demonstrate in this paper, differences in benefits and expenses each have a large effect on poverty in Wisconsin.

POVERTY IN WISCONSIN UNDER THE NEW MEASURE

Our improved Wisconsin measure finds a somewhat higher poverty rate in Wisconsin in 2008, 11.2 percent, rather than 10.2 percent in the official measure.[3] This increase of 1.0 percentage point is the net impact of many offsetting adjustments: noncash benefits and refundable tax credits that reduce poverty by increasing family resources, and adjustments for medical and work expenses that increase poverty rates.

In detailed reports prepared for the state, we provide poverty rates for the 10 largest counties in Wisconsin, as well as for 12 multicounty areas that encompass the remaining areas of the state. Under the Wisconsin measure, the poverty rate ranges from 18.8 percent in Milwaukee County to 4.6 percent in an affluent two-county suburban area just north of Milwaukee (Ozaukee/Washington). Most counties and multicounty areas have poverty rates that are roughly 0.5 to 2.5 percentage points higher under the Wisconsin measure than the official poverty rate.[4] Note that the rich sample size of the ACS allows us to look more deeply within our state's largest counties. For instance, we can look not only at the poverty rate for Milwaukee County overall (18.8 percent under our new measure), but we can also observe the great variation across six different parts of Milwaukee County (with a range of poverty rates from 6.3 percent to 38.5 percent).

In this paper we focus on statewide comparisons of poverty for different age groups, focusing on children (all individuals under age 18) and the elderly (all individuals aged 65 and older). As shown in Figure 1, the increase in measured poverty between the official and Wisconsin measures is particularly steep for the elderly, whose poverty rate increases from 7.1 percent to 10.4 percent, owing partly to allowances for higher medical care costs.[5] Child poverty also increases, though only by 0.3 percentage points, less than the margin of error. Under the official poverty measure, child poverty is 13.3 percent; under the Wisconsin Poverty Measure, it rises to 13.6 percent, bounded by a 90 percent

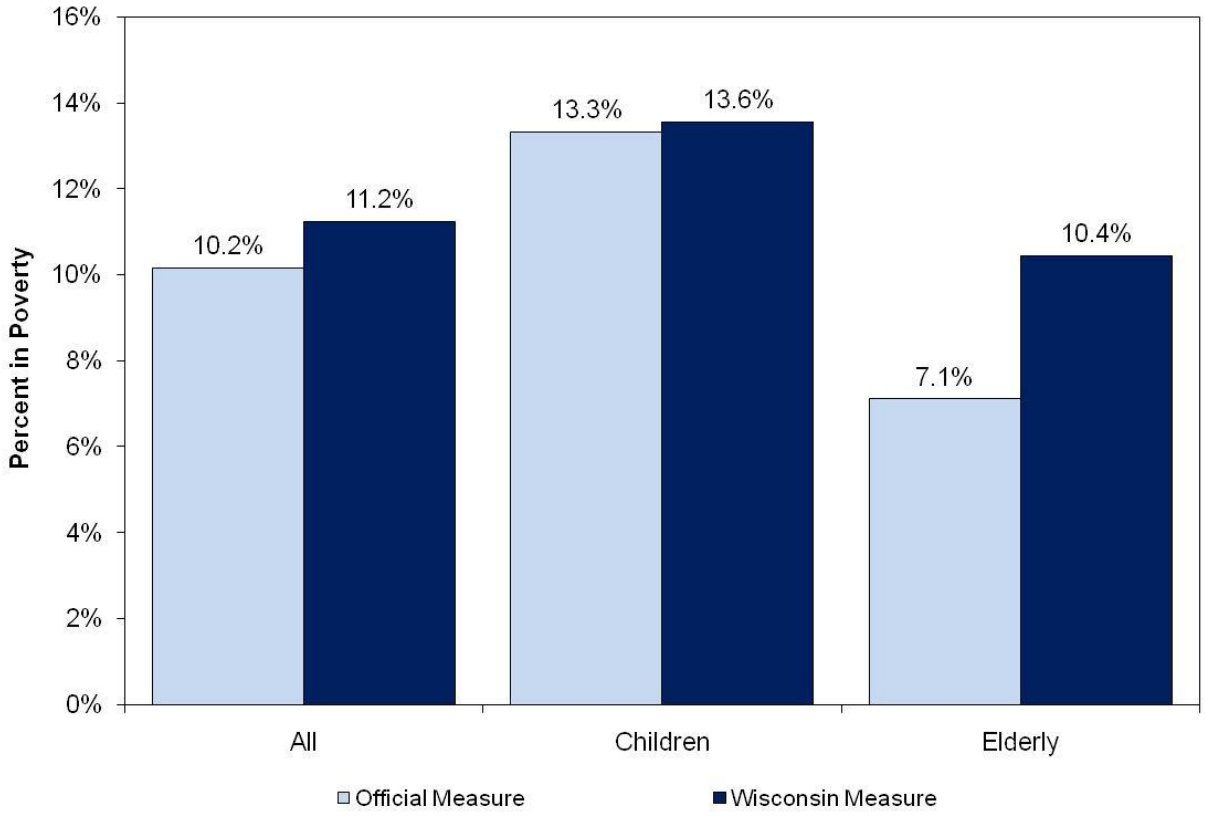
[3] We found a margin of error of 0.5 percent for the state poverty rate under the Wisconsin Poverty Measure, meaning that we can state with 90 percent confidence that the true poverty rate lies between 10.7 and 11.8 percent.

