

# **The Great Recession, Unemployment Insurance and Poverty**

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## Introduction

This paper has three sections. The first two respectively review labor market developments in 2009 and developments in state unemployment insurance (UI) programs. These sections draw upon statistical reports generated by the Bureau of Labor Statistics (BLS) and the Office of Workforce Security (OWS) of the U.S. Department of Labor. Section three then examines income data from the March 2009 Current Population Survey (CPS) to summarize the implications of the 2008–09 recession for U.S. poverty rates. The unusually high unemployment of 2009 and the likely high unemployment of 2010 and later years point to near-term poverty rates much higher than the poverty rates of previous years. The full extent of the increase in poverty will become clearer when income data from 2009 become more fully available.

## The Labor Market in 2009

Several indicators of labor market performance in 2009 mark it as the worst year in the post–World War II era. While the annual unemployment rate of 9.3 percent was not the highest ever for the 64 years since 1946, it was exceeded only by the unemployment rates of 9.7 percent in 1982 and 9.6 percent of 1983. Other key labor market indicators—such as long-term unemployment, the unemployment rate among men, and the job loser share of unemployment—mark 2009 as the worst year since 1946.

This section reviews labor market indicators from the monthly labor force survey of households (the Current Population Survey, or CPS) with particular attention to those most relevant to occurrences of poverty. Given the overwhelming importance of labor market earnings in determining the economic well-being of households and individuals, the text pays close attention to occurrences of long-term unemployment. Unemployment spells of long duration are especially relevant to occurrences of poverty.

Unemployment lasting six months or longer was the highest in 2009 of any year since 1946. The 4.5 million with these long spells represented 31.5 percent of annual unemployment. To place this into a historical perspective, the next-highest long-term percentage over the 64 years was 23.9 percent in 1983. In December 2009, 6.1 million people were long-term unemployed, representing 40.2 percent of total unemployment. Since those with long-term spells exit unemployment at below-average rates, the possibility that the long-term share will be as high as 0.40 for all of 2010 cannot be ruled out.

The presence of so many spells of long duration also mark 2009 as the year with longest average duration among all unemployed persons. The mean duration of 24.4 weeks across all unemployed was the highest since 1946 and 4.4 weeks higher than in 1983, the previous peak. Median unemployment duration in 2009 of 15.1 weeks was also a maximum and 5.0 weeks higher than the previous peak of 10.1 weeks reached in both 1983 and 2001 (medians are only available since 1967).

The high unemployment of 2009 was especially noticeable among men. Between 2007 and 2009, unemployment among women increased from 3.2 to 5.8 million or 81

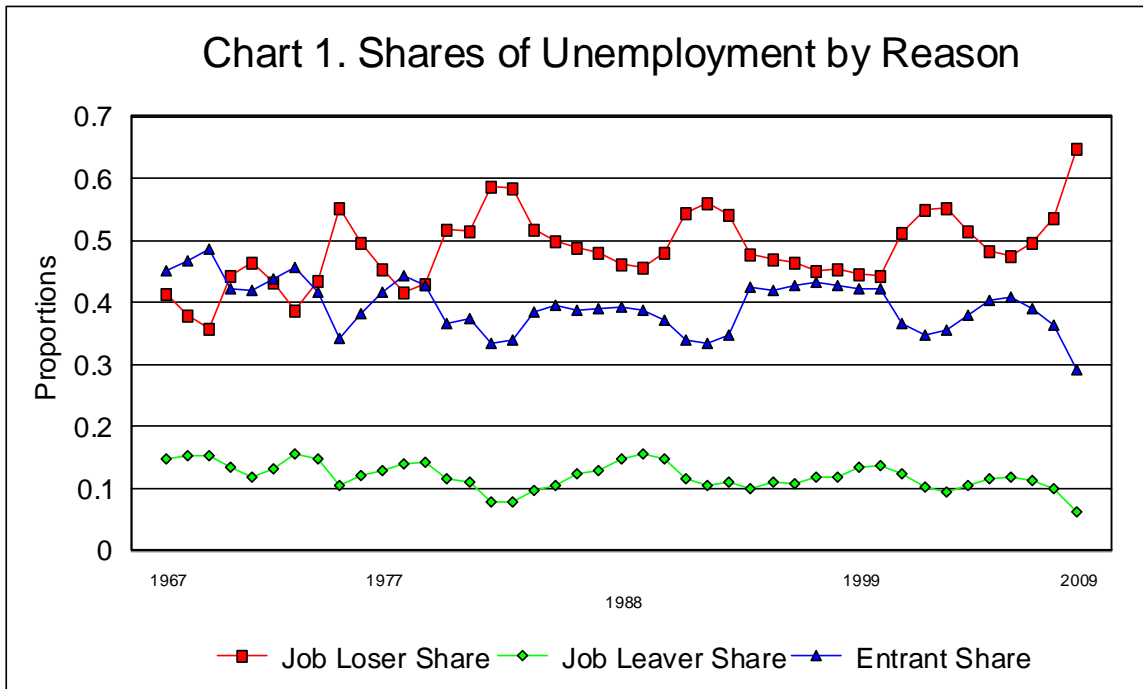
percent, while male unemployment increased from 3.9 to 8.5 million or 119 percent. The male unemployment rate in 2009 averaged 10.3 percent, the highest over the 64 years and 0.6 percentage points above the previous peak of 9.7 percent reached in 1983. While unemployment among women also increased sharply in 2009, women's share of unemployment for the year was 0.407, the lowest fraction for women since 1963.

