Scraping By: Responses to Unemployment Insurance Exhaustion in the Aftermath of the Great Recession

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Abstract

The severe labor market dislocation caused by the "Great Recession" prompted a series of unprecedented extensions of available unemployment insurance (UI) compensation in the United States, from the standard 26-week period up to a maximum of 99 weeks for most eligible job seekers. Despite this expansion, prolonged unemployment duration in the aftermath of the recession has caused large numbers of individuals to exhaust their maximum available UI benefits. Using data from the CPS and SIPP surveys, we examine the characteristics and behavior of such UI "exhaustees." We focus on their income from earnings and other government transfer programs and compare them with UI exhaustees from the early period of extended benefits from the early 2000s. We find that UI exhaustees are similar to other unemployed individuals in terms of observable characteristics. Our regression analyses of post-spell outcomes indicate that UI exhaustees in recent years are more likely to receive other forms of social assistance than other UI recipients. However, the long unemployment durations experienced by UI exhaustees substantially lowers their post-unemployment earnings and household income (in the period associated with the recent recession as well as that associated with the 2001 recession).

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1. Introduction

During the recent Great Recession and its aftermath in the United States, job losses were

unusually severe and unemployment durations reached historical highs. This severe labor

market dislocation prompted a series of unprecedented extensions of available unemployment

insurance (UI) compensation, from the standard 26-week period up to a maximum of 99 weeks

for most eligible job seekers. These extensions likely bolstered the traditional automatic

stabilizer role of UI benefits, enabling recipients and their families to maintain their consumption

in the face of income loss, thereby increasing aggregate spending (Gruber 1997, U.S. CBO

2012).

Over time, however, increasing numbers of UI recipients have exhausted the maximum

weeks of UI available to them. In this paper, we examine the characteristics and indicators of

economic well-being of these extended UI exhaustees, comparing exhaustees in recent years

with those who exhausted UI benefits in the more mild labor market downturn of the early

2000s. While the recent UI extension programs have been prolonged and therefore expensive

from a fiscal perspective, these costs may be reduced by the substitution of extended UI benefits

for other forms of public assistance, such as disability insurance (DI) (Lindner 2011, Lindner and

Nichols 2012, Rutledge 2012). Alternatively, extended UI may be complementary with other

programs, with increased take-up of UI followed by receipt of DI or regular retirement benefits

(Inderbitzin, Staubli, and Zweimuller 2013).

Existing research that examines interactions between UI recipiency and other forms of

public assistance in the United States generally has focused on the DI program and has relied on

a specialized combination of survey and administrative data for which the sample frame ends before the onset of the Great Recession.[1] We therefore will widen the scope of our investigation beyond DI, focusing on the behavioral responses and well-being of individuals who exhaust extended UI. Our analyses rely on matched monthly-annual data from the Current Population Survey (CPS) and panel data from the Survey of Income and Program Participation (SIPP). These data sources enable us to identify and track the labor force status, income receipt, and participation in public assistance programs of large, nationally representative samples of individuals. Our CPS data extend through the end of 2012 and our SIPP panels extend into early 2012.

Our descriptive analyses indicate that the characteristics of likely UI exhaustees, in recent years and also in the early 2000s, are similar to the characteristics of other individuals who are unemployed due to a job separation, with the obvious exception that UI exhaustees experience longer unemployment durations. Our regression analyses indicate that UI exhaustees in the recent period are more likely than other UI recipients to receive other forms of social assistance after their unemployment spell ends; properly assessing whether this represents program substitution or complementarity requires additional analyses.

2. Regular and Extended UI in the United States

UI benefits are normally available for 26 weeks in the United States under the joint federal-state Unemployment Compensation (UC) program established under the Social Security Act of 1935. Unemployed individuals are eligible to receive benefits if they lost a job through no fault of their own (typically a permanent or temporary layoff) and they meet state-specific

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[1] Even with data covering the post-recession period, direct analysis of UI to DI transitions is difficult due to extensive time lags between initial DI application and eventual receipt (see e.g. Autor et al. 2011).

minimum requirements regarding work history and wages during the 12 to 15 month period preceding job loss. Availability for work and active job search typically are required for ongoing receipt of UI benefits, although the exact rules vary across states and are inconsistently enforced. Much of the time, it is sufficient for a claimant to state that he or she is engaged in active job search. However, in some states UI administrators attempt to verify search effort by, e.g., suggesting that the claimant apply for a particular open position. Anecdotally, these enforcement efforts have been minimal during the Great Recession, both because the UI system has been overwhelmed by unusually large caseloads and because in many places at many times there have not been enough job openings to distribute.

In most states, UI benefits equal half of the claimant's pre-displacement weekly wage, up to a weekly maximum. This maximum varies between $235 (Mississippi) and $979 (Massachusetts, including a dependents' allowance). Average weekly benefits across the country are around $300. The American Recovery and Reinvestment Act (ARRA), passed in February 2009, authorized an additional $25/week supplement to UI benefits. This supplement expired in May 2010.

UI benefits are funded through both state and federal employer taxes. State tax rates are often experience rated, with higher rates levied upon employers who have in the past been responsible for more UI cases. States are required to maintain UI trust funds that will fund benefits during economic downturns, when UI expenses rise and tax revenues fall. Many states entered the Great Recession with relatively low balances in their trust funds, however, and have had to borrow from the Federal UI trust fund in order to pay benefits. As of May 2013, total outstanding loans exceed $23 billion. Under Federal law, states that maintain outstanding loan balances must raise employer tax rates to pay off the debt.

Various pieces of federal legislation provide for extension of available UI benefits beyond the normal maximum of 26 weeks during periods of economic distress. The Extended Benefit (EB) program was established in 1970 to provide additional UI benefits in states facing adverse economic situations. EB benefits add an additional 13-20 weeks to this when the state unemployment rate is high. States must choose whether to participate in the EB program and, if so, may select from a short menu of thresholds that trigger EB benefit payments. Costs of EB payments are traditionally split equally between the state and the Federal government. The ARRA, however, provided for 100% financing of EB benefits, and many states subsequently opted into the program. This temporary provision has been extended repeatedly. EB job search requirements are more stringent than under the regular UI program; individuals may not receive benefits if they have refused any job offers within their capabilities, regardless of whether these jobs were at all comparable to their pre-displacement positions.

