



Policy Brief

#39, January 2014

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Introduction

While the Great Recession officially ended in June 2009, the recovery that followed has been slow and high unemployment rates persist. The recession contributed to increased food insecurity according to the U.S. Department of Agriculture: from 2008 to 2011, over 14% of households were food insecure at some time during the year, whereas from 1999 to 2007, the figure had been considerably lower at 10-11%.¹

The Detroit Metropolitan Area was much harder hit by the Great Recession than many other areas. As a result, food insecurity has remained quite high in the region. Gunderson et al. (2013) report 18.2% of Michigan residents were food insecure in 2009. In the three counties that comprise the Detroit area, food insecurity rates in 2009 were 23.8% for Wayne County, 15.3% for Oakland County and 17.7% for Macomb County.²

Food Insecurity in the Detroit Metropolitan Area Following the Great Recession

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In this brief, we use panel data from the Michigan Recession and Recovery Study (MRRS) to evaluate recent changes in food insecurity, identify key risk factors, and examine use of public and private programs intended to reduce food insecurity. We focus on three questions:

- What was the prevalence of food insecurity, particularly among low-income households, in the Detroit area in the aftermath of the Great Recession in 2009 and more recently, in 2011?
- Among low-income households, what characteristics were associated with the greatest risk of food insecurity at one or both time periods?
- Among low-income households, what share of food insecure households received public or nonprofit food assistance in the previous year?

Data and Methods

We analyze data from the first two waves of the Michigan Recession and Recovery Survey (MRRS), a stratified random sample of households in the Detroit Metropolitan Area (Wayne, Oakland and Macomb counties). The MRRS gathered detailed information about employment history, income sources, education and training, safety net program participation, private social support, material hardships, health and mental health, marital and relationship status, and basic household demographics.

At Wave 1, trained interviewers conducted hour-long in-person interviews between October 2009 and March 2010 with 914 adults between the ages of 19 and 64 (response rate of 82.8%). The second wave (also hour-long in-person interviews) was completed between April and August 2011 with 847 of the Wave 1 respondents (response rate of 93.9%). When household and individual survey weights are applied,

1. Coleman-Jensen, Alisha, Mark Nord, Margaret Andrews, and Steven Carlson. *Household Food Security in the United States in 2011*. ERR-141, U.S. Department of Agriculture, Economic Research Service, September 2012.

2. Gunderson, Craig, Elaine Waxman, Emily Engelhard, Amy Satoh and Namrita Chawla. *Map the Meal Gap 2013*. Technical Brief. <http://feedingamerica.org/hunger-in-america/hunger-studies/map-the-meal-gap.aspx>

the MRRS sample is representative of households with adults ages 19 to 64 years living in the three-county Detroit Metropolitan Area.³

At each wave, respondents were asked five questions about food purchases and consumption in the 12 months prior to the survey. The responses were used to assess household food insecurity.⁴ Specifically, respondents were asked if each statement was often, sometimes, or never true for them.

1. The food they bought just didn't last, and they didn't have money to get more.
2. They couldn't afford to buy balanced meals.
3. They or other adults in household cut the size of their meals or skipped meals because there wasn't enough money for food.
4. They ate less than they felt they should because there wasn't enough money to buy food.
5. They were hungry but didn't eat because they couldn't afford enough food.

We summed the number of responses indicating "often" or "sometimes" to these five questions to create a 0 to 5 scale score reflecting household food insecurity. Households with scores of 0 or 1 are defined as having high or marginal food security, households with scores of 2 to 4 indicate low food security, and scores of 5 are defined as having very low food security. We define food insecure households as those with either low or very low food security (summed scores ranging

	ALL HHS	< 200% FPL*	> 200% FPL**
Food Insecure Neither Wave	72	37	81.9
Food Insecure Wave 1 only	8.7	19.8a	5.6
Food Insecure Wave 2 only	5	11.5a	3.1
Food Insecure at Both Waves	14.3	31.7	9.3
N=847			
<p>Note:</p> <p>FPL Federal poverty line. Column percentages reported. Percentages weighted with household weights.</p> <p>* Subpopulation is those households at or below 200% Federal Poverty Line (FPL) in both waves.</p> <p>** Subpopulation is those not at or below 200% FPL in both waves.</p> <p>a Indicate within-column comparisons where difference in prevalence of food insecurity between two matched cells is statistically significant at or below the $p < .05$ level.</p> <p>Source: Michigan Recession and Recovery Study (MRRS)</p>			

from 2 to 5). Households with summed scores of 0 or 1 are defined as food secure. We classify respondents as experiencing persistent food insecurity if they report low or very low food security in both waves of the MRRS.

In addition to analyzing variation in food insecurity across an array of respondents' demographic characteristics, we examine the likelihood of reporting food insecurity by financial resources, measured as the ratio of the prior calendar year's annual household income to the federal poverty line. These calculations are based on household size and number of children under age 18 in the household.⁵

In this brief, we first report the extent of food insecurity and food assistance across

all households and then focus on low-income households for the remainder. We highlight food insecurity among the most economically vulnerable, households with incomes at or below 200% of the federal poverty line (FPL). These households have higher food insecurity rates nationally⁶ and are more likely to be eligible for food assistance from public and nonprofit programs than higher income households.