[4] For some counties and multicounty areas, there is no statistically significant difference in poverty between the official measure and the Wisconsin Poverty Measure. County- and multi-county-specific rates can be found in the *Wisconsin Poverty Report: Methodology and Results* and confidence intervals can be found in the *Wisconsin Poverty Report: Technical Appendix.*

[5] The 10.4 percent elderly poverty rate under the WPM is bounded by a 90 percent confidence interval that stretches from 9.6 to 11.3 percent.

confidence interval between 12.5 percent and 14.7 percent. Child poverty is higher than elderly poverty under the Wisconsin measure (13.6 percent compared to 10.4 percent in 2008).

Figure 1. Wisconsin Poverty Rates in 2008 by Age under the Official Poverty Measure and Wisconsin Poverty Measure



Source: IRP tabulations of 2008 American Community Survey data.

Children living in married-parent families have relatively low levels of poverty under the Wisconsin Poverty Measure – 5.5 percent in 2008, similar to the official poverty rate of 5.0 percent, as shown in Table 3. Children living with one parent have much higher poverty rates under both measures. Where the two measures differ is in the treatment of children living with a single parent and his or her unmarried partner. In contrast to the official measure, the Wisconsin Poverty Measure shows a considerably lower rate for children who are living with a single parent and his or her unmarried partner (20.6 percent) as compared to children living with a single parent (36.4 percent), because the unmarried partner (and his or her resources) is assumed to be in the family unit. Children in other living arrangements (such as living with relative caretakers or foster parents, or living alone or with a spouse) have a poverty rate of 21.9 percent under the Wisconsin Poverty Measure.

Almost all elderly individuals, single or married, male or female, have higher poverty rates under the Wisconsin Poverty Measure than under official rates. Adjustments for the high cost of out-of-pocket medical expenses explain some of the growth; in addition, the

official poverty line established in the 1960s assumed lower expenses for elderly as compared to non-elderly individuals in one-person and two-person households; the new thresholds do not follow this assumption, thereby explaining some of the increase in elderly poverty. The small fraction (1 percent) of elderly living with an unmarried partner is the only elderly group with a large drop in poverty under the Wisconsin Poverty Measure, though elderly living with individuals other than a spouse or partner do experience a modest decline in poverty, as shown in Table 3.

Table 3. Poverty Rates of Children and the Elderly by Family Type, and the Elderly by Sex, in 2008, Under Official and Wisconsin Poverty Measures

	Percentage in Family Type	Official Poverty Measure	Wisconsin Poverty Measure	Difference (percentage points)
Children by Family Type				
Children living with married parents	69	5.0	5.5	0.5
Children living with a single parent	21	32.2	36.4	4.2
Children living with a parent and his/her unmarried partner	7	35.0	20.6	-14.4
Children not living with a parent *	3	32.0	21.9	-10.1
All Children	100	13.3	13.6	0.2
Elderly by Family Type				
Married elderly	51	2.9	5.7	2.7
Single elderly	32	14.6	19.7	5.2
Elderly living with unmarried partners	1	29.0	14.0	-15.0
Elderly living with others	15	3.7	6.9	3.2
All Elderly	100	7.1	10.4	3.3
Elderly by Sex				
Male elderly	44	5.3	7.9	2.6
Female elderly	57	8.5	12.4	3.9
All Elderly	100	7.1	10.4	3.3

Source: IRP tabulations of 2008 American Community Survey data.