Congress has often authorized temporary additional extensions of UI benefits during recessions.[2] The severity of job loss and persistent labor market weakness during and after the recession of 2007-2009 resulted in an unprecedented expansion of UI benefit availability and takeup. The Emergency Unemployment Compensation program, first authorized in 2008 and extended repeatedly since then, provided for as many as 53 weeks of benefits (for a total of 99 weeks when added to 26 weeks of regular benefits and 20 weeks of EB). Because most large states reached the 99-week maximum, the typical unemployed individual was located in a state where the full 99 weeks were available, from late 2009 into 2012. By early 2012, substantial rollbacks of UI availability had occurred, through reduced weeks available through the federal programs, reductions in normal UI availability (below 26 weeks) in selected states, and most

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[2] See Whittaker (2008) and Whittaker and Isaacs (2012) for details regarding the various historical and current programs that provide extended UI benefits.

importantly improvements in labor market conditions that caused state unemployment rates to drop below the "trigger" levels associated with the various EUC and EB tiers. A similar but much more limited extension of UI benefits occurred through the Temporary Extension of Unemployment Compensation (TEUC) legislation that was effective from March 2002 through early 2004. Between the EB and TEUC programs, a maximum of 72 weeks of total benefits were available during this period. The program was terminated in early 2004. Both EUC and TEUC benefits were 100% federally funded.[3]

Figure 1 displays basic facts about the pool of UI exhaustees since the early 2000s, using data from the monthly CPS files (described in more detail in Section 4). Exhaustees are estimated here as job losers whose reported unemployment duration exceeds the maximum number of weeks of UI available in their state of residence that month (i.e., the stock rather than the flow). The plot shows that UI exhaustion rates had been running somewhat low in the recent recession and its aftermath, due to the very long potential duration of UI benefits. However, the share of exhaustees has risen, and given the continued high number of job losers in the unemployment pool, the actual number of exhaustees (expressed in millions in the figure) is close to prior highs achieved when no UI extensions in place, at about 1.5 million. The plot of the share of job losers whose durations exceed 99 weeks indicates that during 2010-11 they constituted nearly all of the exhaustee group, although the two lines have diverged in 2012 as maximum UI weeks available has fallen below 99 on a widespread basis.

Administrative data enable a more precise breakdown of UI recipiency. Total caseloads under the regular UI program rose from a bit over 2 million in 1998-2000 to around 3.5 million from late 2001 through late 2003. They then fell gradually in 2004 and 2005, but never got

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[3] Ror additional details regarding the prevalence, distribution across states, and labor market effects of these extended UI programs, see Rothstein (2011) and Farber and Valletta (2013).

much below 2.4 million. They then rose rapidly starting in late 2007, reaching as many as 6.5 million in mid-2009 before gradually falling off over the next several years. As of April 2013, weekly caseloads were just over 3 million.

Recent increases in UI recipiency through the EUC and EB programs have been equally large. At the EUC program's peak in early 2010 it was providing benefits to as many as 5.5 million individuals each week. The EB peak came later, in late 2010, when there were over 1 million weekly recipients. Combined caseloads for the two programs fell throughout 2011 and 2012, due in part to declining unemployment and in part to reduced eligibility (for EB, in particular), and were just over 2 million per week in January 2013.

The Congressional Research Service estimated in September 2012 that fiscal year 2012 unemployment tax collections at the federal and state level would total $55.7 billion. This will more than cover regular UI benefit payments, estimated at $44.3 billion, but not the additional $45.4 billion that will be spent on EB and EUC payments. EB and EUC costs, if this projection is correct, will be nearly one-third lower than in fiscal year 2011.

3. UI Exhaustion and Alternative Income Sources

A long literature examines the effect of unemployment insurance extensions on labor force outcomes (see, e.g., Katz and Meyer 1990, Card and Levine 2000, Rothstein 2011, and Farber and Valletta 2013). Evidence from the 1980s (Katz and Meyer 1990) indicates relatively large effects of UI durations on the probability of reemployment, but analyses of more recent data find much smaller effects (Rothstein 2011, Farber and Valletta 2013). Differences might be due to changes in the structure of the labor market – in particular, to declines in the incidence of temporary layoffs – or to differences in economic conditions between the periods. The two

recent studies also find that UI extensions have positive effects on the labor force attachment of the long-term unemployed, with notable increases in the probability of abandoning the search for work following the exhaustion of UI benefits (see also Card, Chetty, and Weber 2007).

By contrast, other behavioral effects of unemployment insurance are less well understood. In particular, there is little evidence regarding the way that UI interacts with other income transfer programs, such as food stamps, retirement benefits, disability insurance benefits, and cash welfare. UI may serve as a substitute for these programs, if it allows displaced workers to finance their living expenses without recourse to more means-tested programs, or as a complement, if recipients draw on other programs to supplement low UI benefits and if they remain on these programs for longer than they otherwise would due to the disincentive effects that UI creates.

Gruber (2001) examined the wealth holdings of the unemployed. He found that the median worker job loser in the 1984-92 SIPP panels had enough liquid assets to replace 5.4 weeks of earnings, but the long-term unemployed started their unemployment spells with less than half as much wealth as did the short-term unemployed. In other work, Gruber (1997) examined how the consumption spending of the unemployed varies with the generosity of UI benefits. He found that more generous benefits are associated with higher levels of consumption, indicating that UI benefits are insufficient to fully insure individuals against lost income.

Several recent papers examine the relationship between unemployment insurance disability insurance (DI) applications. Lindner and Nichols (2012 explore the effect of UI benefit generosity and eligibility criteria on DI applications. Rutledge (2012) and Rothstein (2013) examine the effect of UI durations on DI application. Rutledge finds that the presence of a UI extension is positively associated with the DI application rates of those who were claiming

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UI when the extension was announced. Rothstein, however, uses UI extensions as a source of variation in the date of UI benefit exhaustion and finds no effect of impending or recent exhaustion on DI application.

Very little is known about the financial situation or consumption behavior of individuals who have exhausted their UI benefits. Gruber's (2001) analysis suggests that such individuals are quite unlikely to have substantial remaining assets upon which to draw, but direct tests are difficult. We are aware of one study that used the 2001 panel of the SIPP to investigate the characteristics of individuals who had exhausted their UI benefits in late 2001 and early 2002 (U.S. CBO 2004). Those who were still not employed as of three months after the end of their UI benefits had average monthly family incomes of $2,530, about half of the pre-unemployment level. The vast majority ($1,970) of the post-UI income derived from relatives' earnings. Only 7% had Social Security income, while one in ten were receiving food stamps. Of the UI exhaustees, 36% were in poverty; this rose to 73% for those who did not have other earners in the family.

