

Chapter 8

Receipt of SNAP and UI Benefits in Michigan around the Great Recession

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The Supplemental Nutrition Assistance Program (SNAP) provides financial assistance for buying food to households near or below the poverty level.¹ Unemployment insurance (UI) provides temporary partial wage replacement to the involuntarily unemployed. Both programs are part of the social safety net that operates to alleviate hardship, but the beneficiary populations of the two programs usually differ. Unemployment insurance commonly serves middle-class Americans for relatively short-term lapses in income during joblessness, while SNAP recipients tend to be grouped near the bottom of the income distribution, often with weak labor force attachment. Protracted periods of joblessness during and after the Great Recession of 2007–2009 raised questions about the adequacy of UI income replacement to prevent the descent into poverty.² Naturally, these circumstances piqued interest in the customer flows between these two safety net programs. This chapter provides some evidence about the extent and sequencing of SNAP and UI usage in Michigan around the period of the Great Recession. The investigation sheds light on the degree to which two separate threads of the social safety net are woven together to support economic security.

The analysis relies on program administrative data for people aged 18 to 64 in Michigan during the first decade of the twenty-first century. That 10-year period included two severe economic recessions in the state. When the Great Recession hit, producing the cata-

strophic effects felt between late 2008 and mid-2010, Michigan had not yet recovered from the 2001 dot-com bust. Writing about that earlier decade, a Grand Rapids journalist said in December 2010 that in Michigan, “nearly 850,000 jobs vanished, some 440,000 in manufacturing. The losses all but wiped out a blue-collar way of life built on high wages and liberal benefits, where a high school graduate could walk across the street and get a job for life” (Roelofs 2010).

Like the other state analyses in this book, this chapter was prepared as part of the Administrative Data Research and Evaluation (ADARE) consortium supported by the Economic Research Service (ERS) of the U.S. Department of Agriculture (USDA). All state chapters are based on program administrative data, but the contents of the data available differ from state to state. Consequently, the analysis and presentations in the chapters differ too. The prime distinction of the Michigan data is the availability of the universe of all applicants for UI benefits. Other states have only UI beneficiary data, and some states have those UI payment data only for SNAP recipients. The UI applicant data permit examination of two things: 1) inflows from SNAP to UI and 2) the degree of UI eligibility for those involved with SNAP or not. As with the data from other states, the Michigan data also include all payments made to SNAP households and all members of SNAP households.

The rules for SNAP and UI eligibility in Michigan are reviewed in the next section. This is followed by a brief discussion of the administrative data used in this chapter. An overview of the labor market conditions in Michigan and the overlap in SNAP and UI reciprocity is followed by a review of the flows from SNAP to UI and from UI to SNAP. Controlling for the observable characteristics of UI applicants, I then examine flows from UI into SNAP. Next, I compare the Michigan sample design given in this chapter to the designs used in the other five states and suggest how the different designs influence the results reported. Finally, I simulate the effects of shorter potential UI duration in Michigan on beneficiary flows into SNAP.

MICHIGAN SNAP AND UI ELIGIBILITY AND BENEFIT RULES

Eligibility rules for SNAP are determined by federal regulations. As a nutritional assistance program for the economically disadvantaged, SNAP has eligibility criteria that concern household levels of gross monthly income, net monthly income, and liquid assets (USDA 2018). The federal rules for household SNAP eligibility include the following three: 1) gross monthly income must be below 130 percent of the federal poverty income level, 2) net income after allowable deductions must be at or below the poverty income level, and 3) liquid assets must be \$2,000 or less.

Gross monthly income is the total from all sources, including labor earnings, UI benefits, Temporary Assistance for Needy Families (TANF), Supplemental Security Income (SSI), general assistance (GA), and child support payments. Net income is computed as the remainder after all allowable expenses and exemptions for dependents. Liquid assets, those that can be readily accessed, like money in savings accounts, are limited for most households to \$2,000, while households with an elderly or disabled member may have up to \$3,250 in liquid assets. Assets that cannot be readily converted into cash are not considered in SNAP eligibility. Examples are the household's principal residence, personal property, retirement savings, and one automobile. Because of differing state policies, asset limits vary somewhat across states. In 2013, there were 36 states with no asset limits whatsoever, while the limits varied between \$2,000 and \$25,000 in the states with asset limits (USDA 2018). For example, Michigan permits liquid assets up to \$5,000 and one vehicle valued at up to \$15,000.

Some persons are excluded from SNAP eligibility even if they meet income limits, while others are categorically eligible because they qualify for other safety net programs. Excluded are persons separated from work because of union actions, undocumented immigrants,

and some legal immigrants who have been in this country only a short time. Able-bodied adults without dependents (ABAWDs) are limited to three months of SNAP benefits every three years. Most adult beneficiaries must also spend at least 20 hours a week working, engaging in job search, pursuing employability development, or participating in an approved job training program.

“Categorical eligibility” establishes SNAP eligibility through benefit receipt from another means-tested program such as TANF, SSI, or GA. For SNAP beneficiaries who also receive income from another safety net program, one dollar of additional labor earnings usually reduces SNAP benefits by less than one dollar of program benefits. Hanson and Andrews (2009) show that labor earnings affect SNAP benefits differently across states for households also receiving TANF, because the TANF and SNAP earnings offsets can differ. In Michigan and four other states (Alabama, Nebraska, South Dakota, and Virginia), additional earnings below the eligibility threshold do not affect SNAP benefits, since the TANF earnings reduction and the SNAP earnings disregard are both equal to 20 percent of the benefit level.

The benefit level under SNAP increases with household size. SNAP expects families receiving benefits to spend 30 percent of their net income on food. Families with no net income receive the maximum benefit, which equals the cost of the USDA Thrifty Food Plan (a diet plan intended to provide adequate nutrition at minimal cost). For all other households, the monthly SNAP benefit equals the maximum benefit for that household size minus the household's expected contribution. Households eligible for the maximum amount receive an extra \$150 per month for each additional person.

Benefits under SNAP increased in April 2009 under the American Recovery and Reinvestment Act (ARRA). The monthly increase for a family of four was \$80, with proportionate increases for other household sizes. The benefit increases lasted until November 2013. Also in 2009, procedures for gaining access to SNAP benefits changed because of the introduction of an Internet-based application system,

called “Bridges” in Michigan.³ That same year, Michigan simplified procedures for certifications and beneficiary midcertification reporting by allowing telephone reporting instead of in-person-only reports.

Unemployment insurance eligibility rules are set to ensure that those compensated had been strongly attached to the labor force but are now temporarily jobless through no fault of their own. Unlike SNAP, there is no income (means) test for UI—i.e., no disqualifying upper earnings threshold for UI. To initially qualify for UI, a claimant must have a sufficient amount of prior earnings and a sufficient duration of prior employment: those two conditions define the claimant’s monetary eligibility. Furthermore, the job separation must be involuntary. Nonmonetary eligibility rules prohibit quits and discharge for misconduct or other causes justifiable by an employer. UI applicants must also be able, available, and actively seeking full-time work. To obtain initial eligibility and maintain continuing eligibility, beneficiaries may not refuse an offer of suitable work.

Monetary eligibility for UI is determined by base period earnings. The UI base period is normally the first four of the previous five completed calendar quarters before the date of claim for benefits. Many states permit an alternate base period for those with insufficient earnings in the standard base period. The alternate base period is usually the four most recently completed calendar quarters. Some states have a high quarterly earnings requirement. Most states also have an earnings dispersion requirement. Since 2009, Michigan has required that there be earnings in at least two quarters of the base period, that the high for quarterly earnings be at least \$2,871, and that base period earnings total at least 1.5 times this threshold for the high in quarterly earnings, or \$4,307 (UIA 2014).⁴

DATA FOR ANALYSIS

Michigan administrative data provided to the W.E. Upjohn Institute for Employment Research includes the complete population of

all those who filed regular UI applications between January 2001 and December 2010. These data were accumulated over several years in the course of research on several different projects undertaken by the Upjohn Institute for the Michigan Unemployment Insurance Agency and federal government agencies.⁵ Monthly Michigan SNAP data from January 2006 through August 2011 were obtained from the Michigan Department of Human Services in 2010 and 2011. Quarterly UI wage record data for individuals in both programs were matched and provided by the Michigan Department of Technology, Management, and Budget. The earnings data span the third quarter of 1997 through the third quarter of 2010.⁶

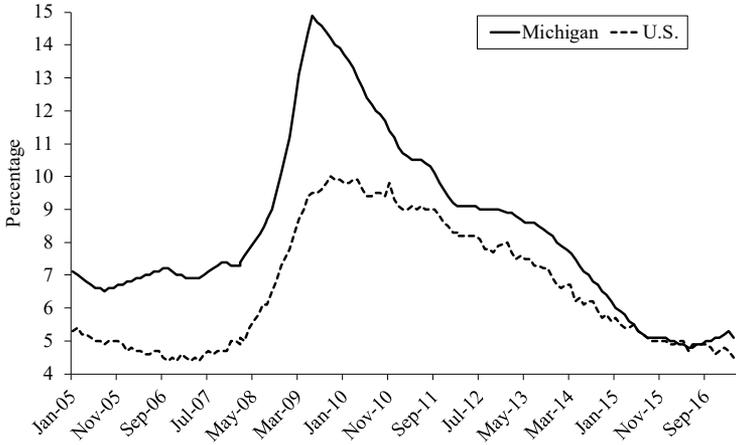
UNEMPLOYMENT AND PROGRAM BENEFIT RECEIPT

The contrast in Michigan unemployment trends compared to the United States as a whole is illustrated in Figure 8.1. From early 2005 through mid-2008, the Michigan unemployment rate hovered 2 percentage points above the national average, at around 7 percent of the labor force. The gap then more than doubled in the next 12 months, rising to 5 percentage points above that of the United States, then sharply declined through the end of 2011. After hitting a plateau for two years, it resumed falling to the current level, which is near the national average (BLS 2019b).