Notes: Numbers may not sum due to rounding.

* Foster children and unrelated minor children are included in the Wisconsin Poverty Measure (and in the overall percentage of children not living with a parent), but they are excluded from both the numerator and denominator in the calculation of the official poverty rate.

USING THE WISCONSIN POVERTY MEASURE TO ASSESS POLICIES

As discussed above in the Methods section and summarized in Table 2, the Wisconsin measure differs from the official measure and the Supplemental Poverty Measure in a number of different ways. In Table 4, we show the marginal impact of eight alternate

specifications of the Wisconsin Poverty Measure, including five specifications that exclude or include specific resources or expenses and three specifications that vary the thresholds (adjustments for medical expenses, within-state COLAs, and housing tenure). We find that our adjustments are often offsetting, with some adjustments serving to reduce poverty (such as benefits from tax refunds and the Supplemental Nutrition Assistance Program) and other adjustments serving to push poverty up (such as work-related costs and medical out-of-pocket costs).

Table 4. Alternative Specifications of Wisconsin Poverty Measure (WPM)

	Wisconsin Poverty Measure without Resource or Threshold Adjustment	Marginal Effect on Poverty Rate	Wisconsin Poverty Measure
	All		
Taxes & credits	12.0	**- 0.8**	11.2
SNAP benefits	12.2	**- 0.9**	11.2
Public housing	11.4	**- 0.2**	11.2
Energy assistance	11.4	**- 0.2**	11.2
Child care & other work expenses	9.1	**+ 2.1**	11.2
Medical expenses	9.6	**+ 1.7**	11.2
Within-state COLA	11.7	**- 0.5**	11.2
Housing tenure	11.2	*	11.2
	Children		
Taxes & credits	15.9	**-2.3**	13.6
SNAP benefits	15.5	**-2.0**	13.6
Public housing	13.8	**-0.2**	13.6
Energy assistance	13.7	**-0.1**	13.6
Child care & other work expenses	9.6	**3.9**	13.6
Medical expenses	11.7	**1.8**	13.6
Within-state COLA	14.0	**-0.4**	13.6
Housing tenure	12.8	**0.8**	13.6
	Elderly		
Taxes & credits	11.0	**-0.6**	10.4
SNAP benefits	10.7	**-0.3**	10.4
Public housing	10.8	**-0.4**	10.4
Energy assistance	10.8	**-0.4**	10.4
Child care & other work expenses	10.1	**0.4**	10.4
Medical expenses	6.6	**3.8**	10.4
Within-state COLA	11.0	**-0.6**	10.4
Housing tenure	12.5	**-2.1**	10.4

Source: IRP tabulations of 2008 American Community Survey data.
Note: Numbers may not sum due to rounding. * Less than 0.1.

We also find that the various adjustments have disparate impacts on different groups. For example, children are more affected by the treatment of taxes and work expenses, reflecting the fact they generally live with working parents and the Earned Income Tax Credit is targeted to families with children. In contrast, the elderly are more affected by treatment of medical expenses and home-ownership tenure, reflecting the financial strain