Three other aspects of unemployment in 2009 also deserve brief comments. First, the share of unemployment among adults age 25 and older was the highest in the 64 years at 0.736. Second, unemployment rates were especially high in two of the nine Census Divisions, the five industrial states of the East North Central Division at 10.6 percent and the five states of the Pacific Division at 10.9 percent. The highest state unemployment in these two divisions occurred in Michigan and California with respective annual averages of 13.6 and 11.4 percent. Third, while employers initiated most job separations in 2009, their share of the total was uniquely high. Employer-initiated job separations were also unusual in the low share of temporary layoffs and high share of permanent separations in 2009. The latter phenomena merit some additional comments.

The questions about unemployment in the monthly household labor force survey distinguish among four reasons for unemployment that identify who initiates the separation and the previous employment status of the unemployed. People who flow into unemployment from employment are either job losers (separations initiated by the employer) or job leavers (separations initiated by the worker). People who become unemployed but were previously not employed are entrants into the labor force. These persons are either new entrants with no previous work experience or reentrants who worked previously. For the present discussion the latter two groups will be combined and described as entrants.

The monthly survey further identifies three groups of job losers: those on temporary layoff, those whose temporary jobs ended, and "other" job losers who have been terminated with little or no prospect of returning to their former employer. Those on temporary layoff, in contrast, have a good prospect of returning to their former jobs within 30 days. Since data on those whose temporary jobs ended have been collected only since 1994, the present analysis will combine them with other job losers.

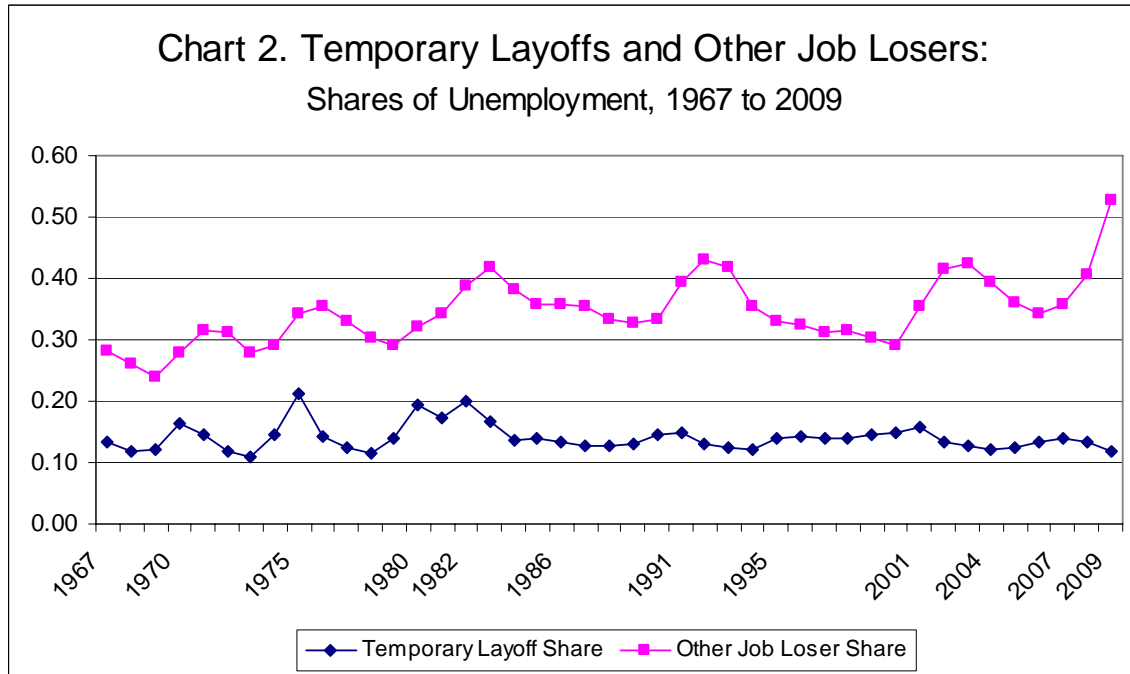
Chart 1 shows time series from 1967 to 2009 for three reason-for-unemployment groups. While these data are available only since 1967, they show obvious cyclical patterns and trends. The shares for job leavers and entrants trend downward while the job loser share trends upward. Changes in women's work patterns in the paid labor force toward more continuous attachment (especially among married women) and the aging of the labor force are responsible for the downward trends. Note in the 1960s and 1970s how the entrant share roughly equaled the job loser share. Changes in employer personnel policies underlie the upward trend in the job loser share. We discuss this presently.