STOCKS OF SNAP AND UI BENEFICIARIES

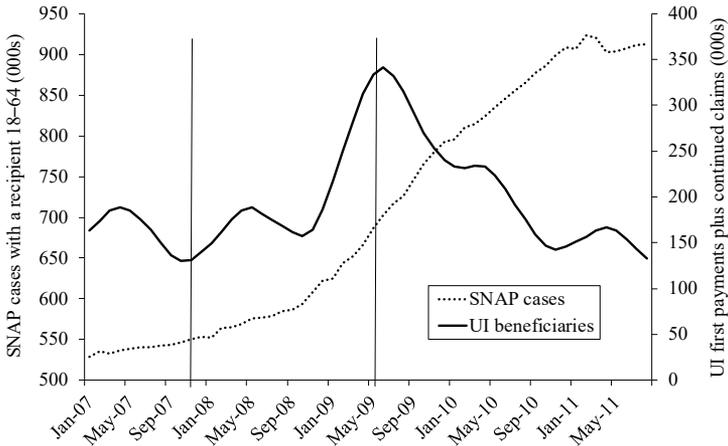
Figure 8.2 shows the monthly stock of SNAP cases with at least one person in the 18–64 age range for our analysis sample, as well as the six-month moving average of monthly Michigan UI recipients.⁷ The vertical lines in the graph are set at the official starting and ending quarters of the Great Recession.⁸ There were approximately 525,000

Figure 8.1 Unemployment Rates in Michigan and the United States, 2005–2017



SOURCE: U.S. Bureau of Labor Statistics (BLS 2019b); Local Area Unemployment Statistics, Series ID: LASST2600000000000003; and BLS (2019a), Labor Force Statistics from the Current Population Survey, Series ID: LNS14000000.

Figure 8.2 Stocks of Michigan SNAP Cases and UI Beneficiaries, 2007–2011



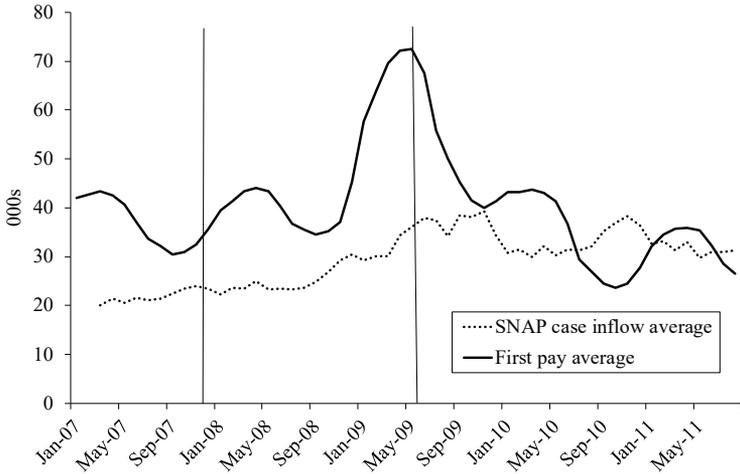
SOURCE: Author’s computations based on Michigan program administrative data.

Michigan SNAP recipient cases at the start of 2007, and that number rose steadily to plateau at over 900,000 by late 2011 (Figure 8.3). In contrast, over the same period, the monthly stock of UI beneficiaries rose from about 150,000 to a peak of nearly 342,000 in June 2009 and then declined to a level below 150,000 by September 2010.

INFLOWS TO SNAP AND UI RECEIPT

The monthly inflow of new SNAP cases steadily increased from about 20,000 in early 2007 to double that rate by the end of 2009 (Figure 8.3). The monthly inflow of new SNAP cases fluctuated between 30,000 and 40,000 in 2010 and declined to about 30,000 in 2011. The steady inflow combined with the increasing stock of SNAP cases indicates that the monthly outflow declined during the period observed. During the same period, monthly UI first payments started

Figure 8.3 Michigan Average Monthly SNAP and UI Inflows, 2007–2011



SOURCE: Author’s computations based on Michigan program administrative data.

at approximately 40,000, peaked at over 70,000, and ended at a rate below 30,000.⁹

SEPARATE AND SIMULTANEOUS RECEIPT OF SNAP AND UI

The number of adults aged 18–64 receiving SNAP benefits in Michigan increased each year from 2006 to 2010, peaking at over 1.3 million in 2010 (Table 8.1). Over the same period, the annual number of Michigan UI recipients oscillated, hitting a peak of over 778,000 in 2009 but then significantly dropping in 2010. The number of simultaneous recipients of SNAP and UI also oscillated over the period, ranging between 79,000 and 171,000 per year, peaking in 2009. Joint SNAP and UI recipients as a share of all SNAP recipients ranged from 10.4 to 15.1 percent, while joint SNAP and UI recipients as a share

Table 8.1 SNAP and UI Recipients in Michigan by Separate Program and Joint Use, 2006–2010

	2006	2007	2008	2009	2010
SNAP total recipients in year	747,829	798,726	876,154	1,133,306	1,326,638
UI total recipients in year	530,563	490,982	598,584	778,209	517,948
SNAP and UI in same year	78,613	83,416	106,123	170,910	141,190
SNAP and UI share of SNAP total	0.105	0.104	0.121	0.151	0.106
SNAP and UI share of UI total	0.148	0.170	0.177	0.220	0.273

NOTE: UI benefit receipt in a given year is determined relative to an individual's UI benefit-year-begin (BYB) date and the total number of weeks with regular UI payments plus weeks with extended benefits (EB) and/or emergency unemployment compensation (EUC) payments relative to that BYB. Individual spells of joint benefit receipt can be counted in more than one year, and this possibility is increased in this period given the availability of EB and EUC.

SOURCE: Author's tabulations from Michigan program administrative data.

of all UI beneficiaries ranged between 14.8 and 27.3 percent. These patterns over the five-year period resulted from a steadily growing population of SNAP recipients and an oscillating population of UI recipients.

The figures in Table 8.1 indicate that at least 85 percent of SNAP recipients in any year are not UI beneficiaries. When labor market conditions deteriorate and average unemployment durations get longer, many of those who normally earn lower-than-average wages are likely to face hardship. In the data, this is seen when the Michigan job market began to improve in 2010: the numbers of UI beneficiaries fell dramatically, but joint UI and SNAP receipt as a share of all UI beneficiaries rose to 27.3 percent. At the beginning of the economic recovery, a larger share of UI beneficiaries were in lower-income households having some labor force attachment.

Some direct evidence on the composition of the Michigan populations using SNAP and UI is summarized in the demographic data for 2006–2010 in Table 8.2. The biggest share of SNAP-only recipients consists of the youngest group, in the age range 18–24, while the biggest share of UI-only recipients consists of the age groups over 40, and the biggest SNAP-UI joint usage group is in the 30-to-39 age range. Females have the biggest share of SNAP-only, males have the biggest UI-only share, and females have a slightly bigger joint SNAP-UI share. The Michigan population is about 80 percent white, and whites make up the majorities of the SNAP-only, SNAP-plus-UI, and UI-only beneficiary groups. The most informative rows report earnings in the year preceding benefits and the year after benefits. Earnings are lowest for the SNAP-only group, highest for the UI-only group, and in between for those receiving both SNAP and UI. The mean income for the SNAP-only population is less than \$1,000 per calendar quarter, or less than \$100 per week, on average. Noting that SNAP eligibility ends at 130 percent of the poverty level of income, the mean four-quarter earnings of \$12,681 is a measure of central tendency for current-year income of persons receiving benefits from both SNAP and UI. The mean annual income in the year of applica-

Table 8.2 Sample Proportions by Characteristics and Earnings of SNAP-Only, SNAP + UI, and UI-Only Recipients Aged 18–64 in Michigan, 2006–2010

	SNAP-only	SNAP + UI	UI-only
Number of individual recipients	4,452,771	429,882	1,922,284
Age, 18–24	0.267	0.130	0.088
Age, 25–29	0.132	0.176	0.107
Age, 30–39	0.218	0.324	0.236
Age, 40–49	0.197	0.246	0.289
Age, 50–64	0.185	0.124	0.280
Gender, male	0.427	0.470	0.680
Gender, female	0.573	0.530	0.320
Race, white	0.639	0.651	0.646
Race, African American	0.334	0.328	0.100 ^a
Race, Asian	0.009	0.007	0.012
Race, unknown	0.010	0.007	0.233
Earnings in year prior to benefits (\$)	3,975	19,622	35,102
Earnings in year after benefits (\$)	3,584	12,681	29,920

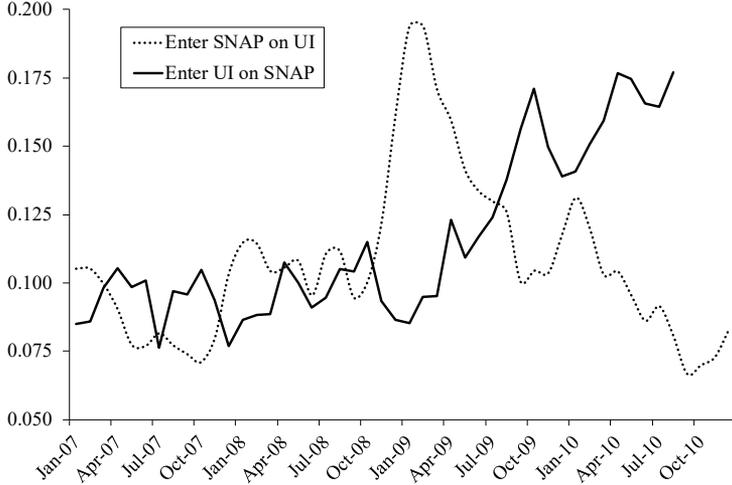
^a Most unknown categories for missing data are omitted, as are categories with less than 1 percent. However, 23.3 percent of the UI beneficiary data has unknown race. The SNAP+UI characteristics are based on SNAP demographic data, suggesting that the African American share of UI-only beneficiaries is much higher than 10 percent. SOURCE: Author's tabulations from Michigan program administrative data.

tion for UI beneficiaries who avoided SNAP receipt was just below \$30,000.