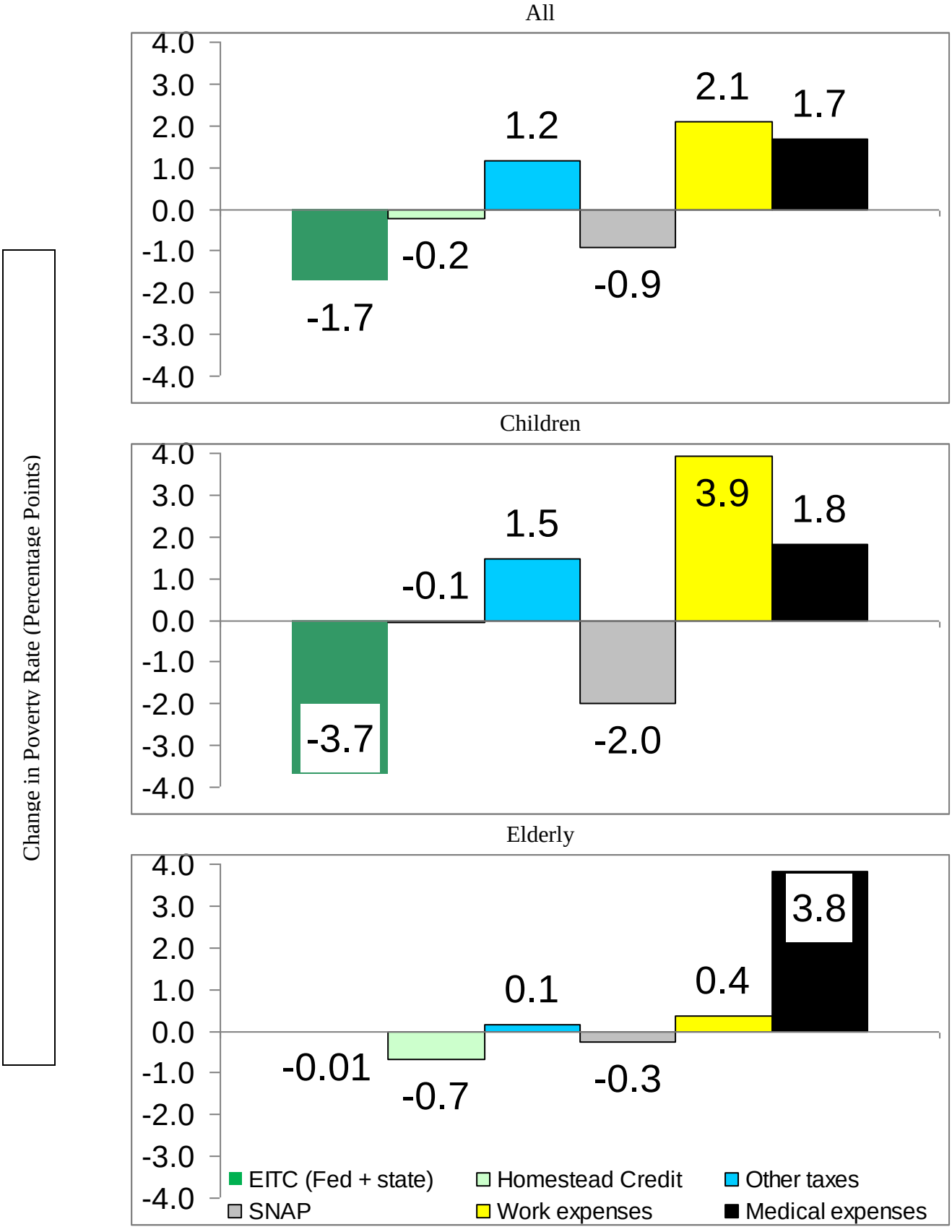
many elderly face from high medical expenses, which is offset for some elderly by the benefit of owning a house outright.

We expect most people are more interested in policy questions (e.g., What is the net effect of various tax policies on low-income families?) than in measurement questions (e.g., How does the measure of poverty change as we expand the definition of resources to include taxes?). In Figure 2, we highlight some of the policy-relevant results from Table 4, looking at the effect on poverty of taxes (broken out in some detail), SNAP benefits, work expenses, and out-of-pocket medical expenses. We examine not just taxes and noncash benefits, but also work expenses and medical expenses, to highlight the fact that poverty is driven not only by safety net assistance programs that provide additional resources, but also by the presence (or lack) of work-support policies to assist families with free or subsidized child care or to provide them with free or subsidized health insurance.

The Earned Income Tax Credit (EITC) plays a large role in reducing poverty, with the combined federal and state Earned Income Tax Credits reducing poverty rates in 2008 by 1.7 percentage points overall and 3.7 percentage points among families with children. Most (88 percent) of this reduction is due to the federal EITC, because the state EITC, while one of the most generous in the nation, is still much smaller than the federal EITC. The elderly do not benefit much from the EITC, but do experience a 0.7 percentage point poverty reduction from the Wisconsin Homestead Credit, which is designed to offset the cost of rent and property taxes for low-income renters and homeowners. The residual effect of other taxes, including income taxes, payroll taxes, and credits other than the EITC and Homestead Credit is to increase poverty by 1.2 percentage points overall, offsetting some, but not all, of the poverty-reduction engendered by the federal and state EITCs. The net impact of all tax provisions is to reduce poverty by 0.9 percentage points overall, by 2.3 percentage points for children, and by 0.6 percentage points for the elderly.

Supplemental Nutrition Assistance Program (SNAP) benefits also play a substantial role in reducing poverty, 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. SNAP benefits have a particularly large impact on child poverty – reducing it by approximately 2 percent points, or 15 percent, on the margin. SNAP has a smaller impact on elderly poverty, reducing it by 0.3 percentage points below what it would be without SNAP. These differential impacts are not unexpected, given that families with children are more likely than elderly households to participate in food assistance programs.