The Prevalence of Food Insecurity

Although most research focuses on the prevalence of food insecurity among low-income populations, changes in the labor market during the Great Recession have affected many non-poor and near-poor families. Table 1 presents information

3. When survey weights are applied, the MRRS sums to the American Community Survey (ACS) estimated total population count for Macomb, Oakland, and Wayne counties of metropolitan Detroit, see Adams, Terry K., Jim Lepkowski, Mahmoud Elkasabi, and Danielle Bartle. (2011). "Michigan Recession and Recovery Study (MRRS): Sampling and Weights Documentation." University of Michigan, Institute for Social Research.

4. These five items are drawn from a USDA six-item food security scale that is collected each December in the Current Population Survey.

5. Income is determined from the question, "Now thinking about you and your household, what do you estimate was the total income for you and other people living here from all sources, including earnings from work, any business, plus food stamp payments, child support, any government benefits, retirement income and any interest or investment income, before taxes?" Determinations of household low-income status in Wave 1 are based on income for calendar year 2008; for Wave 2, on income for calendar year 2010. We group households according to whether they fall at or below 200% of the federal poverty threshold, between 200% and 400% of the federal poverty threshold, or greater than 400% of the federal poverty threshold. For reference, in Wave 1, a single parent household with two children is categorized as below 200% of the federal poverty line if annual income for 2008 was at or below \$35,200 (poverty threshold for family of three with two children is \$17,600).

6. Coleman-Jensen et al. (2012) report that 40.3% of households with incomes at or below 185% of the federal poverty line reported food insecurity at some point during calendar year 2011.

Table 2: Prevalence and Persistence of Food Insecurity Among Low-Income Households in Metropolitan Detroit

HOUSEHOLD CHARACTERISTICS	HOUSEHOLDS AT OR BELOW 200% OF THE FEDERAL POVERTY LINE IN BOTH WAVES, N=307			
	FOOD INSECURE W1 ONLY	FOOD INSECURE W2 ONLY	FOOD INSECURE W1 & W2	FOOD SECURE W1 & W2
All households 200% or below	19.8	11.5	31.7	37
Black	23.2	16.7	29.8a	30.4
Nonblack	15	4	34.4a	46.5
Below FPL	23.7a	12	37.5a	26.7a
Between 100-200% FPL	12.6a	10.4	21.0a	55.9a
Less than HS	15.2	17.7ab	37.5a	29.5a
HS Degree but no BA	22.4	9.1a	32.0b	36.5b
BA or more	18.3	6.1b	10.6ab	65.0ab
HH with children	24.1	9.8	28.7	37.4
HH without children	15.3	13.3	34.8	36.6
No unemployment	21.1	6.3	29.3	43.3
1-6 months unemployment	17	16.4	36.2	30.4
7-12 months unemployment	18.7	13.2	27.5	40.6a
NILF all 12 months	23.8	10.2	44.3	21.8a
Health limitation	23.2	17.1	36.7	22.9a
No health limitation	17.9	8.2	28.8	45.2a
Financial hardship	16.4	15.1a	41.7a	26.8a
No financial hardship	22.8	8.3a	22.9a	46.1a

Note:

FPL Federal poverty line. Row percentages reported. Percentages weighted with household weights. Food insecure is defined as low or very low food security.

a, b Indicate within-column comparisons where differences in prevalence of food insecurity between two matched cells are statistically significant at or below the $p < .05$ level.

Source: Data from the Michigan Recession and Recovery Study (MRRS).

about food insecurity for all respondents interviewed in both waves, classified by income categories. Among all households, 28% were food insecure at one or both waves; 8.7% were food insecure in Wave 1 only, 5.0% were insecure at Wave 2 only, while 14.3% were persistently food insecure. Overall 23% of respondents were food insecure at Wave 1 (8.7% plus 14.3%) and 19.3% (5.0% plus 14.3%), at Wave 2.

Nearly 32 percent of households with income at or below 200% of the poverty line were food insecure at both waves (middle

column of Table 1) and 63 percent were insecure at least once. Additionally, 19.8% of low-income households were food insecure in Wave 1 only and 11.5% were food insecure in Wave 2 only. Over half of low-income households were food insecure at Wave 1 (51.5%, 31.7% plus 19.8%) compared to 43.2% at Wave 2 (31.7% plus 11.5%). This represents a statistically significant decline in the proportion of low-income households who reported being food insecure.

While conditions were clearly worse among those with very low incomes, in the wake

of the Great Recession food insecurity was also relatively common among households with incomes above 200% of the federal poverty line; 18.1% reported being food insecure at some point in the survey and 9.3% were food insecure at both waves.

Food Insecurity Among Low-Income Households

We now focus on the economically vulnerable respondents in the MRRS. Table 2 examines the prevalence and persistence of food insecurity among different types of households in metropolitan Detroit with incomes at or below 200% of the poverty line.