OVERLAP IN SNAP AND UI AT INFLOW

The overlap in SNAP and UI benefit receipt at inflow into either program between 2007 and 2010 is illustrated in Figure 8.4. The figure shows the shares of the new recipient inflows in either SNAP or UI who are receiving benefits from the other program at the time of entry. Both these conditional benefit recipient inflow shares reflect the sizes of the stocks of program participants in the denominators. Over

Figure 8.4 Michigan’s Shares of New SNAP Case Inflow with at Least One Current UI Beneficiary, and UI Beneficiary Inflow with a SNAP Case Member, 2007–2010



SOURCE: Author’s computations based on Michigan program administrative data.

this period, UI reciprocity rose and fell, but the share of new UI recipients who were already receiving SNAP started rising in early 2009, just as the inflow to UI had peaked. The share of new SNAP recipients who were already receiving UI rose dramatically in the last half of 2008, peaked in January 2009, and declined thereafter. Therefore, the pattern of UI recipients entering SNAP paralleled the pattern of total inflows into UI. These trends suggest that some persons who are normally strongly attached to the labor market turn to SNAP when the economy deteriorates. However, as inflows to SNAP increase in times of severe recession, that inflow is not coming entirely from families with displaced workers.

The remainder of this chapter exploits the advantage of the Michigan data in having the full population of all UI applicants. I explore SNAP receipt before and after UI application by the degree of UI eligibility and UI benefit receipt. I then examine factors influencing

flows into SNAP from UI while controlling for observable characteristics. Chief among these factors is prior SNAP receipt after UI application.

SNAP RECEIPT BEFORE UI APPLICATION

Starting from the census of all UI applications in Michigan during the study period, I examine the transition from labor force participation to joblessness, to involvement with UI, and then perhaps to involvement with SNAP. Table 8.3 provides the background for this perspective by examining the extent to which UI applicants were involved with SNAP before job separations.

Overall, between 2007 and 2010, an average of 20.2 percent of UI applicants received some SNAP benefits in the year prior to their UI application. However, the share with prior SNAP receipt increased dramatically in 2010 to 27.2 percent, up from 19.5 percent in 2009. There is considerable variation in prior SNAP receipt by the degree of UI benefit eligibility and receipt. For UI applicants between 2007 and 2010, the rate of prior SNAP receipt tends to be lower among those with higher prior earnings and relatively stronger labor force attachments. Only 16.9 percent of monetarily eligible UI applicants received SNAP in the 12 months before application, whereas the rate was 41.0 percent for those not monetarily eligible.¹⁰ Similarly, 17.4 percent of UI applicants involuntarily laid off from their prior jobs because of lack of work (nonmonetarily eligible) received SNAP in the prior year, while 28.7 percent of those disqualified for UI by a job quit or employer discharge received SNAP in the year before UI application. Additionally, UI exhaustees had prior SNAP receipt at a higher rate (18.4 percent) than did UI beneficiaries who did not exhaust their UI benefit entitlement (11.1 percent). This may have resulted from greater job search effort by those in the latter group, which included a smaller share of prior SNAP recipients, leading

Table 8.3 SNAP Receipt Rate in the 12 Months Prior to UI Application among Michigan Regular UI Applicants Aged 18–64 by Eligibility and Benefit Receipt Group

	2007	2008	2009	2010	Overall
All UI applicants (<i>n</i>)	538,712	665,960	774,753	542,546	2,521,971
All UI applicants (share with SNAP)	0.174	0.176	0.195	0.272	0.202
Monetarily eligible	0.150	0.151	0.161	0.227	0.169
Monetarily ineligible	0.374	0.385	0.403	0.454	0.410
Nonmonetarily eligible	0.142	0.147	0.170	0.242	0.174
Separated for lack of work					
Nonmonetarily ineligible	0.255	0.258	0.289	0.354	0.287
Separated for quit or discharge					
Fully UI-eligible	0.121	0.125	0.139	0.197	0.142
Not a UI beneficiary	0.168	0.176	0.169	0.253	0.192
UI beneficiary ^a	0.138	0.142	0.153	0.213	0.158
Not a UI exhaustee	0.110	0.107	0.116	—	0.111
UI exhaustee	0.188	0.176	0.189	—	0.184
Not an EC/EB recipient	0.187	0.180	0.207	—	0.194
EC/EB recipient	0.188	0.176	0.183	—	0.180

NOTE: Given the timing of the data extract in February 2011, the claims data for 2010 are sufficient to measure regular UI benefit receipt with some downward bias, but not adequate to fully measure exhaustion and extended compensation receipt; therefore, information is not available for those values, signified by — = not available.

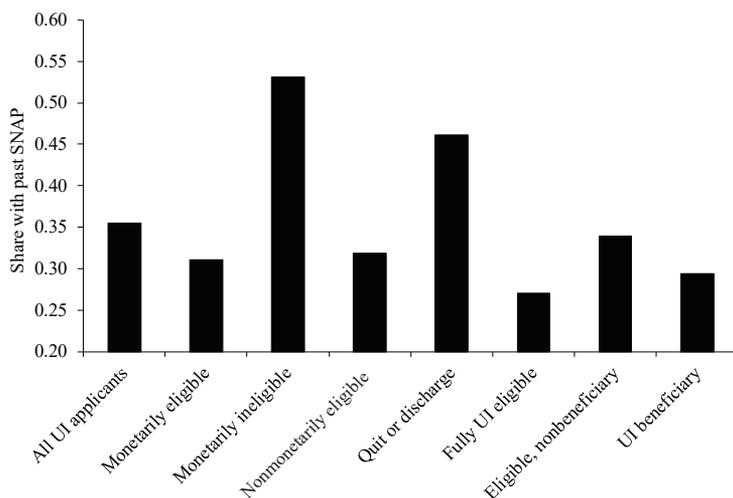
^a UI applicant data for 2010 include UI claims through August. Given the timing of the data extract (February 2011), the claims data for 2010 are sufficient to measure regular UI benefit receipt with some downward bias, but not sufficient to fully measure exhaustion and extended compensation receipt.

SOURCE: Author's computations based on Michigan program administrative data.

to more favorable labor market outcomes after UI application and shorter periods of UI benefit receipt.

Figure 8.5 provides a longer look back at prior SNAP usage by UI applicants sorted into UI eligibility and job separation groups. As is shown, 35 percent of all UI applicants in 2010 received some SNAP benefits between 2006 and the month before UI application. During this multiyear period, the prior SNAP receipt rate for persons without prior earnings sufficient to establish monetary entitlement was 53 percent, compared to only 31 percent for those with sufficient prior earnings. Persons who quit or were discharged from employment were also much more likely to have received SNAP prior to 2010 compared with their nonmonetarily eligible counterparts, by a margin of 46 to 32 percent.¹¹ These data suggest a correlation between weak labor-force attachment, inconsistent earnings history, difficulties on the job, and SNAP receipt.

Figure 8.5 Rates of SNAP Receipt between January 2006 and UI Application by Michigan UI Applicants in 2010, by UI Eligibility and Benefit Receipt



SOURCE: Author's computations based on Michigan program administrative data.

Finally, Figure 8.5 shows a group of UI applicants who appear to be fully eligible to receive unemployment benefits but did not become UI beneficiaries. While this is a relatively small group of UI applicants (an average of 2.7 percent of applicants between 2007 and 2010), their prior SNAP receipt rate is higher than similar persons who became UI beneficiaries. Assuming these data are accurate, they may have obtained immediate reemployment or simply chosen not to receive benefits for other reasons. This failure to take up available UI benefits is investigated more deeply in the next section of this chapter.

SNAP RECEIPT AFTER UI APPLICATION

To investigate receipt of SNAP after UI application, I focus on UI applicants who had not received SNAP benefits in the year prior to their UI application. That is, from the top row of Table 8.3, I remove the UI applicants who received SNAP in the prior year, or about 20.2 percent of all UI applicants, to yield the top row of Table 8.4. The remaining rows of Table 8.4 report the proportions of these UI applicants who received SNAP benefits within one year after applying for UI benefits. The UI applicants are divided into the same categories of UI eligibility and benefit receipt as those listed in Table 8.3.