Figure 2. Effects of Taxes, Public Benefits, and Out-of Pocket Costs on Poverty



Source: IRP tabulations of 2008 American Community Survey data.

Two other noncash benefits – housing and energy assistance – have less effect on poverty overall, and are not included in Figure 2. We can see from Table 4, however, that energy assistance and housing assistance play a nontrivial role in reducing poverty among the elderly, with each program reducing elderly poverty by 0.4 percentage points. 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 our results to alternate methods for imputing energy assistance.

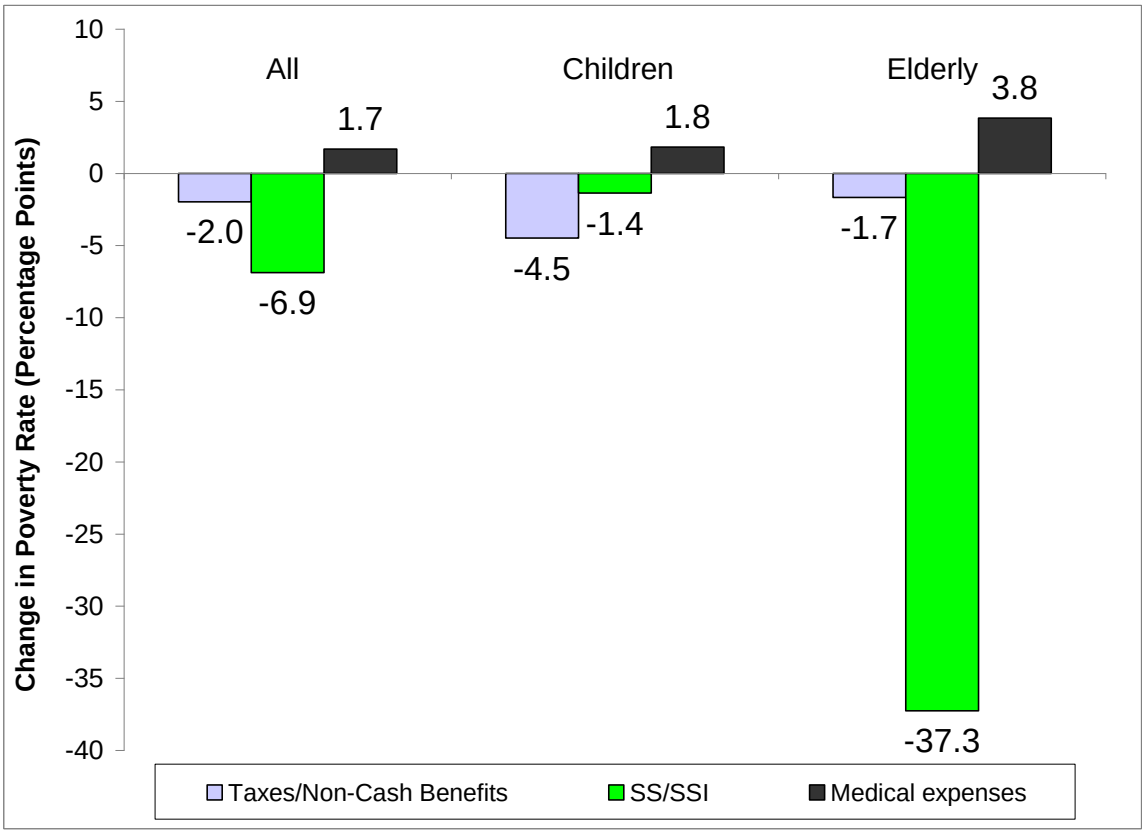
Poverty among working families is increased due to the burden of work expenses, including work-related child care expenses. Child poverty in Wisconsin would be lower by 3.9 percentage points but for the family resources that are tied up in expenses related to child care, transportation, and more minimally, uniforms, union dues, and other miscellaneous work-related expenses. Our estimate of work-related child care expenses are based on typical weekly expenses for families with children of different ages; next year we plan to examine an alternate method that would capture more of the variation in actual amounts families spend on child care and other work-related expenses. We also would like to refine our model to better capture the reduction in out-of-pocket child care expenses for those families receiving public subsidies and paying modest co-payments. While fewer than 60,000 children received subsidized care through the Shares program in an average month in 2009, representing about 6 percent of Wisconsin's child population under age 13, many of these children may be in low-income families who are hovering near the poverty threshold.