4. Data and Descriptive Statistics: CPS and SIPP

4.1 Monthly and Matched CPS data

Our first examination of UI exhaustees and near-exhaustees draws on data from the Current Population Survey.[4] We pool data from the monthly CPS samples from 2002 through 2012, and extract all respondents who were unemployed in the survey week and who reported that they had been displaced (or temporarily laid off) from their previous jobs.[5]

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[4] The monthly CPS files are used for the calculation of official U.S. labor force statistics such as the unemployment rate and reported unemployment durations for job seekers

[5] UI eligibility requires that the applicants be unemployed through no fault of their own. This excludes

Respondents report the number of weeks elapsed since the beginning of their unemployment spell. We use this to calculate the date of job loss. We then merge it to data on TEUC, EUC, and EB availability (described in Rothstein 2011, 2013; Farber and Valletta 2013) and compute the number of weeks of total UI benefits that would have been available to an individual in that state who lost his or her job on the indicated date. This calculation assumes that UI recipiency spells are continuous and uninterrupted and that all job losers were eligible for the maximum duration of benefits.

We classify individuals by the number of weeks of benefits that they had remaining as of the CPS interview. Table 1ists average characteristics of respondents with more than 12 weeks of benefits remaining; respondents with 1-12 weeks remaining; and respondents who have exhausted their UI benefits. We focus on three time periods: the periods of weak labor markets and extended benefits availability in 2002-2003 and 2010-2012, and the expansionary period of 2004-07 when only normal UI benefits were generally available. (We exclude 2008-2009 for readability, because UI benefits were extended repeatedly during this period, and also because individuals who exhaust UI during this period generally had been displaced before the onset of the recession.)

Individual characteristics are quite uniformly distributed across duration categories and across calendar time. Across all three periods that we examine, the exhaustees were less likely to be white and more likely to be black than were the short-term unemployed, but the differences are not large. Moreover, racial differences are somewhat muted in the most recent period –

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labor force entrants and reentrants, workers who separate voluntary from their jobs, and workers fired for cause. The latter group is not distinguished from other job losers in the monthly CPS data but in general is a very small share of the overall set of job losers. Anderson and Meyer (1997) estimate that about half of individuals eligible for UI actually receive it. Rothstein (2011) finds higher recipiency rates in recent years for CPS respondents who are unemployed three months or more.

whereas in the past Hispanics were relatively rare among exhaustees and near-exhaustees, this pattern is much weaker in 2010-2012.

In all three periods, exhaustees are older than near exhaustees, who themselves are older than the long-term unemployed. Interestingly, BA holders are overrepresented among exhaustees and near-exhaustees relative to their share of the unemployed as a whole; this may reflect thinner labor markets for more highly skilled workers, or greater assets and family income that enable longer job search on the part of highly educated job seekers. Again, however, this pattern is muted in the recent period. There are few notable differences in family structure between the short-term unemployed and UI exhaustees.

The final rows of the table report flows out of unemployment. These are constructed by merging observations on the same individual across three consecutive months. We consider an individual who was unemployed in the first month to have been reemployed if his status in the second month was employed and if he did not revert to unemployment in the third month, with a similar definition for labor force exit.[6] We are able to construct exit measures for about 80-85% of respondents for whom they should be available due to the structure of the CPS panel; our exit measures are unavailable for individuals who moved between CPS survey waves or who were non-respondents in one of the three surveys. (We also exclude individuals when there are apparent changes in their demographic characteristics – education, race, gender, or age – between consecutive surveys.)

Not surprisingly, reemployment rates were higher in 2004-2007, when the economy was in recovery, than in 2002-2003. As expected given the unusually weak labor market in recent years, job finding was much lower in 2010-2012 than in either of the earlier periods, with only

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[6] In this we follow Rothstein (2011) and Farber and Valletta (2013), who adopt the procedure to minimize the impact of measurement error in the CPS labor force status on flows out of unemployment.

16% of those unemployed one month with at least 12 weeks of UI benefits remaining reemployed the next month, down from 25% in 2002-2003. Across all three periods, near-exhaustees have much lower reemployment rates than do those with many weeks of benefits remaining, and those who have already exhausted their benefits have lower rates still.

Labor force exit rates are more stable across periods and unemployment durations. However, in all three periods we see that exit rates are higher among exhaustees than among those with benefits remaining. This is consistent with the idea that UI benefits create an incentive for continued job search, as reported by Rothstein (2011) and Farber and Valletta (2013).

4.2 SIPP Data (2001 and 2008 Panels)

For our primary analyses of UI recipients and exhaustees, we will use panel data from the SIPP. The SIPP is a nationally representative sample of individuals and the households in which they reside. It has been conducted nearly continuously since 1984, with a non-overlapping panel structure instituted beginning in 1996. Since 1996, each panel has covered 3-4 years, with interviews occurring at 4-month intervals ("waves"). Income and related data are recorded on a monthly basis for all 4 months in each wave, and data on labor force status are recorded on a weekly basis within those months, enabling precise measurement of employment transitions and unemployment durations. The SIPP was designed specifically to "provide accurate and comprehensive information about the income and program participation of individuals and households in the United States, and about the principal determinants of income and program participation."[7] As such, it is well-suited for the analysis of receipt of UI and other income sources, their changes over time, and related behaviors.

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[7] See the description at http://www.census.gov/sipp/intro.html.

The sample frames for the 2001 and 2008 panels in particular coincide closely with the periods of UI benefit extensions associated with the 2001 and 2007-09 recessions. The 2001 panel consisted of 9 waves, with data covering the period of October 2000 through January 2004. Sixteen waves are planned for the 2008 panel. At the present time, data for waves 1 through 11 have been released, enabling analysis of data from May 2008 through April 2012.

Our sample construction begins with individuals age 18 to 64 (at the time they enter the panel) who report a job separation followed by positive weeks of unemployment at any time during the 2001 or 2008 SIPP panels.[8] Valid separations are limited to jobs that lasted at least three months prior to separation, which enhances the likely UI eligibility of sample members relative to those holding short-term jobs; we are unable to separately identify voluntary and involuntary separations, however, which is a key determinant of UI eligibility. The duration of subsequent unemployment spells is based on weekly labor status, which we sum to obtain spell length. Unemployment exits are limited to spells followed by at least four consecutive weeks spent employed or out of the labor force; if the exit is not sustained in this manner, the spell is identified as ongoing.   To minimize arbitrary censoring in the data, we exclude individuals who leave the panel prior to the final potential data month (i.e., we eliminate attrition from our sample). The calculations discussed below rely on the SIPP sampling weights (typically the cross-section weights, since the longitudinal panel weights are missing for some individuals).