Among UI applicants between January 2007 and August 2010 who had no SNAP receipt in the year prior to filing, 13 percent entered SNAP within a year of UI application. Rates of failure to satisfy UI eligibility screens correlate strongly with entry into SNAP for those not having received SNAP benefits in the year prior to UI application, just as they do for those who received SNAP prior to entering the UI system. Overall, between 2007 and 2010, 25 percent of persons quitting or being discharged from employment entered SNAP within one year of applying for UI. Over that period, persons who could not establish monetary entitlement to UI benefits because of insufficient prior earnings entered SNAP at an average rate of 20.4 percent. Persons fully eligible for UI who had sufficient earnings and job separa-

Table 8.4 Rates of SNAP Receipt within One Year after UI Application among Persons Aged 18 to 64 Who Did Not Receive SNAP in the Year Prior to UI Application

	2007	2008	2009	2010 ^a	Overall
UI applicants with no SNAP receipt in the prior year	444,976	548,751	623,676	394,973	2,012,376
Overall rate of SNAP receipt w/in 1 yr of UI app.	0.099	0.132	0.141	0.152	0.130
Monetarily eligible	0.095	0.125	0.131	0.144	0.122
Monetarily ineligible	0.143	0.220	0.229	0.201	0.204
Nonmonetarily eligible					
Lack of work	0.066	0.099	0.107	0.108	0.095
Nonmonetarily ineligible					
Quit or discharge	0.198	0.243	0.291	0.289	0.251
Fully eligible	0.062	0.092	0.098	0.098	0.088
Not a beneficiary	0.069	0.099	0.097	0.118	0.093
UI beneficiary	0.084	0.114	0.121	0.128	0.111
Not a UI exhaustee	0.049	0.069	0.068	—	0.062
UI exhaustee	0.151	0.161	0.176	—	0.165
Not an EC/EB recipient	0.138	0.131	0.139	—	0.137
EC/EB recipient	0.165	0.165	0.187	—	0.175

NOTE: — = data not available.

^a With SNAP data ending in August 2011, the 2010 numbers summarize rates for UI claims through August 2010.

SOURCE: Author's computations based on Michigan program administrative data.

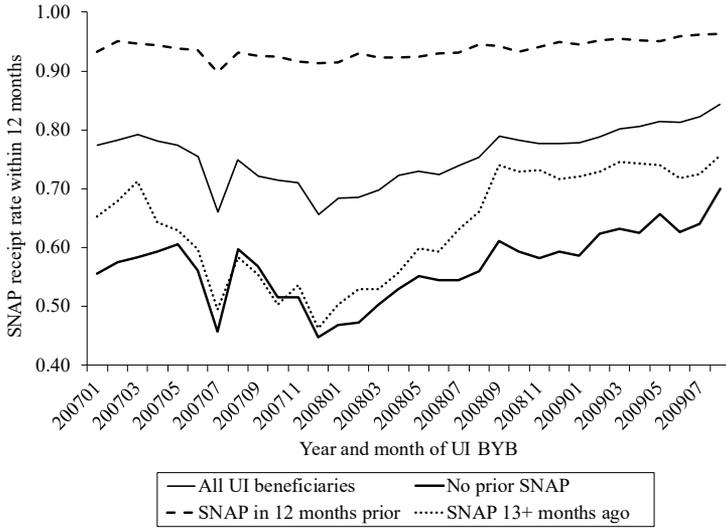
tions not resulting in disqualification entered SNAP within one year at a rate of 8.8 percent. This suggests that UI could be an important part of the safety net, supporting transitions back to employment by inducing less reliance on SNAP.

Nevertheless, checking for SNAP receipt within 12 months of the UI benefit-year-begin (BYB) date may underestimate the reliance on SNAP by UI applicants in this period. Regular UI benefit years last 52 weeks from the BYB date and usually provide a maximum entitled duration of 26 weeks of benefits, so checking for SNAP within 12 months of the BYB is reasonable when other UI assistance is not available. However, for benefit years ending in or after May 2007, many UI beneficiaries had extended or emergency UI benefits available for more than the usual maximum of 26 weeks. Indeed, during 2009 in Michigan, some applicants received UI for as much as 99 weeks. Therefore, in the analysis presented below, I examine SNAP receipt within both 12 and 24 months after UI application.

SPEED OF MOVEMENT FROM UI INTO SNAP

To assess whether people moved from UI to SNAP faster in the recession, I started with a sample of UI applicants who all received SNAP within 24 months after their UI benefit-year-begin (BYB) date, and I then checked the proportion in this group that actually started receiving SNAP within 12 months. Figure 8.6 shows that the share of SNAP recipients receiving SNAP within 12 months increased monthly starting near the official beginning of the Great Recession. In the sample of all UI applicants, there is a downward trend in the 12-month SNAP recipiency share until December 2007, which is the month pegged by the National Bureau of Economic Research (NBER) as the official start of the Great Recession. After that month, the upward trend is prominent for persons with no prior SNAP receipt and for those with prior SNAP receipt more than one year previous.

Figure 8.6 SNAP Receipt Rates for UI Applicants Receiving SNAP within 12 Months after UI Application among Those Receiving SNAP within 24 Months after Their UI Application



SOURCE: Author’s computations based on Michigan program administrative data.

The upward trend from that point indicates an increase in the speed of entry into SNAP.

SNAP RECEIPT BY UI BENEFICIARIES BY OBSERVABLE CHARACTERISTICS

For UI beneficiary groups defined by observable characteristics, I examine SNAP receipt rates before, at the time of, and after UI benefit receipt starts. Over the whole sample of UI beneficiaries, average rates of SNAP receipt are 9.3 percent in the month of UI application, 14.2 percent in the 12 months before UI application, 20.6 percent in the 12

months after UI application, and 27.3 percent in the 24 months after UI application. This pattern of higher SNAP receipt occurring after application than before application persists in all subgroup contrasts. The differences between the month of UI application and the contrast to a previous or following 12-month period is partly due to checking a single month rather than multiple months, but the comparison is informative nonetheless. Table 8.5 summarizes the differences from average SNAP receipt rates by demographic and geographic characteristics. The SNAP receipt rates for the population of all UI applicants have the same patterns as for all UI beneficiaries, but the SNAP receipt rates are consistently higher among all applicants than among those who qualify for and receive UI benefits—mainly because the full UI applicant sample includes UI ineligible with insufficient prior earnings. Conversely, UI beneficiaries are more strongly attached to the labor force and have steadier income streams than the full sample of all UI applicants.

Subgroup SNAP receipt rates are summarized for eight characteristics: 1) age, 2) gender, 3) race, 4) educational attainment, 5) prior job tenure, 6) income, 7) job separation reason, and 8) urban or rural residence. Except for two subcategories in location of residence (large Census Bureau metropolitan statistical areas [MSAs] and smaller municipal areas), all subgroup proportions are significantly different from the population means. The patterns of SNAP receipt among the subgroup categories of UI beneficiaries are the same for all four time periods for which the SNAP receipt rates were checked. For example, the typical pattern is seen relative to the overall mean of a 9.3 percent SNAP receipt rate for all UI beneficiaries in the month of UI application. The comparable subgroup rates are as follows:

- Higher for younger UI beneficiary groups: being 12.6 percent for ages 18–24 and 11.0 for ages 25–44, while the rate is only 6.4 percent for ages 45 plus.
- Higher for females, being 13.1 percent, compared to 7.2 percent for males.

- Higher for African Americans, being 14.8 percent, but only 7.7 percent among whites and 8.8 percent among other racial groups.
- Higher for those with lower educational attainment, being 14.2 percent for those without even a high school diploma but 6.2 percent for those with a bachelor's degree.
- Higher for those with the shortest prior job tenure, being 13.0 percent for those having worked less than 1 year at their prior employer but 6.6 percent for those having 6 to 10 years of work experience at their prior employer.
- Higher for those in the lowest one-third of the prior earnings distribution, being 18.1 percent, but 5.5 percent among the top one-third of the prior earnings distribution. The latter is a surprisingly high rate for UI beneficiaries with the highest prior earnings.
- Higher for those who were fired or discharged (15.5 percent) or quit their prior job (14.0 percent), but lower for those with involuntary separation due to lack of work (8.1 percent).
- Rates of SNAP receipt among UI beneficiaries in large metropolitan areas (9.2 percent) and smaller urban areas (9.3 percent) were not different from the average rate among all UI beneficiaries, and the SNAP receipt rate was only slightly higher than the mean in rural areas (9.9 percent).

The three geographic groupings used in the analysis were these: 1) all metropolitan areas within Census Bureau MSAs, 2) other counties with incorporated municipal areas and high population densities (Census Bureau micropolitan areas), and 3) rural counties throughout the state.¹² Statistical tests yielded no differences from the overall group mean in the metropolitan and urban areas, and they yielded only a very slightly higher rate than the mean for the rural areas.