Few differences in the prevalence of food insecurity were statistically significant between low-income black and nonblack households. More than two-thirds of blacks were food insecure in either or both waves (69.6%), and 30.4% were food secure in both waves. By comparison, slightly more than half of low-income nonblacks (53.5%) were food insecure in either or both waves leaving almost half food secure in both waves (46.5%). Low-income blacks may be more likely to be food insecure compared to low-income whites because a larger proportion of low-income black households had incomes at or below the federal poverty line, where risk for becoming food insecure is greatest.

Table 2 indicates that poor households (those with incomes below the federal poverty line) had significantly higher levels of food insecurity in Wave 1 than near-poor households (incomes between 100 and 200% of federal poverty). Poor households also were more likely to be food insecure in both waves than near-poor households: 37.5% for the former and 21% of the latter were persistently food insecure.

Other important risk factors for food insecurity include having less than a high

school degree or a high school degree but no bachelor's degree (BA). Sixty-five percent of those with a BA or more were food secure in both waves, compared to only 29.5% of those with less than a high school degree and 36.5% of those with a high school degree but no BA.

We define health limitations as any health problem or disability which prevents respondents from working or which limits the kind or amount of work they can do. Whereas 45.2% of low-income respondents without health limitations were food secure in both waves, only 22.9% of those with health limitations were food secure in both waves. Low-income households experiencing financial hardships (i.e., reporting at least one of the following: behind on rent or mortgage payments, unpaid utility bills or credit card debt, took out payday loans, or filed for bankruptcy) were more likely to be food insecure (41.7%) than those not reporting such hardships (22.9%).

Use of Food Assistance Programs

Food assistance programs are designed to help low-income households and food insecure households to consume adequate amounts of food. In addition to government food assistance programs such as the Supplemental Nutrition Assistance Program (SNAP — formerly Food Stamps), many local nonprofit agencies and religious congregations offer emergency food assistance. While households must have a gross income at or below 133 percent of the federal poverty line to qualify for SNAP, charitable organizations may choose not to apply income criteria when they provide emergency food assistance. We might therefore expect households with incomes exceeding the SNAP eligibility level to be

Table 3: Food Insecurity and Food Assistance Receipt Among Low-Income Households in Metropolitan Detroit

	SNAP RECEIPT	CHARITY RECEIPT	NEITHER TYPE OF ASSISTANCE
Food Insecure	60.4*	34.9*	31.3*
Food Secure	45.6*	13.7*	50.7*

Note:
 * Differences in rates of food assistance receipt are statistically significant at the $p < .01$ level for within column comparisons. Pooled wave 1 and wave 2 data. Percentages weighted with household weights. Low-income households are those at or below 200% FPL in both waves. Some respondents may use both SNAP and charity.
 Source: Michigan Recession and Recovery Study (MRRS)

more likely to receive help from private organizations (and not public assistance), when faced with food insecurity.

To examine the extent to which food insecure households receive public and/or private food assistance, we asked MRRS respondents about SNAP receipt and receipt of food or shelter assistance from a private charity in the 12 months prior to the survey. Table 3 presents the pooled observations across the two survey waves to examine food assistance program participation in either wave for low-income households, comparing across household food security status groups.

Among low-income households who report being food insecure, 60.4% received SNAP and over 34.9% received private charitable food assistance. Many food-secure low-income households also used these programs: 45.6% received SNAP and 13.7% received charity.

About half of food secure households received neither public nor private food assistance, compared to 31.3% of the food insecure low-income households. This suggests that there are food insecure households who could benefit from increased access to these programs.

Conclusion

In the aftermath of the Great Recession, food insecurity remains quite prevalent among low-income households in the Detroit Metropolitan Area. In addition, a sizeable share of households with incomes above 200% of the poverty line also experienced food insecurity. Apart from low income, we find that other risk factors for food insecurity include low educational attainment, health limitations, and financial hardships.

Turning to the good news, we find that food insecurity among low-income households fell 8 percentage points over the two-year period between interviews. Moreover, use of public programs was high for low-income families and higher for those with food insecurity. Private charity use, particularly for low-income respondents who were food insecure, was less prevalent than use of SNAP, but remained common for food insecure households. However, many low-income households reported no public or private sources of food assistance.

Further research using the MRRS will take advantage of the longitudinal nature of the data and rich contextual information to assess the potential modifying effects of access to public and private sources of assistance on food insecurity, net of other changing economic conditions.

Acknowledgements

The Michigan Recession and Recovery Study was funded in part by funds provided to the National Poverty Center at the University of Michigan by the Office of the Assistant Secretary of Planning and Evaluation, U.S. Department of Health and Human Services, the Office of the Vice President for Research at the University of Michigan, the Ford Foundation and the John D. and Catherine T. MacArthur Foundation. Allard's work was supported by the Population Research Center at NORC and the University of Chicago, and National Institute of Child Health and Human Development (NICHD) Grant #5R24HD051152-07.

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NPC activities are currently supported with funding from the Ford Foundation, John D. and Catherine T. MacArthur Foundation, Russell Sage Foundation, U.S. Department of Agriculture, as well as generous support from units within the University of Michigan, including the Gerald R. Ford School of Public Policy, Office of the Vice President for Research, the Rackham Graduate School, and the Institute for Social Research.