To provide an initial summary of the distribution of unemployment durations, Figure 2 plots the survivor curves separately for the 2008 and 2001 samples. These curves show the percentage of unemployment spells (on the vertical scale) that are ongoing after a given number

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[8] Many of our sample construction procedures follow Cullen and Gruber (2000) and Chetty (2008). However, we broaden our samples beyond the relatively narrow sets of unemployment spells that they examine, to allow for wider comparisons across groups of UI recipients and non-recipients and also to incorporate post-unemployment outcomes.

of months of unemployment (horizontal scale). The plot shows longer durations in the 2008

panel than the 2001 panel, as expected based on the greater severity of the labor market

downturn in the recent period. About 20% of spells last at least 6 months in the 2008 panel,

compared with about 14% in the 2001 panel; the corresponding shares reaching at least one year

duration are 9% and 3.5%. These spell durations are somewhat longer than those based on

matched CPS samples. For example, Farber and Valletta (2013, Table 3) report that in 2009-11

about 14% of unemployment spells measured from the matched CPS data last 6 months or longer

(compared with 20% of spells in our 2008 SIPP panel).[9]

Table 2 displays detailed descriptive statistics for our samples of unemployment spells

from the 2001 and 2008 panels. For each panel, we divide the sample of spells into sub-groups

defined by whether any UI income was received during the spell, and if so, whether the UI

income was received during the entire spell or else ended while the individual was still

unemployed. The sample counts at the top of the table indicate that UI income is reported for

only about one-third of the unemployment spells in both panels. Figure 3 shows that UI receipt

depends heavily on the duration of unemployment (in both panels). Individuals experiencing

short spells of unemployment are much less likely to report UI income than are individuals

experiencing longer spells. This likely reflects unobserved heterogeneity in the characteristics of

UI recipients/nonrecipients, hence endogeneity of UI take-up with respect to duration. We will

therefore focus our analyses on individuals who receive UI income, differentiated by whether the

receipt of UI is later terminated before the unemployment spell ends.

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[9] The unemployment spells constructed from matched CPS data in Farber and Valletta (2013) are
corrected for spurious transitions, which increase measured spell duration. The correction applied to the
matched CPS data is similar to our restriction in the SIPP samples that exits from unemployment must
last for at least 4 consecutive weeks. Farber and Valletta also discuss how to reconcile the unemployment
durations measured from panel data with the much longer durations implied by the spell durations
obtained from monthly CPS cross-sections, as reported monthly by the U.S. Bureau of Labor Statistics;
the latter reflects the length-biased sampling inherent in cross-section samples.

The final two columns for each SIPP panel in Table 2 provides the additional breakdown of unemployment spells for which UI benefits are received. The sample counts indicate that if UI is received, it is typically present for each month of the reported unemployment spell. In both panels, among spells for which UI income is reported, it ends before the unemployment spell ends in about one-fourth of the cases. The incidence of loss of UI income prior to the end of a spell will be our primary indicator of UI "exhaustion." Near the top of the table, we also list tabulations for an alternative exhaustion indicator, based on whether the duration of unemployment at any point during the spell exceeds the maximum number of UI weeks available in the individual's state of residence (measured monthly). This is a stricter measure of exhaustion, representing only a fraction of spells for which individuals report running out of UI benefits before the end of the spell (about one-third in the 2001 panel, one-sixth in the 2008 panel). The difference between the two measures likely represents a combination of factors, including unobserved variation in UI eligibility rules and search behavior, receipt of other income sources that replace UI, reporting error, etc.

The first page of Table 2 also displays tabulations of basic individual characteristics (age, education, etc.) by the UI recipiency groups. Like the comparison based on the CPS data in Table 1, the SIPP data show that individual characteristics are quite uniformly distributed across the groups defined by UI recipiency, and also between the panels. Some variation is evident based on age, with older individuals more likely to receive UI benefits than are younger workers. The main difference between individuals who run out of UI benefits during their unemployment spells and other individuals is the much longer duration of unemployment spells for the former.

The second page of Table 2 provides additional tabulations showing unemployment durations, exit routes from unemployment, and income receipt (UI payments, individual

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earnings, and household income). Most exits from unemployment in this sample of job

separators occur through job finding.   Figure 4 provides a plot of job finding rates by duration.

As expected, job finding rates decline at longer durations, although the profiles are mostly flat

beyond about 1 year. Give the decline in job finding rates by duration, which likely reflects

heterogeneity in the characteristics of unemployed individuals, we will use unemployment

duration as control for the regression analyses discussed in the next section (along with a

standard set of individual characteristics; however, as the breakdowns in Table 2 indicate, there

is limited variation in these characteristics between the sample of UI recipients who exhaust or

do not exhaust their benefits).

5. Analyses of Post-UI Outcomes

We use our sample of unemployment spells from the SIPP to analyze changes in income

sources and levels for individuals differentiated by whether they receive and later lose UI

benefits during their unemployment spells. We limit the sample to spells of unemployment for

which positive UI income was received at some point (the third and fourth columns of spells, by

panel, in Table 2). This produces samples of 1691 spells in the 2001 panel and 2775 in the 2008

panel.

We run regressions for three different outcomes, measured before and after each

unemployment spell:

(i) Receipt of other forms of social assistance (cash and noncash government transfers other than

unemployment benefits; includes SSI, food stamps Regression equation (Exhaust, Duration, X;

by panel).

(ii) The change in ln(individual earnings), from the last full month before the unemployment spell started to the first full month after it ends; the sample is restricted to individuals who find a job.

(iii) The change in ln(household income), from the last full month before the unemployment spell started to the first full month after it ends.

We use two different measures of UI exhaustion: (a) an indicator for whether receipt of UI income ended before the unemployment spell ended; (b) an indicator for whether the duration of unemployment at any time exceeds the maximum number of weeks of UI availability in the individual's state of residence.[10] As noted above, the first of these is used to divide the sample into the third and fourth columns of spells in Table 2. The second measure is largely a sub-set of the first, which provides an indirect, more stringent measure of whether individuals exhaust their UI benefits. We compare specifications that exclude or include unemployment spell duration (measured in months), to examine the extent to which post-spell outcomes for UI exhaustees reflect longer spell durations. We also include a standard set of individual controls (see the note at the bottom of each table; coefficients not reported but available on request).