Two descriptive characteristics of the UI beneficiary population, which could provide informative variation in SNAP usage, are mea-

Table 8.5 SNAP Receipt Rates Overall and for Subgroups among UI Beneficiaries in the Month of UI Application, the Year before, and One and Two Years after UI Application

	Number of UI beneficiaries	12 months pre-UI app	Month of UI application	12 months post-UI app	24 months post-UI app
Overall mean rate	1,305,038	0.142	0.093	0.206	0.273
Age 18–24	121,705	0.209	0.126	0.276	0.369
Age 25–44	654,733	0.166	0.110	0.242	0.317
Age 45+	528,600	0.096	0.064	0.145	0.197
Gender, male	853,738	0.116	0.072	0.171	0.235
Gender, female	451,300	0.190	0.131	0.271	0.346
Race, white/Caucasian	815,945	0.116	0.077	0.174	0.233
Race, African American	150,177	0.226	0.148	0.319	0.414
Race, other	27,257	0.130	0.088	0.194	0.256
Race, unknown	311,659	0.168	0.108	0.235	0.312
Education, less than high school	139,251	0.218	0.142	0.298	0.390
Education, high school grad/GED	693,532	0.134	0.088	0.197	0.264
Education, some college	318,122	0.146	0.096	0.214	0.280
Education, bachelor’s degree	92,297	0.094	0.062	0.143	0.189
Education, advanced degree	60,561	0.100	0.066	0.151	0.198
Education, missing/unknown	1,275	0.095	0.074	0.134	0.169
Job tenure, less than one year	379,084	0.222	0.130	0.270	0.351
Job tenure, 1–2 years	317,856	0.152	0.102	0.235	0.309

Job tenure, 3–5 years	180,819	0.111	0.083	0.198	0.266
Job tenure, 6–10 years	194,747	0.089	0.066	0.160	0.222
Job tenure, 11 years or more	232,532	0.064	0.049	0.107	0.146
Bottom third of earnings (5 qtrs.)	334,936	0.283	0.181	0.345	0.437
Middle third of earnings (5 qtrs.)	479,148	0.109	0.070	0.189	0.259
Top third of earnings (5 qtrs.)	490,954	0.077	0.055	0.128	0.175
Job separation, lack of work	1,054,409	0.122	0.081	0.170	0.231
Job separation, fired/discharged	170,711	0.225	0.145	0.368	0.464
Job separation, quit	74,863	0.221	0.140	0.333	0.429
Job separation, other	5,055	0.171	0.126	0.266	0.331
MSA, larger metro areas	1,044,062	0.139	<i>0.092</i>	0.205	0.273
Micro, smaller municipal areas	137,777	0.146	<i>0.093</i>	0.206	0.271
Rural area	123,199	0.155	0.099	0.214	0.281

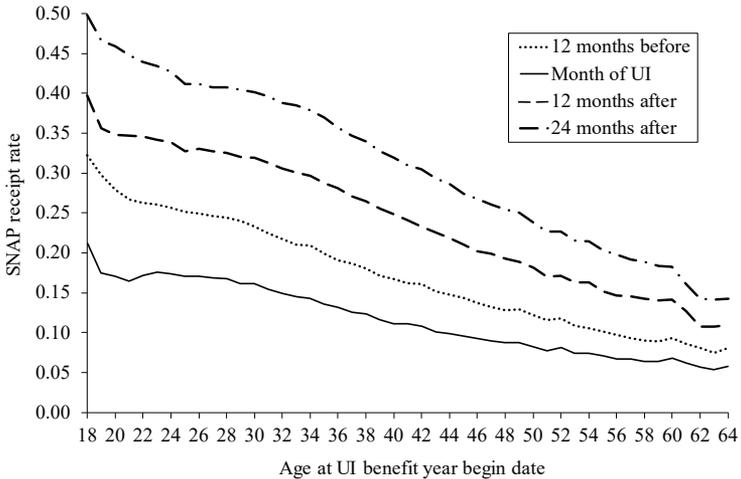
NOTE: All subgroup proportions are significantly different from the overall mean proportions listed in the top row at the 0.05 confidence level in a two-tailed test, except for those italicized.

SOURCE: Author's computations based on Michigan program administrative data.

sured continuously: 1) age and 2) the UI weekly benefit amount. The latter provides an indirect, if censored, measure of earnings prior to UI application. Figure 8.7 shows the rates of SNAP receipt among UI applicants by age before, at the time of, and after UI application. The figure shows that SNAP receipt rates decline with increasing age at the time of UI application and that the lowest observed SNAP receipt rates are in the month of UI application. The next-lowest SNAP receipt rates are 12 months before UI application, followed by the rates for 12 months after and for 24 months after. There is a clustering of these rates of between 5 and 15 percent for the oldest workers, and the range for the youngest UI applicants is from 20 to 50 percent.

All UI beneficiaries have a weekly benefit amount (WBA) that increases with prior earnings up to the state maximum WBA. This is a continuous, but truncated, indicator of UI base-period earnings.¹³ Figure 8.8 shows that the rates of SNAP receipt decline as the weekly

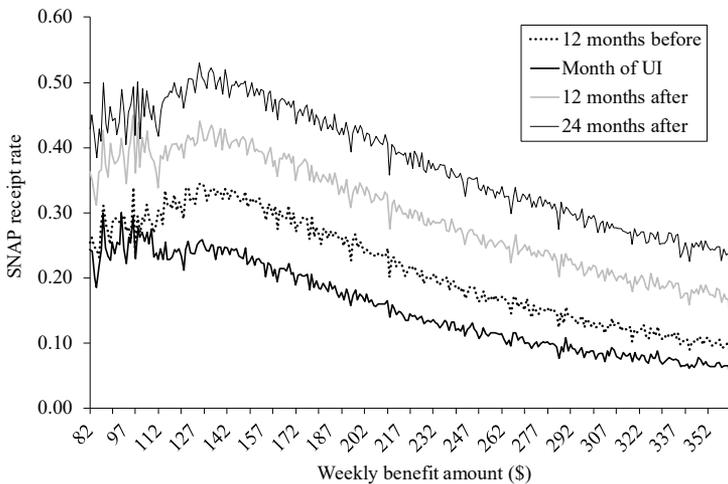
Figure 8.7 SNAP Receipt Rates of UI Applicants by Age in Time Periods, Relative to Their Age in the Month of UI Application



SOURCE: Author’s computations based on Michigan program administrative data.

benefit amount (WBA) increases, and while there is a dip in the SNAP receipt rates at the maximum WBA, the rates are far above zero. More than half of all UI beneficiaries in the sample qualified for the Michigan maximum WBA (52.9 percent), and among UI beneficiaries receiving SNAP at the time of UI application, 28.1 percent were at the maximum WBA.¹⁴ This is evidence that SNAP receipt in the Great Recession reached up above the lowest levels of the earnings distribution. Among all UI beneficiaries, the proportion at the maximum WBA peaked at 56.6 percent in 2009 because many people with relatively high earnings histories found themselves out of work. The biggest share at the maximum WBA for UI among those also receiving SNAP at the time of UI benefit application was 32.2 percent, also in 2009. The share of all UI beneficiaries in the sample at the Michigan minimum WBA was 3.6 percent, but 9.8 percent of UI beneficiaries who were receiving SNAP at the time of UI application

Figure 8.8 SNAP Receipt Rates Relative to the UI Benefit Application Date, by Weekly Benefit Amount for Regular UI Beneficiaries



SOURCE: Author's computations based on Michigan program administrative data.

were also receiving the minimum WBA. The shares at the minimum WBA peaked in 2010 at 5.5 percent among all UI beneficiaries and at 11.6 percent among UI beneficiaries in SNAP recipient households at the time of UI application. Considering this trend, and also considering the drop in the share at the maximum WBA from 2009 to 2010, there is mild evidence that the labor market improved faster for those with higher earnings histories.

EFFECTS OF PRIOR SNAP RECEIPT ON FLOWS INTO SNAP BY UI APPLICANTS

To describe the importance of prior SNAP receipt on flows into SNAP by UI applicants, I estimated regression models of future SNAP receipt. The regression approach controls for changes in the composition of UI applicants over time. I estimate linear probability models for the probability of receiving SNAP within one or two years of UI application, controlling for the time since prior SNAP receipt and a long list of other observable variables. The full model includes the following aspects: UI eligibility requirements, UI entitlement, UI benefit receipt, and recent prior interactions with the UI system. The models also include control variables for age, gender, race, education, industry of prior employment, and length of time spent on the job immediately preceding UI application. Finally, a vector of variables for the year and month of UI application and the county of residence are included.

To permit comparison of parameter estimates from the models estimated on one-year and two-year outcomes, the same estimation sample is used for both models. The sample is based on UI applications received between January 2007 and August 2009. The model includes a vector of explanatory variables for the time since a client last received a SNAP benefit, as well as a variable for persons with no observed SNAP receipt prior to UI application.¹⁵ The complete set of

parameter estimates for the full model along with standard errors and *t*-statistics are presented in O’Leary and Kline (2014, Appendix Table A.1). Because the estimation sample includes 1.6 million observations, all parameters are estimated with a high degree of statistical significance.¹⁶

Parameter estimates for the vector of past SNAP receipt variables are reported in Table 8.6. Each variable is a binary indicator for a range of months since the last receipt of SNAP and takes on the value 1 if yes, 0 if no.¹⁷ There is a strong positive correlation between past receipt of SNAP benefits and future SNAP receipt, but the correlation declines rapidly as the time since prior SNAP receipt increases. UI applicants with no prior observable SNAP receipt are estimated to be much less likely to receive SNAP within one or two years after UI application.

About 11.5 percent of UI applicants had a SNAP benefit in the month prior to entering UI. Controlling for observable characteristics, including UI eligibility and benefit receipt, those receiving SNAP in the prior month are 67 percentage points more likely than UI applicants with no prior observable SNAP receipt to receive a SNAP ben-

Table 8.6 Impact of Past SNAP Receipt on the Likelihood of Receiving SNAP within One or Two Years of UI Application among Persons Entering UI between January 2007 and August 2009 (*n* = 1,633,566)

Months since last previous SNAP receipt	SNAP receipt after entering UI		
	One year (<i>m</i> = 0.251)	Two years (<i>m</i> = 0.321)	Sample mean
1	0.669	0.581	0.115
2–6	0.306	0.330	0.033
7–12	0.207	0.254	0.028
13–24	0.120	0.179	0.031
25+	0.075	0.125	0.015
No prior SNAP	–0.126	–0.119	0.778
Last SNAP benefit (\$)	60	60	236

NOTE: All parameter estimates statistically significant at the 0.01 level. *m* = mean.