High medical expenses drive up poverty under the Wisconsin Poverty Measure, particularly for the elderly. Elderly poverty in Wisconsin would fall by 3.8 percentage points, (from 10.4 percent to 6.6 percent), child poverty would fall by 1.8 percentage points, and overall poverty would fall by 1.7 percentage points, if people did not have to spend so much of their income on out-of-pocket medical expenses, such as insurance premiums, co-payments on medical services, prescription and over-the-counter drugs, and uninsured medical expenses. 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 proposed in the federal Supplemental Poverty Measure. We made a modest adjustment to take into account that low-income citizens in Wisconsin can participate in the state's BadgerCare program, thereby lowering some of their medical costs. In the long run, we would like to have better estimates of state-level medical expenses to have a better sense of how state health care policies such as BadgerCare can affect the economic well-being of low-income populations.

In Figure 2, we have highlighted the ways in which the Wisconsin Poverty Measure can be used to show the effects of taxes, noncash benefits, and out-of-pocket expenses on poverty. We do not want to omit, however, the effects of *cash* benefits on poverty, and in Figure 3, we contrast the antipoverty effectiveness of two large cash benefit programs – Social Security and Supplemental Security Income (SSI) –with the combined effects of all tax provisions and noncash benefits included in our model, as well as with the effects

of out-of-pocket medical expenses.[6] Social Security benefits for the general retirement and disability populations, combined with SSI benefits for low-income elderly and disabled persons, reduce overall poverty by 6.7 percentage points, far more than the 2.0 percentage point reduction from the combined effect of taxes and credits, SNAP benefits, energy assistance, and housing benefits.

Figure 3. Effects of Selected Public Benefits and Out-of-Pocket Costs on Poverty



Source: IRP tabulations of 2008 American Community Survey data.

The Social Security and SSI programs have had a particularly dramatic effect on elderly poverty, which would be 37 percentage points higher but for these important retirement and disability programs. Children also benefit from the Social Security and SSI programs, which reduce child poverty in Wisconsin by 1.4 percentage points. Our estimates of the effects of Social Security and SSI are probably under-estimates, because we have not corrected for under-reporting of Social Security and SSI income, but even so, they show how much these cash benefit programs have done to reduce poverty.[7]

[6] Benefits under the Railroad Retirement program are included along with Social Security and SSI benefits.

[7] All of our estimates show static changes, not taking into account the likelihood that work and savings behaviors would be different if there were no Social Security or SSI retirement and disability programs.

While it is interesting to look at the antipoverty effectiveness of an entire program such as SNAP or Social Security, there may be more policy relevance in using the Wisconsin Poverty Measure to examine how poverty is affected by specific legislative actions. In 2010, we estimated the effects of the 2009 American Recovery and Reinvestment Act (ARRA) on poverty rates using our new model. At the time, we had data for 2008 only, and so we estimated poverty in 2008 under current law and under an alternate scenario assuming the ARRA refundable tax credit, Social Security increase, and SNAP provisions had been in effect that year.