The results for the social assistance, individual earnings change, and household income change outcomes are listed in Tables 3-5. In each table, columns 1-4 present results for our exhaustion indicator based on loss of UI income, and columns 5-8 present results for the exhaustion indicator based on unemployment duration relative to weeks of UI availability. Within those sets of columns, we present the results for the 2008 panel first (reversed relative to

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[10] When using the second measure of UI exhaustion, we lose a small number of observations in the 2001 panel because some smaller states are not separately identified in that panel, hence we are unable to match our state-based exhaustion measure for those observations.

Table 2) because they are of greatest interest, followed by the 2001 panel results; each panel has two regressions, without and with unemployment duration.

The results in Table 3 indicate that in the 2008 panel, individuals whose UI benefits terminate before their unemployment spell ends are more likely to receive other forms of social assistance after unemployment than are individuals who receive UI throughout their unemployment spell. This is strongly suggestive of substitution or complementarity between UI and other forms of social assistance, although distinguishing between them requires additional analyses of the timing and exact types of transfer income received. As discussed in Section 3, to the extent that extended UI substitutes for other forms of social assistance, the direct costs of financing extended UI exceed the true fiscal burden (because of offsets to other program costs). This finding of potential program substitution/complentarity applies only to the 2008 panel, and it is robust to inclusion of unemployment duration in the regression, indicating that likely UI exhaustees are not distinguished from other UI recipients primarily by their unemployment durations. Evidence of exhaustion effects on other forms of social assistance are found in the 2001 panel using the alternative (duration-based) measure of UI exhaustion, but this finding is not robust to the inclusion of unemployment duration.

In Table 4, UI exhaustees experience larger earnings losses than do complete UI receipients, based on the second (duration-based) exhaustion measure. However, this effect disappears when unemployment duration is included as control. Re-employment earnings drop substantially with the duration of unemployment in the 2008 panel. No similar duration effects are found for the 2001 panel, suggesting that adverse earnings impact of long-term unemployment was not as severe in that aftermath of the 2001 recession as in the aftermath of the 2007-09 recession.

Table 5 shows that UI exhaustees (by either measure) experience larger drops in household earnings after unemployment than do individuals who receive UI throughout their entire unemployment spell. However, inclusion of the duration control indicates that the exhaustion effect is entirely due to the longer unemployment durations experienced by exhaustees. In conjunction with the findings regarding social assistance from Table 3, this suggests that although UI exhaustees receive alternative forms of government support, although this support is inadequate to offset the damaging impact of their lengthy unemployment durations.

6. Conclusions (Brief and Provisional)

We find that the characteristics of likely UI exhaustees, in recent years and also in the early 2000s, are similar to the characteristics of other individuals who are unemployed due to a job separation. The exception is the longer unemployment durations endured by UI exhaustees, which likely relates to random factors associated with the jobs they held prior to unemployment. The long-term unemployment suffered by UI exhaustees and others is quite damaging to their post-unemployment earnings and household income. UI exhaustees in the recent period are more likely than other UI recipients to receive other forms of social assistance after their unemployment spell ends. Pinning down the implications of this finding for the substitution or complementarity of extended UI with other programs, and also providing a more complete, precise assessment of overall well-being for UI exhaustees, will be taken up in subsequent versions of this paper.

Appendix A: SIPP Extract Construction

Age: We restrict the samples to individuals age 18 to 64 when they first entered the panel (wave 1 or later) and make the further restriction that individuals must always report being between age 18 and 69. In addition to restricting the sample to individuals present in all waves subsequent to entry (eliminating attrition), we exclude unemployment spells that begin before the start of the panel (or before the individual enters the panel), to eliminate left-censoring.

Unemployment duration. Unemployment spells begin with a valid job separation and increment weekly until a valid spell end is reached. A valid spell end is a string of 4 weeks of labor force codes that indicate the individual has not returned to unemployment (with the spell identified as ending in the first week of the 4-week string). Because we employ this 4-week forward-looking check, spells only increment if there are actually 4 weeks of observations to check (which eliminates the final panel month from the sample for all individuals).

Labor force transitions. The two transitions we calculate are from unemp to not in labor force (UN) and from unemp to employed (UE). A transition occurs at a valid spell end (see above). The type of transition is classified by the majority of labor force status values in the 4-week check period. If there is a tie, we look at the 5th week. If there is no 5th week (end of sample period) or the 5th week indicates that the person has returned to unemployment, then the transition is counted as an exit out of the labor force (UN).

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Figure 1: UI Exhaustion and Duration>99 Weeks (Job Losers)