SOURCE: Author’s computations based on Michigan program administrative data.

efit within one year of UI application. UI applicants who received SNAP benefits two to six months prior to UI application (3.3 percent of applicants) are estimated to be 31 percentage points more likely to draw SNAP within a year. Applicants who last received SNAP 7 to 12 months before UI (2.8 percent of applicants) receipt are 21 percentage points more likely to receive SNAP in the year after entering UI. Remaining parameter estimates in the table continue the pattern of a lower likelihood of applicants' returning to SNAP the longer they are independent from the program.¹⁸

The monthly amount of the most recent prior SNAP benefit averaged \$236 for the 22 percent of applicants observed to have been part of the SNAP program prior to UI application.¹⁹ While changes to this amount have a statistically significant, positive impact on the likelihood of future receipt, the marginal impact is negligible. All else being equal, persons with a \$100 higher level of prior SNAP benefits were just six-tenths of one percent more likely to receive SNAP after applying for UI.

WAGE REPLACEMENT AND SNAP RECEIPT

A frequent question in UI research concerns benefit adequacy as income replacement during spells of joblessness (O'Leary 1998). Many state programs define their WBA formulas to approximate 50 percent replacement of an applicant's average weekly wage up to a statutory maximum. But is actual wage replacement adequate? Table 8.7 summarizes evidence on the effect WBA levels have on the likelihood of SNAP receipt after UI application. Added to the SNAP receipt model described in Table 8.6 were a series of dummy variables for various ranges of UI wage replacement rates between the Michigan statutory minimum and maximum UI weekly benefit amount. Indicator variables were defined for each of 10 steps in the WBA distribution. The model also includes a variable for UI applicants not eligible to receive UI benefits and another variable for UI applicants at the

Table 8.7 Weekly Benefit Amounts and the Likelihood of Receiving SNAP within One or Two Years of UI Application

Variable description	SNAP in one year ($m = 0.251$)		SNAP in two years ($m = 0.321$)		Regression sample mean	Mean WBA (\$)
	Parameter estimate	<i>t</i> -statistic	Parameter estimate	<i>t</i> -statistic		
Monetarily ineligible	0.072	77.56	0.098	90.86	0.105	n/a
Nonmax decile, 1st	0.013	10.27	0.026	17.77	0.043	129
Nonmax decile, 2nd	0.014	11.24	0.028	19.85	0.043	158
Nonmax decile, 3rd	0.013	10.42	0.023	15.96	0.043	183
Nonmax decile, 4th	0.011	9.13	0.021	14.96	0.043	207
Nonmax decile, 5th	0.008	7.08	0.016	12.11	0.043	230
Nonmax decile, 6th	0.003	2.90	0.009	6.83	0.043	253
Nonmax decile, 7th	-0.001	-0.59	0.004	2.73	0.043	276
Nonmax decile, 8th	-0.003	-2.54	-0.001	-0.71	0.043	300
Nonmax decile, 9th	-0.009	-7.79	-0.008	-6.24	0.043	324
Nonmax decile, 10th	-0.014	-11.55	-0.015	-10.78	0.043	349
Maximum WBA	-0.020	-51.04	-0.032	-71.20	0.461	362

NOTE: m = mean.

SOURCE: Author's computations based on Michigan program administrative data.

statutory maximum. The complete set of wage replacement variables is included in the model for estimation under the restriction that the variable proportions sum to 1.²⁰

Results from estimating this model suggest that UI applicants not monetarily eligible to receive benefits are 7.2 percent more likely to receive SNAP within one year of UI application. Controlling for benefit receipt and other factors, persons with an average WBA of \$129 are 1.3 percentage points more likely to receive SNAP. Not until WBA approaches \$300 is there a significant reduction in the likelihood of receiving SNAP within one year after UI application. In the model for SNAP receipt within two years, a significant reduction in the likelihood of SNAP receipt occurs at an average WBA of \$324.

MICHIGAN SAMPLE RESULTS COMPARED TO OTHER SAMPLE DESIGNS

The analysis presented in this chapter is based on Michigan administrative data on the full census of both SNAP recipients and all UI applicants. State analyses in other chapters of this book also use the full census of SNAP households for states around the time of the Great Recession. However, not all state analyses use the full census of all UI applications. Some use all UI beneficiaries (78.8 percent of Michigan UI applicants), while others are limited to only UI beneficiaries who were also in SNAP recipient households (7.3 percent of Michigan UI applicants). To illustrate the effects of these three different UI sample definitions, Table 8.8 summarizes the average rates of SNAP receipt up to 12 months before, during the month of, and 12 and 24 months after UI application.

The first row in Table 8.8 shows SNAP receipt among all UI applicants. The second row in Table 8.8, which shows SNAP receipt among all UI beneficiaries, combines data from the middle rows of Table 8.1 on various types of UI beneficiaries. The third row in Table 8.8 shows completely new results; it presents rates of SNAP usage

Table 8.8 Counts of UI Applicants, UI Beneficiaries, and UI Beneficiaries on SNAP in the Month of UI Application, and Their Rates of SNAP Receipt Relative to UI Application

UI applicant category	Total UI applicants	Share of total	SNAP in 12 months prior to UI	SNAP in month of UI application	SNAP in 12 months after UI app month	SNAP in 24 months after UI app month
All UI applicants	1,673,978	1.000	297,514	201,851	418,597	537,774
UI beneficiaries	1,318,858	0.788	186,229	122,012	271,399	359,983
UI beneficiaries on SNAP	122,012	0.073	115,393	122,012	119,160	120,099
			Rates of SNAP receipt			
All UI applicants	1,673,978		0.178	0.121	0.250	0.321
UI beneficiaries	1,318,858		0.141	0.093	0.206	0.273
UI beneficiaries on SNAP	122,012		0.946	1.000	0.977	0.984

NOTE: The analysis in this table starts with a sample of 1,673,978 Michigan UI applicants between January 2007 and August 2009. This sample is smaller than the total of 2,521,971 Michigan UI applicants shown in Table 8.3 for the period from 2007 to 2010 because, as listed in Table 1.1, Michigan SNAP data are available from January 2006 to August 2011, and the exercise in this table requires identifying SNAP receipt up to one year before and two years after UI application.

SOURCE: Author's computations based on Michigan program administrative data.

among all UI beneficiaries who were receiving SNAP during the month they applied for UI benefits. The bottom panel of Table 8.8 reports rates of SNAP receipt. In the bottom row, we see that among those receiving SNAP in the month of UI application, 94.6 percent received SNAP sometime in the 12 months before UI application, 97.7 percent received SNAP sometime during the 12 months after UI application, and 98.4 percent received SNAP within 24 months of UI application.

Among all UI applicants, the SNAP receipt rate in the 12 months before UI application is 17.8 percent, which is 26 percent higher than the 14.1 percent SNAP receipt rate for all UI beneficiaries. Among UI beneficiaries receiving SNAP in the month of UI application, the SNAP receipt rate in the 12 months before UI application is more than six times the rate among all UI beneficiaries. For the latter sample, there is almost no difference in the SNAP receipt rates before or after the month of UI application. So for those receiving SNAP in the month of UI application, the SNAP receipt rate is nearly 100 percent in all four time frames. While there is almost no dynamic aspect to SNAP receipt for this latter group, the pattern does differ from the applicant and beneficiary samples. Thus, while UI beneficiaries have somewhat lower past SNAP reciprocity (in the prior 12 months) than all UI applicants, including those who are found to be ineligible, UI beneficiaries on SNAP at the time of UI application are vastly more likely to have had prior SNAP reciprocity.

THE EFFECT OF SHORTER POTENTIAL UI DURATION ON SNAP RECEIPT

By 2010, it had been more than 50 years since all states began providing maximum potential UI durations of at least 26 weeks. However, after states accumulated big debts paying UI benefits during the Great Recession, some states cut back on potential duration.²¹ As of 2017, UI laws in eight states provide a maximum duration of

less than 26 weeks.²² Among the six states studied in this book, four cut their maximum potential UI duration: Florida, Georgia, Michigan, and Missouri. In Michigan, the maximum potential UI duration was cut to a fixed level of 20 weeks from 26. In the other three states, the maximum is a variable duration depending on the level of unemployment as measured by the Current Population Survey. For example, the maximum potential duration in Georgia is only 14 weeks when the state unemployment rate is below 6.5 percent, as it was in 2017.

The formula for potential UI duration in Michigan now yields a number of weeks that can vary for individual applicants between 14 and 20, depending on the level of prior earnings, but the maximum potential is always 20 weeks.²³ The shorter UI duration in Michigan took effect in January 2012. That date fell after the period for the administrative data on SNAP and UI used for analysis in this chapter. Table 8.9 presents a summary of simulation estimates about how the shorter potential UI duration might be expected to change SNAP use by UI benefit recipients in Michigan.²⁴

The simulations summarized in Table 8.9 suggest that the shorter potential duration in Michigan would increase the use of SNAP by UI beneficiaries by 1.5 percentage points within 12 months of the UI benefit-year-begin date and by 2.6 percentage points within 24 months. Given that the base levels of SNAP receipt for these two groups are 20.8 percent and 27.5 percent, respectively, the percentage increases over one and two years would be 7.2 percent and 9.5 percent. These estimated spillover effects suggest that significantly higher levels of SNAP receipt could be observed in Michigan during the next severe recession if the maximum duration of regular UI benefits remains fixed at 20 weeks.

