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

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,


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 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 nationally 6 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 Battle. (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 $57,600).
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.
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 education, unemployment, having a health limitation, or experiencing financial hardship. These factors were associated with higher levels of food insecurity, especially among poor households.

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

<table>
<thead>
<tr>
<th>Household Characteristics</th>
<th>Food Insecure W1 Only</th>
<th>Food Insecure W2 Only</th>
<th>Food Insecure W1 &amp; W2</th>
<th>Food Secure W1 &amp; W2</th>
</tr>
</thead>
<tbody>
<tr>
<td>All households 200% or below</td>
<td>19.8</td>
<td>11.5</td>
<td>31.7</td>
<td>37</td>
</tr>
<tr>
<td>Black</td>
<td>23.2</td>
<td>16.7</td>
<td>29.8a</td>
<td>30.4</td>
</tr>
<tr>
<td>Nonblack</td>
<td>15</td>
<td>4</td>
<td>34.4a</td>
<td>46.5</td>
</tr>
<tr>
<td>Below FPL</td>
<td>23.7a</td>
<td>12</td>
<td>37.5a</td>
<td>26.7a</td>
</tr>
<tr>
<td>Between 100-200% FPL</td>
<td>12.6a</td>
<td>10.4</td>
<td>21.0a</td>
<td>55.9a</td>
</tr>
<tr>
<td>Less than HS</td>
<td>15.2</td>
<td>17.7ab</td>
<td>37.5a</td>
<td>29.5a</td>
</tr>
<tr>
<td>HS Degree but no BA</td>
<td>22.4</td>
<td>9.1a</td>
<td>32.0b</td>
<td>36.5b</td>
</tr>
<tr>
<td>BA or more</td>
<td>18.3</td>
<td>6.1b</td>
<td>10.6ab</td>
<td>65.0ab</td>
</tr>
<tr>
<td>HH with children</td>
<td>24.1</td>
<td>9.8</td>
<td>28.7</td>
<td>37.4</td>
</tr>
<tr>
<td>HH without children</td>
<td>15.3</td>
<td>13.3</td>
<td>34.8</td>
<td>36.6</td>
</tr>
<tr>
<td>No unemployment</td>
<td>21.1</td>
<td>6.3</td>
<td>29.3</td>
<td>43.3</td>
</tr>
<tr>
<td>1-6 months unemployment</td>
<td>17</td>
<td>16.4</td>
<td>36.2</td>
<td>30.4</td>
</tr>
<tr>
<td>7-12 months unemployment</td>
<td>18.7</td>
<td>13.2</td>
<td>27.5</td>
<td>40.6a</td>
</tr>
<tr>
<td>NILF all 12 months</td>
<td>23.8</td>
<td>10.2</td>
<td>44.3</td>
<td>21.8a</td>
</tr>
<tr>
<td>Health limitation</td>
<td>23.2</td>
<td>17.1</td>
<td>36.7</td>
<td>22.9a</td>
</tr>
<tr>
<td>No health limitation</td>
<td>17.9</td>
<td>8.2</td>
<td>28.8</td>
<td>45.2a</td>
</tr>
<tr>
<td>Financial hardship</td>
<td>16.4</td>
<td>15.1a</td>
<td>41.7a</td>
<td>26.8a</td>
</tr>
<tr>
<td>No financial hardship</td>
<td>22.8</td>
<td>8.3a</td>
<td>22.9a</td>
<td>46.1a</td>
</tr>
</tbody>
</table>

**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).
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 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.

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

<table>
<thead>
<tr>
<th></th>
<th>SNAP Receipt</th>
<th>Charity Receipt</th>
<th>Neither Type of Assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Insecure</td>
<td>60.4*</td>
<td>34.9*</td>
<td>31.3*</td>
</tr>
<tr>
<td>Food Secure</td>
<td>45.6*</td>
<td>13.7*</td>
<td>50.7*</td>
</tr>
</tbody>
</table>

* 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)

### 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.

About the Authors
Sandra K. Danziger is Professor of Social Work and Research Professor of Public Policy at University of Michigan. Her research interests are the effects of public programs on the well-being of families and children. More broadly, she focuses on poverty, demographic trends in child and family well-being, program implementation and evaluation, and qualitative research methods. She was Principal Investigator on the Women’s Employment Study.

Scott W. Allard is an Associate Professor in the School of Social Service Administration at the University of Chicago and a Research Associate of the Population Research Center at NORC and the University of Chicago. His primary areas of research expertise are urban poverty, safety net utilization, and the spatial accessibility of governmental and nongovernmental safety net programs. Currently, Allard is completing a study of the suburbanization of poverty in the U.S. and how the changing geography of poverty presents numerous challenges for the contemporary American safety net.

Maria V. Wathen is a Ph.D. candidate in Social Work and Sociology at the University of Michigan. Her research interests include poverty, policy, and family and child welfare both in the U.S. and in Eastern Europe and Russia, NGOs/nonprofits in emerging democracies, and contextualization issues in globalized social work education. Maria has a range of experience in the business, nonprofit, and academic spheres in both the United States and Russia.

Sarah Burgard is an Associate Professor of Sociology, an Associate Professor of Epidemiology, and a Research Associate Professor at the Population Studies Center at the University of Michigan. Her research focuses on the ways that stratification by race/ethnicity, gender and socioeconomic position influence people’s opportunities in life and how this influences their health. Sarah is currently working on several projects related to socioeconomic and health changes that occurred with the Great Recession, and on other analyses examining how employment intersects with home responsibilities to shape gender differences in healthy behaviors, health and survival.

Kristin S. Seefeldt is an Assistant Professor at the School of Social Work at the University of Michigan. Her research focuses on exploring how low-income individuals understand their situations pertaining to work and economic well-being. She is currently conducting research on the financial coping strategies of families and is a Principal Investigator on the Michigan Recession and Recovery Study. Previously, Seefeldt was an Assistant Research Scientist at the Gerald R. Ford School of Public Policy and the Assistant Director of the National Poverty Center. Previously, Seefeldt was an Assistant Research Scientist at the Gerald R. Ford School of Public Policy and the Assistant Director of the National Poverty Center, both at the University of Michigan, and an Assistant Professor at the School of Public and Environmental Affairs at Indiana University.

Richard Rodems is a Ph.D. student in Social Work and Sociology at the University of Michigan. His research interests include poverty, inequality, the welfare state, the role of nonprofits in the provision of social welfare services, and program evaluation.

Alicia Cohen is a family physician and Clinical Lecturer in the Department of Family Medicine at the University of Michigan Medical School. Her research interests include food insecurity, nutrition, and diet-related disease, with a particular focus on community-based research. She is currently working on several projects evaluating the impact of a SNAP healthy food incentive program on fruit and vegetable purchase and consumption among Detroit SNAP recipients.

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.