Note: Calculated using CPS unemployment observations (weighted, job losers only). Normal+extended benefits; assumes normal UI weeks=26 in all states.
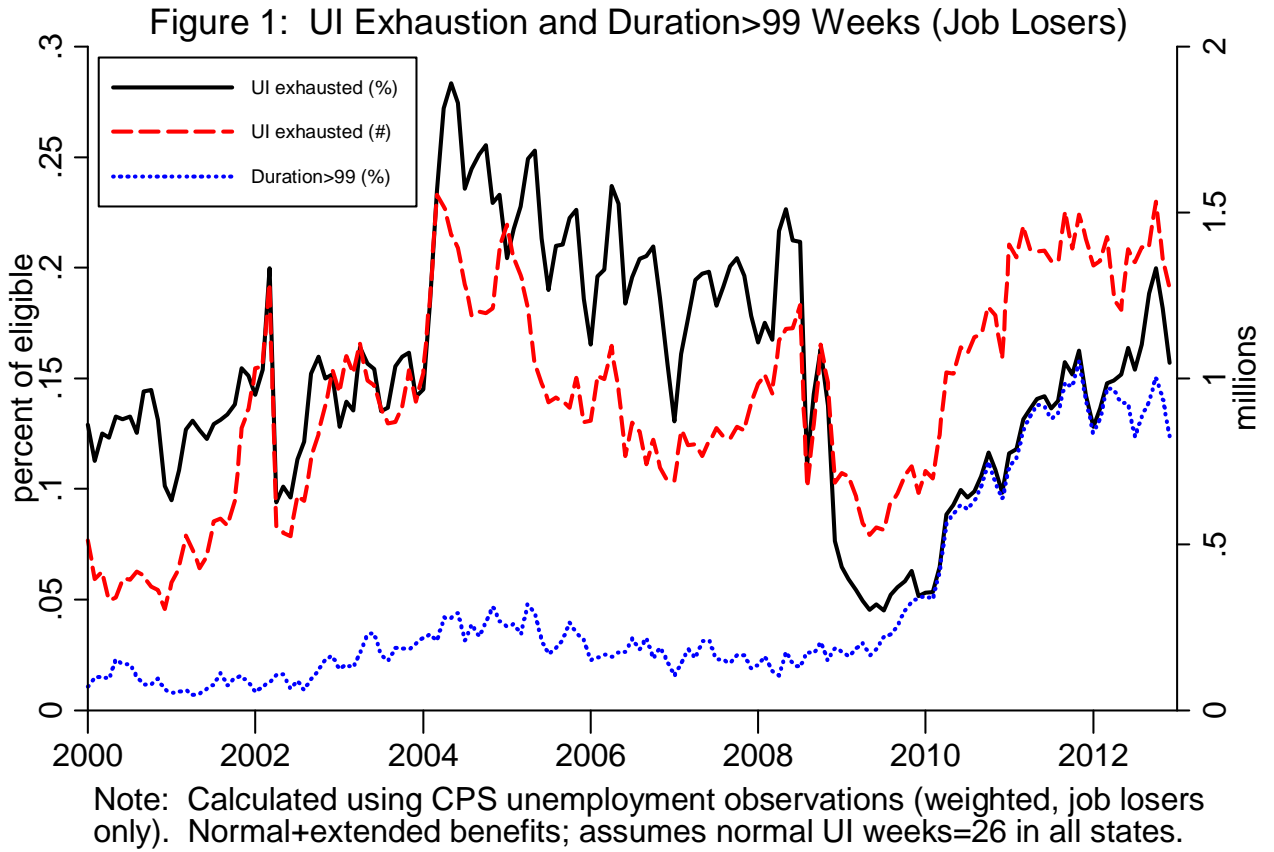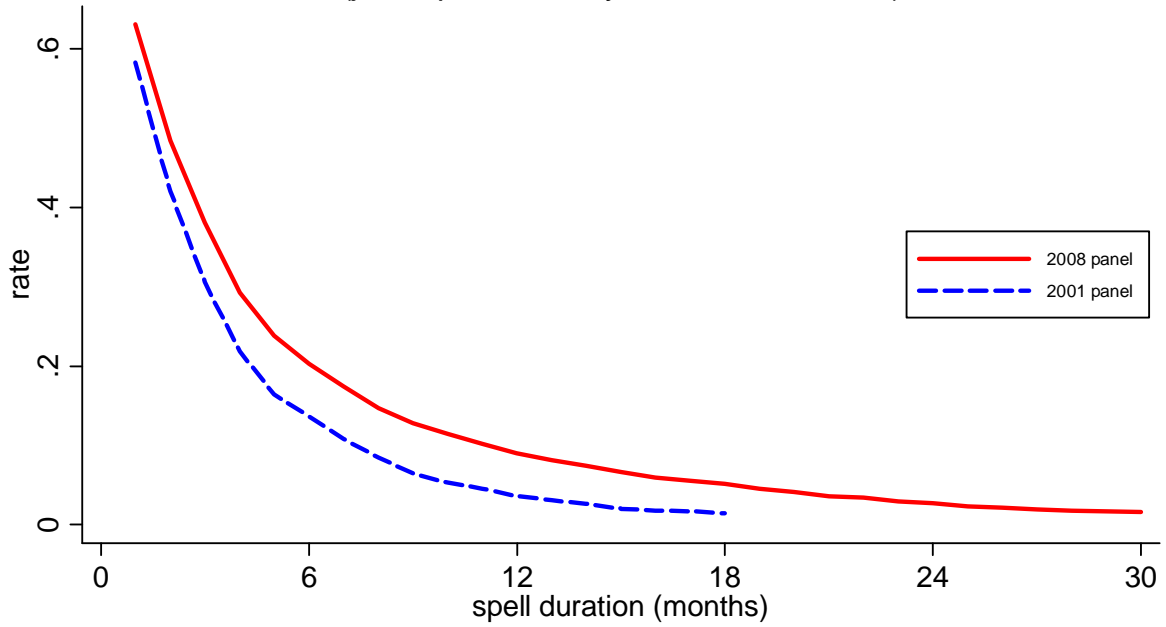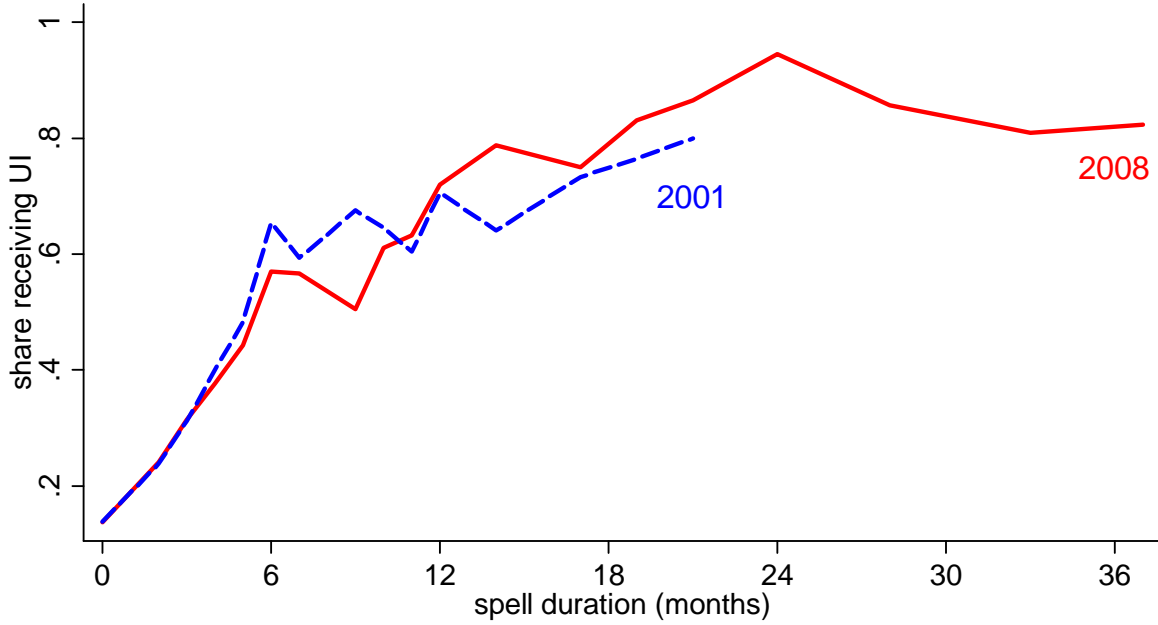
Figure 2: Unemployment Survivor Rates, SIPP panels
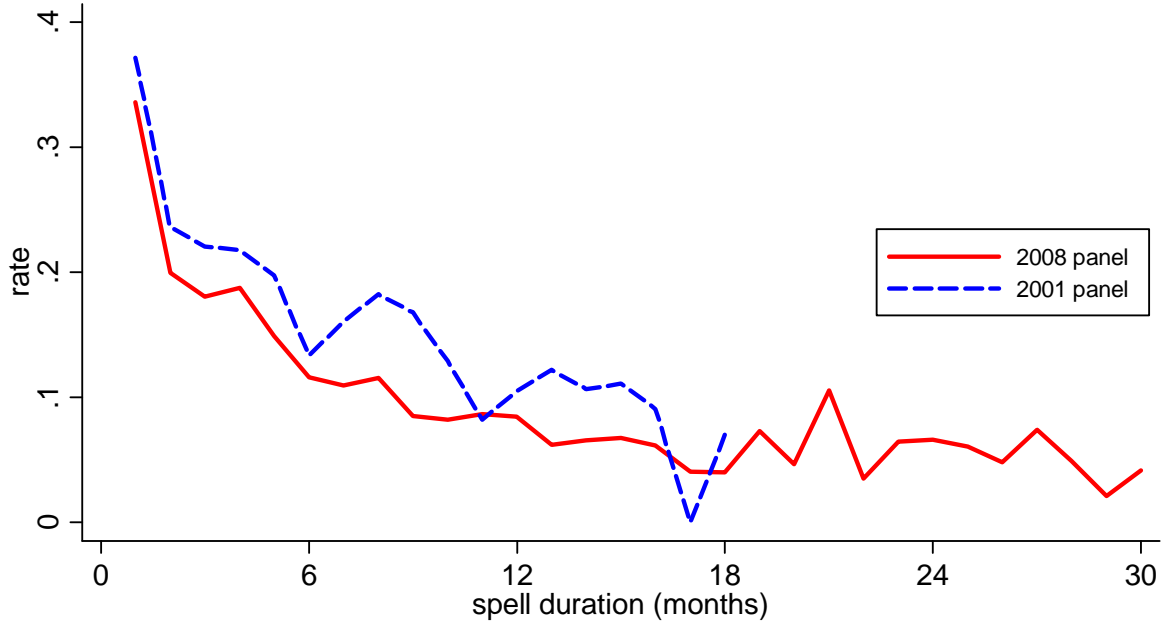(job separations, by duration in months)