Naturally, these estimates assume the same degree of access to SNAP and the same level of SNAP benefits that were available in the 2007–2011 period. As noted by Heflin and Mueser in Chapter 5 of this book about the recent change in Florida, the spillover from a cut in potential UI duration to increased SNAP receipt means a shift from state-funded UI benefits to federally funded SNAP benefits. The

Table 8.9 Simulated Effects of the Reduction in Regular UI Entitlement to a Maximum of 20 Weeks on the Shares of UI Beneficiaries Entering SNAP in Michigan UI Beneficiaries, 2007–2009

Entitled duration (wks.)	26	21–25	LE 20	Total
Sample size	1,051,013	138,744	115,244	1,305,001
Weekly benefit amount (\$)	323	257	232	308
Maximum benefits payable (MBP) (mean \$)	8,399	5,916	4,123	7,758
Simulated MBP if 20 weeks maximum (\$)	6,461	5,141	4,123	6,114
Simulated change in MBP (\$)	–1,938	–775	0	–1,644
Simulated change in UI duration (wks.)	–6.0	–3.0	0.0	–5.2
Share receiving SNAP within 12 mos.	0.180	0.295	0.364	0.208
Simulated share receiving SNAP, 12 mos.	0.197	0.303	0.364	0.223
Simulated change in share receiving SNAP, 12 mos.	0.018	0.008	0.000	0.015
Share receiving SNAP within 24 months	0.240	0.380	0.459	0.275
Simulated share receiving SNAP, 24 months	0.271	0.391	0.459	0.301
Simulated change in share receiving SNAP, 24 months	0.031	0.011	0.000	0.026

SOURCE: Based on author’s computations using Michigan program administrative data for UI beneficiaries between January 2007 and August 2009, with monthly SNAP program data at least 24 months after the UI benefit-year-beginning date. Fewer than 40 observations were excluded because of missing data on characteristics in regression models used for simulations.

recent federal actions to trim SNAP benefit levels and increase SNAP eligibility requirements suggest that the actual movement from UI to SNAP might be smaller than estimated for the cut in Michigan potential duration, meaning that unmet need will be even bigger in the next severe recession than in the last.

SUMMARY

Use of SNAP and UI changed among Michigan adults in the years around and during the Great Recession. SNAP normally provides food assistance to the needy, while UI provides partial income replacement to regular labor force members during temporary involuntary unemployment. However, many Michigan working households received both UI and SNAP around and during the Great Recession. To understand the interaction between the SNAP and UI programs in this period, I use Michigan program administrative data on all SNAP recipients from 2006 to 2011 and on all UI applicants from 2001 to 2011. I examine joint and separate program use and flows of benefit recipients between programs. The advantage of the Michigan data compared to other study states in this volume is that it encompasses the universe of all UI applicants. I made use of this broader UI coverage for much of the analysis in this chapter.

In a Michigan population of nearly 10 million, the number of SNAP recipients among adults aged 18 to 64 was 748,829 in 2006 and rose to 1,326,638 in 2010. The number of UI benefit recipients was 454,525 in 2006 and rose to 593,268 in 2009, then rapidly declined thereafter. Many who typically relied only on UI during unemployment in better economic times also turned to SNAP in the Great Recession. The number of Michigan adults simultaneously receiving both SNAP and UI in a year nearly doubled, from 63,690 in 2007 to 120,880 in 2009—the year that joint receipt peaked.

Between 2007 and 2010, an average of 15.8 percent of Michigan UI beneficiaries received SNAP benefits in the year prior to their UI

application. The rate was 20.2 percent across all Michigan UI applicants, and 25.0 percent for applicants who did not get UI benefits. Prior SNAP receipt was highest among UI applicants who quit or got fired from jobs (28.7 percent) and lowest among UI beneficiaries who did not exhaust their entitlement (13.0 percent). Among UI exhaustees, 18.4 percent had prior SNAP receipt, while among UI exhaustees who transitioned to extended benefits (EB) or emergency unemployment compensation (EUC), 19.4 percent had prior SNAP receipt.

The clearest view of new SNAP receipt after UI application is seen by restricting the sample to all Michigan UI applicants who did not receive SNAP benefits in the year before UI application. Among all UI beneficiaries in this sample, 13.0 percent received SNAP during the year after UI application, and only 6.2 percent of UI beneficiaries who did not exhaust their UI entitlement received SNAP within a year. Some 16.5 percent of UI exhaustees and 17.5 percent of exhaustees who transitioned to EB or EUC received SNAP within one year of UI application. Therefore, UI beneficiaries who did not return to work during their regular UI entitlement turned to SNAP at higher rates, even if their resorting to SNAP was somewhat delayed by federally extended UI benefits.

The probability of receiving SNAP within one or two years after UI application was estimated in models controlling for UI eligibility requirements, UI entitlement, UI benefit receipt, recent prior interactions with the UI system, and other observable variables.²⁵ The results suggest that SNAP receipt after UI application was higher among those who

- had job separations due to quits or employer discharge,
- were not monetarily eligible for UI,
- exhausted their regular UI benefit entitlement,
- were between the ages of 25 and 44,
- were less educated,
- had recent prior job tenure of three to five years, or

- were separated from employment in the industries of retail trade, hospitality, or health-care services.

There is also evidence that movement into SNAP from UI occurred faster as the recession deepened.

Examination of SNAP receipt rates in each of the four years from 2007 to 2010 showed the same general patterns within each year by degree of UI eligibility and UI benefit receipt, but the SNAP receipt rates for all categories increased each year from 2007 to 2010. During those four years, the SNAP receipt rates increased 50 percent in the 12 months before UI application, about 80 percent in the month of UI application, and about 150 percent in the 12 months after UI application. The biggest jump in all outcome measures was from 2009 to 2010.

For the same period, 2007–2010, there were no differences in rates of SNAP receipt across urban and rural settings, even when considering larger urban areas and counties with smaller cities. Three continuously measured demographic variables were associated with significant variations. SNAP receipt rates decreased steadily with 1) increasing tenure on the prior job, 2) the age of the beneficiary, and 3) the prior earnings level as measured by the level of the UI weekly benefit amount. A surprising finding of the simultaneous program benefit receipt is that among those who received SNAP in the period from one year before UI application to two years after, 28.1 percent of UI beneficiaries in Michigan were at the maximum WBA. This indicates that SNAP usage among UI beneficiaries reached well up into the income distribution during the Great Recession.

It is not surprising that the likelihood of SNAP receipt correlates positively with unemployment duration. Persons who received benefits under the EUC or EB programs were 2.8 and 4.0 percentage points, respectively, more likely to receive SNAP within one or two years of UI benefit application. Regular UI beneficiaries who did not exhaust benefits and presumably reentered employment were 3.5 and 4.4 percentage points less likely to receive SNAP within one or two years compared to EUC and EB recipients, all else being equal.

Simple unadjusted comparisons between UI beneficiaries and nonbeneficiaries suggest that UI receipt reduces the rate of SNAP receipt by about 6 percentage points. Controlling for differences in observable characteristics, the estimated effect is about half as large.²⁶ Simulations estimating that the cut from 26 to 20 weeks' potential UI duration in Michigan would increase SNAP receipt by 2.6 percentage points within two years of UI application suggest that the effect of UI in reducing the flow into SNAP would be diminished, resulting in an increase in federal income replacement responsibilities relative to the states. However, the current federal posture signals a retreat from this responsibility.

CONCLUSION

Genuine hardship was widespread in Michigan during the Great Recession. Families pieced together income from all available sources. SNAP and UI were two sources of income that responded quickly to ease general hardship and help replace income lost from job displacement. For adults not in SNAP-recipient households at the time of UI application, a sizable fraction later turned to SNAP. As the recession progressed, a rising share of new UI applicants were in households already receiving SNAP. The patterns of joint program benefit receipt were similar throughout Michigan cities and towns large and small in both urban and rural areas. Households with incomes well above the lowest levels of the income distribution turned to SNAP in the Great Recession. Even as the numbers of UI recipients declined after the recession reached its depth in 2009, the rates of SNAP receipt continued to rise, including among UI applicants and beneficiaries. The Michigan data suggest a relatively higher rate of households entering UI from SNAP than those entering SNAP from UI. That is, among households using both programs, most were already in hardship and on SNAP before experiencing job separation. The share of all new UI beneficiaries that included someone from a SNAP-recipient house-

hold continued to rise even past the official end of the recession. Thus, as the recession dragged on, new UI recipients included an increasing share of those from food-insecure Michigan households.

In recent years, Michigan has reduced the potential duration of regular UI from 26 to 20 weeks, and the federal government has raised SNAP eligibility requirements and reduced the value of SNAP assistance for all household types. The shorter regular UI duration suggests that a bigger flow from UI to SNAP would occur in a future recession, but the higher SNAP eligibility requirements and lower SNAP benefit levels suggest that not all such applicants will get meaningful food assistance. This chapter has painted a picture of SNAP and UI usage during a severe labor market decline and the early stages of economic recovery. Many questions have been answered, yet many others have been raised: How long did high rates of SNAP and UI overlap persist after 2010? How much did extended UI benefits reduce SNAP benefit payments from what they otherwise might have been? Will the use of SNAP by UI recipients be greater with shorter potential UI durations, and by how much? These and other questions can only truly be answered with new data for the years since 2011.