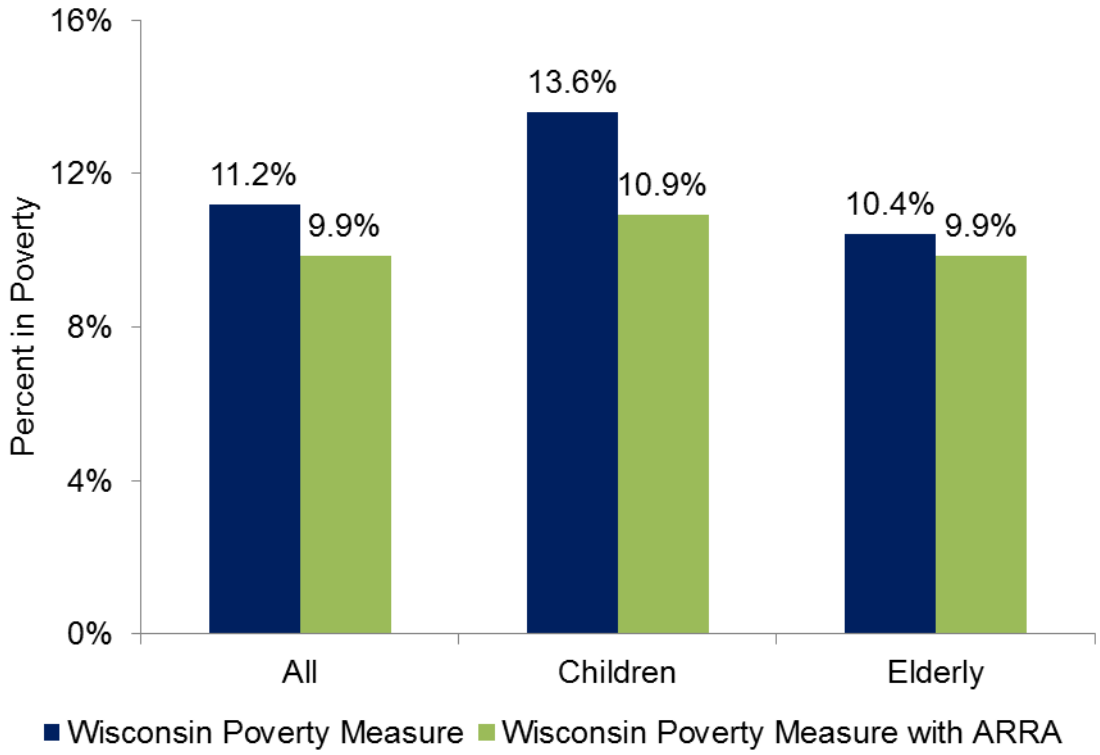
Specifically, we updated the Wisconsin tax estimates to follow 2009 rules, thereby capturing the ARRA expansions in EITC amounts for families with three or more children and families with married couples, and the expanded eligibility of families with earnings below $12,550 for the refundable portion of the Child Tax Credit. We also simulated a 14 percent increase in SNAP benefits and the $250 Economic Recovery Payment for Social Security recipients age 18 years or older. With the exception of the increase in Social Security, we focused mainly on noncash benefits and tax credits in this simulation and did not estimate the effects of the expansions in unemployment benefits.[8]

Had the ARRA tax credit expansions, additional payment to Social Security recipients, and SNAP benefit increases been in effect in 2008, their combined impact would have been to reduce poverty in Wisconsin by 1.4 percentage points overall, a reduction on top of the 2.0 percentage point reduction in poverty due to public benefits before the ARRA (see Figure 4). The ARRA provisions would have had an even larger effect among families with children, reducing the poverty rate by 2.6 percentage points for children, representing a 20 percent reduction in child poverty. It had less of an impact on elderly poverty, reducing the rate by only 0.5 percentage points.

The American Recovery and Reinvestment Act was enacted in February 2009 to simultaneously stimulate the economy and mitigate the effects of high unemployment on individuals and families. Our model suggests that ARRA was indeed effective in one of its goals, that of reducing poverty and mitigating the effects of the Great Recession on children and families. By focusing expansions on the Earned Income Tax Credits and SNAP benefits, the legislation focused increased benefits on families with working children, one of the groups most negatively impacted during periods of high unemployment.

8 Our simulation of the ARRA on 2008 ACS data is not the same as the actual 2009 effects. Our SNAP estimates, for example, are conservative, because we simulated a 13.6 percent increase in benefits for families receiving SNAP benefits during the 2008 ACS, before enrollment expanded in response to the recession.

Figure 4. Poverty Rates Before and After Selected ARRA Policies



Source: IRP tabulations of 2008 American Community Survey data.

CONCLUSION

In this paper, we have briefly laid out our methods for developing the Wisconsin Poverty Measure, and then shown how this measure can be used not only to get a more comprehensive picture of poverty, but also to assess the effects of different policies designed to help low-income individuals and families. We have focused here on two demographic groups – children and the elderly – to highlight how the measure can be used to analyze the differential impact of policies on subgroups of the population and how they affect the demography of poverty. We chose to focus on child and elderly poverty because these two populations have historically been particularly vulnerable to economic hardship and are differentially affected by many of the Wisconsin Poverty Measure adjustments.

Our estimates focus on poverty in 2008, prior to the onset of the economic recession. Under our measure, child poverty in Wisconsin was 13.6 percent in 2008, considerably lower than poverty in much of the rest of the nation, but still representing approximately 177,000 children in Wisconsin. Our analysis suggest that child poverty would be even higher but for the EITC and SNAP benefits, and that it could be lowered further, if working families had more assistance with child care and other work-related expenses. Elderly poverty in 2008 was 10.4 percent under our measure, representing approximately 73,000 people in Wisconsin. Retirement benefits under Social Security and SSI remove many elderly persons from poverty; the Wisconsin Homestead Credit plays a much

smaller, but still noticeable role in reducing elderly poverty. Elderly poverty could be lowered even more if the elderly could be further protected from the effects of high out-of-pocket expenses.