Note: Duration grouped monthly, censored at 30 months in the 2008 panel and 18 months in the 2001 panel.

Figure 3: UI receipt, SIPP panels, by completed duration
(received any time during spell)

Note: Includes small percentage of censored spells. Durations grouped, censored at 160 weeks in the 2008 panel and 90 weeks in the 2001 panel.

Figure 4: Job Finding Rates, SIPP panels
(by unemployment duration)

Note: Duration grouped monthly, censored at 30 months in the 2008 panel and 18 months in the 2001 panel.

Table 1. Characteristic of unemployed job losers, by period and remaining UI benefits, merged monthly CPS.

	2002-2003			2004-2007			2010-2012		
	12+ weeks of UI left	1-12 weeks of UI left	UI expired	12+ weeks of UI left	1-12 weeks of UI left	UI expired	12+ weeks of UI left	1-12 weeks of UI left	UI expired
N	33,134	4,014	5,605	39,298	10,385	10,359	62,328	3,176	12,710
Female	0.387	0.410	0.378	0.400	0.405	0.389	0.384	0.398	0.370
White	0.785	0.757	0.724	0.797	0.767	0.722	0.775	0.774	0.738
Black	0.166	0.183	0.200	0.166	0.198	0.230	0.180	0.178	0.201
Asian/Pacific	0.059	0.068	0.084	0.054	0.053	0.066	0.063	0.063	0.076
Hispanic	0.159	0.128	0.090	0.169	0.143	0.110	0.182	0.113	0.160
Age									
<25	0.179	0.097	0.059	0.197	0.119	0.067	0.131	0.065	0.037
25-44	0.503	0.517	0.466	0.475	0.492	0.442	0.457	0.390	0.384
45-54	0.198	0.231	0.296	0.195	0.234	0.294	0.235	0.271	0.298
55-64	0.099	0.137	0.151	0.105	0.133	0.171	0.143	0.211	0.232
65+	0.021	0.017	0.027	0.028	0.022	0.026	0.034	0.062	0.048
Educ.									
Less than HS	0.207	0.158	0.157	0.215	0.171	0.152	0.158	0.107	0.152
HS	0.369	0.364	0.334	0.387	0.398	0.367	0.388	0.383	0.382
Some college	0.263	0.278	0.261	0.251	0.263	0.269	0.280	0.311	0.283
BA+	0.161	0.200	0.248	0.147	0.169	0.212	0.175	0.199	0.183
Unemp. duration (wks)	8.5	29.4	60.7	5.0	18.2	58.0	27.2	72.5	108.1
Married	0.465	0.490	0.487	0.433	0.443	0.451	0.446	0.481	0.466
Married, spouse present	0.448	0.478	0.473	0.416	0.427	0.436	0.430	0.465	0.449
Spouse emp.	0.691	0.705	0.707	0.683	0.696	0.726	0.662	0.662	0.645
Spouse unemp.	0.089	0.101	0.103	0.084	0.096	0.088	0.127	0.114	0.142
Kids present	0.249	0.257	0.219	0.230	0.240	0.221	0.224	0.212	0.192
Match to 2 follow-ups?	0.850	0.876	0.870	0.796	0.789	0.830	0.857	0.874	0.835
N obs	14,098	1,907	2,471	16,234	3,925	4,254	27,027	1,137	5,557
Exit to emp.	0.251	0.161	0.126	0.323	0.200	0.146	0.161	0.087	0.061
Exit LF	0.093	0.096	0.120	0.109	0.094	0.133	0.088	0.072	0.129

Notes: All estimates from merged 2002-2012 monthly CPS. Sample in all columns consists of unemployed individuals who lost their former jobs. UI expiration date is simulated based on number of weeks available at the state-unemployment cohort level. Zero weeks of UI remaining (i.e., CPS survey during the last week of benefit receipt) is excluded from all categories. Spousal labor force status variables pertain only to those with spouses present; unemployment exit variables are measured only for those with month-in-sample 1, 2, 5, or 6, for whom two successive interviews could be matched. Match rates are for those in the appropriate months-in-sample.