Notes

1. In 2011, individuals living in households with income at or below 130 percent of the poverty level would be eligible for SNAP assistance if they also satisfied the asset limits. Recipients of Temporary Assistance for Needy Families (TANF) and Supplemental Security Income (SSI) payments also qualified for SNAP. Further eligibility details and asset limits are listed at USDA (2018).
2. Acs and Dahl (2010) estimate that poverty would have reached 25 percent of the households experiencing unemployment, instead of the 20 percent mark that was reached, had federal extended UI benefits not been provided in 2009.
3. Bridges was named in honor of the Mackinac Bridge, a five-mile-long bridge connecting the lower and upper peninsulas of Michigan. The system was rolled out in all 83 Michigan counties between August 2008 and August 2009.

4. The UI monetary eligibility requirement in Michigan depends on the state minimum wage, which has remained at \$7.40 an hour since July 2008.
5. Originally, UI data were used in 2002–2003 to estimate a model of regular UI benefit exhaustion for the Michigan Unemployment Insurance Agency (UIA) as part of the Worker Profiling and Reemployment Services (WPRS) program. This was followed, in 2004–2006, by a state initiative entitled the Value-Added Performance Improvement System (VAPIS), for which statistical models were developed by the Upjohn Institute to adjust performance standards of Michigan workforce agencies. More recent use of Michigan UI administrative data includes Upjohn Institute contracts with the U.S. Department of Health and Human Services (HHS), to investigate links between Temporary Assistance for Needy Families (TANF) and UI (2005–2012).
6. Throughout this analysis, the actual reference date used for UI applicants is the “benefit year begin” (BYB) date of the UI claim, which is the Sunday of the week in which the UI claim was filed. The date of UI application was not part of the UI data extracted. In this text, all references to “UI application,” “filing,” or “start of UI claim” actually refer to the BYB date.
7. Six-month smoothing of UI beneficiary data was done to allow the visual display to illuminate the important changes in activity.
8. The business-cycle dating committee of the National Bureau of Economic Research (NBER) says that the Great Recession started in December 2007 and ended in June 2009 (NBER 2010).
9. Following O'Leary and Kline (2014), the UI inflow data were adjusted to properly compare UI application rates over time and to assess joint UI and SNAP usage. A downward adjustment was necessary because of the availability of recession-related Extended Benefits (EB) and Emergency Unemployment Compensation (EUC) during our period of analysis. For those who exhaust regular UI benefit entitlements and transition to EB or EUC during their original 52-week benefit year, the Michigan UI Agency requires reapplication for regular UI once the original benefit year expires. Since most of these beneficiaries had not worked since before the start of their prior UI application, most could not qualify for a new regular benefit year; they simply continued on EB or EUC. Since these transitional claims did not represent real economic activity but resulted instead mainly from a procedural requirement, I removed them from the sample analyzed.
10. Among all states, Michigan has a relatively high earnings threshold for monetary eligibility, requiring a total of least \$4,307 combined across the two highest earning calendar quarters of the UI base period.

11. This discussion is merely descriptive and assumes comparable characteristics and UI application rates across different eligibility and UI benefit receipt groups. For example, if persons with no prior SNAP benefits who quit or were discharged from employment are less likely to apply for UI benefits and therefore are not part of the sample we observe, the true difference in past SNAP receipt for persons who quit or were discharged from employment compared to fully UI-eligible applicants would be less than what is implied graphically in Figure 8.5.
12. Metropolitan (county) areas included Detroit metro, Ann Arbor, Pontiac, Wayne County, Grand Rapids (Kent), Holland (Ottawa), Muskegon, Kalamazoo, Battle Creek (Calhoun), Jackson, Lansing (Ingham), and Saginaw. Micropolitan smaller cities (counties) included Houghton-Keweenaw, Marquette-Escanaba, Sault St. Marie (Chippewa), Grand Traverse County, Alpena County, Big Rapids–Midland area counties, Allegan County, Shiawassee County, St. Joseph County, and Branch County. Rural areas included other counties throughout the state in both the lower and upper peninsulas of Michigan.
13. As in many states, the UI earnings base period is the first four of the last five completed calendar quarters before the date of UI application. For applicants with insufficient earnings in the standard base period, an alternate base period of the four most recently completed calendar quarters is applied.
14. The Michigan maximum UI weekly benefit amount has been fixed at \$362 since 1983.
15. I also estimate models that exclude persons who had received SNAP benefits in the year prior to UI application. The models include a control variable for receipt of SNAP more than one year prior, along with another for the dollar amount of those prior benefits. There were no significant differences across the models in the values of parameter estimates.
16. All parameter estimates are significant at the 0.01 level in a two-tailed test.
17. This vector of variables representing past SNAP receipt forms an exhaustive list of possible outcomes, which results in the sum of the variables' means equaling 1. Parameters have been estimated for each variable by applying a linear constraint in the estimation process, which requires that the weighted sum of each variable be equal to 0. The weights are the sample mean for each variable. Therefore, the parameter estimates are to be interpreted relative to the dependent variable mean rather than relative to an omitted category, as is often used in ordinary least squares (OLS) estimation. For the amount of the last SNAP payment, persons who did not receive a prior SNAP benefit were assigned the mean value

for those that did receive SNAP prior to UI application. This enables the parameter estimate of the amount of the last SNAP benefit to better reflect deviations from its mean rather than be more of a yes/no indicator of whether SNAP was received in the past.

18. With the estimation starting in 2007, I can reliably measure the first three variables. Beginning in 2008, the variable for the last SNAP benefit occurring 13 to 24 months prior can be measured reliably; however, it is likely that someone entering UI in 2007, whom I have classified as having no prior SNAP receipt, actually received SNAP in 2005 (unobserved) and should be classified as having last received SNAP 13–24 months prior. This “censoring” of data means that the parameter estimates are biased despite showing the expected pattern. Parameter estimates for the full model are reported in O’Leary and Kline (2014, Appendix Table A.1). Results for other parameter estimates are consistent with results presented earlier in this chapter for demographic, location, and UI-eligibility variables.
19. There is a censoring issue here. SNAP participation prior to UI application is based on the SNAP grant amount data, which began in January 2006. For persons applying for UI benefits in January 2007, I have 12 months of data with which to observe prior SNAP benefits. For persons applying for UI in January 2008, that window increases to 24 months.
20. A full set of dummy variables (zero, one) defining an exhaustive partition of categories for an independent variable (e.g., the categories “male” and “female” exhaustively partition the independent variable “sex”) can be included in a regression model if a linear restriction is imposed to force the weighted sum of means of categories within the independent variable equal to 1. The weights are the share of each category within the sample. Parameter estimates on such categorical variables are interpreted relative to the mean effect of the independent variable on the dependent variable.
21. States may have chosen to cut durations rather than benefit levels because the latter action was prohibited under the 2008 Emergency Unemployment Compensation law if states were to continue to receive federal money, while the former was not.
22. The states are Arkansas, Florida, Georgia, Kansas, Michigan, Missouri, North Carolina, and South Carolina.
23. The duration of UI benefits in Michigan is determined as follows: Base period earnings (BPE) must occur in at least two calendar quarters, with the high quarter earnings (HQE) being at least $388.06 \times$ (Michigan minimum wage) (MCL [Michigan Compiled Laws] 421.46). The weekly benefit amount (WBA) = $(0.041 \times \text{HQE})$. The duration of benefits is $(\text{BPE} \times 0.4) / (\text{WBA})$, with the result rounded down to the nearest

- half-week. The maximum duration is 20 weeks and the minimum is 14 weeks, except for benefits based on family employment, in which case benefits are limited to 7 weeks.
24. The simulations required models of the probability of SNAP receipt within 12 or 24 months after the UI benefit-year-beginning date on samples of UI beneficiaries. The models estimated are similar to those yielding the parameter estimates presented in Tables 8.6 and 8.7. Models had all the same covariates, except the UI beneficiary variables were replaced by variables for the dollar amount of benefit entitlement (WBA \times maximum weeks payable) and for that dollar amount squared. Additionally, variables for the amount of earnings in the five relevant base-period quarters plus that amount squared were also included. The latter were intended to control for the fact that the higher level of base-period earnings reduced the likelihood of future SNAP receipt. The models were estimated separately on beneficiaries eligible for 26 weeks and beneficiaries eligible for 21 to 25 weeks, and for dependent variables indicating SNAP receipt within 12 months and 24 months. That is, four regression models formed the basis for simulations, assuming beneficiaries eligible for 20 or fewer weeks would not change behavior. The regression models were then evaluated on individual characteristics, with the individual maximum amount of entitled dollars of benefits adjusted downward to be no more than 20 times the WBA.
 25. The models also controlled for age, gender, race, education, industry of prior employment, length of time spent on the job immediately preceding UI application, a vector of variables for the year and month of UI application, and county of residence.
 26. However, this might be a partial equilibrium result. Leung and O'Leary (2015) find no evidence that UI receipt reduces inflow into SNAP when other elements of the social safety net are included in the analysis.

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2019

W.E. Upjohn Institute for Employment Research
Kalamazoo, Michigan

Library of Congress Cataloging-in-Publication Data

© 2019

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300 S. Westnedge Avenue
Kalamazoo, Michigan 49007-4686

The facts presented in this study and the observations and viewpoints expressed are the sole responsibility of the author. They do not necessarily represent positions of the W.E. Upjohn Institute for Employment Research.

Cover design by Carol A.S. Derks.
Index prepared by Diane Worden.
Printed in the United States of America.
Printed on recycled paper.