We are updating our model to estimate poverty in 2009, with results expected in a few months. Unemployment rose dramatically in Wisconsin between 2008 and 2009, from 4.8 percent to 8.5 percent. We expect poverty, particularly child poverty, to be higher in a time of high unemployment, though our analysis suggests that the American Recovery and Reinvestment Act will reduce the expected increase in child poverty by as much as 2.0 percentage points. Some national analyses suggest that the expansions in tax credits and nutrition assistance benefits may have been large enough to completely offset the rise in poverty due to the recession; we are eager to find out if this will be the case in Wisconsin as well (Sherman, 2010).

We hope that our model will reflect the Wisconsin Idea, offering a service to the State of Wisconsin by providing a more complete picture of who is living in poverty, and a tool for estimating how antipoverty policies are affecting those they target. We also hope that the Wisconsin model, both now and as it is refined further, will serve as a national model for other states and localities seeking to develop their own measures of need.

REFERENCES

Betson, David M. 1996. "Is Everything Relative? The Role of Equivalence Scales in Poverty Measurement." University of Notre Dame working paper, Notre Dame, Indiana. Available at http://aspe.hhs.gov/poverty/papers/escale.pdf.

Blank, Rebecca M. 2008. "How to Improve Poverty Measurement in the United States." *Journal of Policy Analysis and Management* 27(2): 233–254.

Garner, Thesia I., and David M. Betson. 2010. "Housing and Poverty Thresholds: Different Potions for Different Notions." Paper presented at the Midwest Economics Association 2010 Annual Meeting, Chicago, IL, March 19–21.

Iceland, John. 2005. "The CNSTAT Workshop on Experimental Poverty Measures, June 2004." *Focus* 23(3): 26–30.

Interagency Technical Working Group (ITWG) on Developing a Supplemental Poverty Measure. 2010. "Observations from the ITWG on Developing a Supplemental Poverty Measure." Washington, D.C.: U.S. Census Bureau. Available at: http://www.census.gov/hhes/www/poverty/SPM_TWGObservations.pdf.

Isaacs, Julia B., Joanna Marks, Timothy M. Smeeding, and Katherine Thornton. 2010. *Wisconsin Poverty Report: Methodology and Results for 2008.* Madison, WI: Institute for Research on Poverty. Available at http://www.irp.wisc.edu/research/wipoverty.htm#wipovreports.

Isaacs, Julia, Joanna Marks, Timothy Smeeding, and Katherine Thornton. 2010. *Wisconsin Poverty Report: Technical Appendix.* Madison, WI: Institute for Research on Poverty. Available at http://www.irp.wisc.edu/research/wipoverty.htm#wipovreports.

Ruggles, Steven, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2010. Available at http://usa.ipums.org/usa.

Sherman, Arloc. 2010. "Despite Deep Recession and High Unemployment, Government Efforts — Including the Recovery Act — Prevented Poverty from Rising in 2009, New Census Data Show." Washington, D.C.: The Center on Budget and Policy Priorities. Available at http://www.cbpp.org/files/1-5-11pov.pdf.

Short, Kathleen. 2011. "Who is Poor? A New Look with the Supplemental Poverty Measure." U.S. Census Bureau, SEHSD working paper # 2010-15, Washington, D.C. Available at http://www.census.gov/hhes/povmeas/methodology/supplemental/research/SGE_Short.pdf.

Short, Kathleen. 2001. *Experimental Poverty Measures: 1999.* U.S. Census Bureau, Current Population Reports, P60-216. Washington, D.C.: U.S. Government Printing Office. Available at http://www.census.gov/prod/2001pubs/p60-216.pdf.

Smeeding, Timothy M. 2006. "Poor People in Rich Nations: The United States in Comparative Perspective." *Journal of Economic Perspectives* 20(1): 69–90.

U.S. Census Bureau. 2009. *Poverty Thresholds for Two-Adult-Two-Child Family Following NAS Recommendations: 1999–2008*. Washington, D.C.: U.S. Government Printing Office. Available at http://www.census.gov/hhes/www/povmeas/web_tab5_povertythres2008.xls.

Zedlewski, Sheila, Linda Giannarelli, Laura Wheaton, and Joyce Morton. 2010. *Measuring Poverty at the State Level*. Washington, D.C.: The Urban Institute. Available at http://www.urban.org/UploadedPDF/412063_measuring_poverty.pdf.