	2001 Panel				2008 Panel			
	All	No UI	Received UI income		All	No UI	Received UI income	
			To end of spell	Ends before spell ends			To end of spell	Ends before spell ends
Variable								
Number of spells	5685	3994	1273	418	8450	5675	2119	656
Number of individuals	3512	2463	772	277	4591	3045	1118	428
Exhaustion (duration>availability)	0.054	0.029	0.036	0.321	0.020	0.004	0.018	0.155
Age (years)								
Average	38.4	37.2	41.6	39.7	40.4	39.1	43.1	42.7
Share <25	0.176	0.220	0.070	0.088	0.138	0.178	0.050	0.076
Share 25-44	0.493	0.477	0.519	0.562	0.447	0.444	0.458	0.440
Share 45-54	0.209	0.183	0.277	0.246	0.253	0.224	0.314	0.315
Share 55+	0.122	0.120	0.135	0.104	0.161	0.154	0.179	0.169
Education categories								
<High School	0.155	0.165	0.122	0.162	0.136	0.143	0.118	0.129
High School	0.341	0.329	0.382	0.339	0.278	0.274	0.288	0.284
Some College	0.327	0.328	0.323	0.320	0.377	0.369	0.393	0.391
College Grad	0.130	0.131	0.128	0.133	0.151	0.148	0.159	0.149
>College	0.047	0.047	0.044	0.046	0.058	0.065	0.043	0.046
Race								
White	0.834	0.818	0.889	0.819	0.834	0.834	0.836	0.831
Black	0.121	0.134	0.076	0.131	0.109	0.113	0.095	0.116
Asian	0.029	0.029	0.022	0.043	0.024	0.022	0.029	0.027
Other	0.017	0.019	0.014	0.007	0.033	0.031	0.039	0.027
Female	0.478	0.498	0.414	0.486	0.410	0.438	0.338	0.395
Married	0.499	0.476	0.560	0.533	0.516	0.491	0.582	0.522

(continued)

Table 2 (continued)

Variable	2001 Panel		Received UI income		2008 Panel		Received UI income	
	All	No UI	To end of spell	Ends before spell ends	All	No UI	To end of spell	Ends before spell ends
Duration								
Average	10.6	7.8	12.2	30.2	15.8	9.9	21.4	49.0
Share <27 weeks	0.898	0.944	0.887	0.513	0.826	0.915	0.727	0.376
Share 27-52 weeks	0.086	0.048	0.108	0.358	0.108	0.068	0.168	0.262
Share 53-99 weeks	0.016	0.007	0.005	0.123	0.051	0.015	0.090	0.237
Share >99 weeks	0.001	0.000	0.000	0.006	0.016	0.003	0.015	0.126
UE	0.776	0.798	0.747	0.669	0.763	0.793	0.693	0.724
UN	0.147	0.143	0.150	0.176	0.139	0.139	0.131	0.160
Censored	0.077	0.059	0.103	0.155	0.098	0.068	0.176	0.116
Income amounts ($)								
Average monthly UI (UI>0 only)			930	850			1086	1112
Monthly earnings:								
Prior to job loss	2141	1843	2855	2629	2320	1973	3024	2978
After spell ends (UE only)	2114	1927	2621	2382	2149	1938	2639	2613
Prior to job loss	4781	4684	5028	4925	5377	5286	5580	5528
During unemp spell	4084	4143	4152	3362	4642	4743	4582	3963
During unemp spell - UI				3535				4283
During unemp spell - no UI				3106				3566
After spell ends	4521	4521	4637	4157	5140	5150	5184	4921

Table 3: Logit Regression Results, Received Social Assistance after Unemp Spell

UI recipient spells only (Average Marginal Effects)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Exhaustion Measure: UI Benefits Ended (before spell)				Exhaustion Measure: duration>(max available weeks)			
	2008		2001		2008		2001	
VARIABLES								
Exhaustion measure	0.0472**	0.0447*	0.0217	-0.0146	0.00337	-0.0574	0.0941**	0.0592
	(0.0169)	(0.0184)	(0.0194)	(0.0222)	(0.0347)	(0.0475)	(0.0240)	(0.0362)
Unemployment duration		0.000400		0.00846**		0.00279		0.00405
		(0.00118)		(0.00239)		(0.00149)		(0.00312)
Observations	2775	2775	1691	1691	2775	2775	1682	1682

Standard errors in parentheses

** p<0.01, * p<0.05

Additional controls include age categories (3), education categories (4), married, female, mar*female, race categories (3)

Table 4: Regression Results, Ln(Earnings) Change after Unemp Spell

UI recipient spells only (restricted to job finders; UE transitions)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Exhaustion Measure: UI Benefits Ended (before spell)				Exhaustion Measure: duration>(max available weeks)			
	2008		2001		2008		2001	
Exhaustion measure	-0.0939	-0.0138	-0.0161	0.0155	-0.295*	0.137	-0.0374	0.0645
	(0.0496)	(0.0521)	(0.0606)	(0.0664)	(0.140)	(0.167)	(0.0974)	(0.129)
Unemployment duration		-0.0193**		-0.0105		-0.0218**		-0.0131
		(0.00410)		(0.00899)		(0.00465)		(0.0109)
Observations	1605	1605	998	998	1605	1605	992	992
R-squared	0.017	0.031	0.018	0.020	0.018	0.031	0.019	0.021

Standard errors in parentheses

** p<0.01, * p<0.05

Additional controls include age categories (3), education categories (4), married, female, mar*female, race categories (3)

Table 5: Regression Results, Ln(HH Income) Change after Unemp Spell

UI recipient spells only

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Exhaustion Measure: UI Benefits Ended (before spell)				Exhaustion Measure: duration>(max available weeks)			
	2008		2001		2008		2001	
VARIABLES								
Exhaustion measure	-0.0964*	-0.0416	-0.182**	-0.105	-0.372**	-0.200	-0.223*	0.00235
	(0.0381)	(0.0407)	(0.0614)	(0.0690)	(0.0945)	(0.115)	(0.0906)	(0.128)
Unemployment duration		-0.0112**		-0.0207*		-0.00893**		-0.0268*
		(0.00302)		(0.00854)		(0.00343)		(0.0108)
Observations	2322	2322	1439	1439	2322	2322	1431	1431
R-squared	0.013	0.018	0.033	0.037	0.016	0.019	0.031	0.035

Standard errors in parentheses

** p<0.01, * p<0.05

Additional controls include age categories (3), education categories (4), married, female, mar*female, race categories (3)