Source: Bureau of Labor Statistics data.

The most obvious feature of chart 1, however, is the clear cyclicity of the three proportions. Chart 1 spans six recessions (or seven if 1980 and 1982 are considered separate recessions). The job leaver and entrant shares decrease during recessions while the job loser share increases. Note the obvious peaks in the job loser share in 1975, 1982–83, 1990–92, 2002–03, and 2008. Troughs in the entrant share match these peaks.

Chart 2 extends the visual summary by showing reason for unemployment shares for the two job loser groups, persons on temporary layoff and other job losers. The series span the same 43 years as previously. Chart 2 reveals a change in employer separation practices. In recent years, employer reliance on temporary layoffs has decreased. The change is especially noticeable during recessions. Note how the temporary layoff share increased in 1970, 1975, 1980, and 1982. Between 1973 and 1975 the increase exceeded 0.10. During later recessions, the increases are smaller, and in 2009 the temporary layoff share actually decreases. Conversely, note how the other job loser share increases by larger amounts during the more recent recessions. Between 2007 and 2009, the increase was 0.13. Further, 2009 is the only year when the other job loser share (0.528) exceeds half of total unemployment. Chart 2 also shows the strong upward trend in the other job loser share. The peaks and troughs both generally trend upward.



Source: Bureau of Labor Statistics data.

Appendix A reports the results of a regression analysis of the shares of unemployment by reason. Although the available data are restricted to just 43 annual data points, the analysis emphasizes two subperiods: 1967 to 1989 and 1990 to 2009. Each period has three recessions. This allows estimates of the effects of unemployment to be made for each subperiod.

Five findings are of principal interest:

1. The current unemployment rate has a larger coefficient for temporary layoffs than for other job losers during 1967–89.
2. The unemployment coefficient for other job losers is much larger during 1990–2009 than during 1967–89.
3. Temporary layoffs exhibit no trend during 1967–89 but a significant negative trend during 1990–2009.
4. Other job losers has a much larger unemployment coefficient during 1990–2009 than during 1967–89.
5. For job leavers and entrants, current unemployment coefficients are consistently negative and significant in both periods, while the trends in both periods are generally negative and significant.

The unemployment and trend coefficients differ significantly for the two subperiods. This was confirmed by formal statistical tests (Chow tests) for the two subperiods. For three groups (temporary layoffs, other job losers, and job leavers) the tests indicated significant differences in the cyclical and trend coefficients for the two periods.<sup>1</sup> Employers during the past two decades have placed greater reliance on permanent job separations and less reliance

on temporary layoffs than in the 1960s, 1970s and 1980s. The regression results are fully consistent with the visual summary provided by charts 1 and 2.

For present purposes the distinction between temporary and permanent job separations is crucial because of contrasts in unemployment duration for the two groups. In November 2009, only 0.118 of persons on temporary layoff had durations of 27 weeks or longer. In contrast, the proportion was 0.475 for other job losers. When employers initiate a permanent job separation, it is much more difficult to secure a job than for someone on temporary layoff who returns to a former job in nearly all instances. Crude estimates of mean unemployment duration for the two groups in November 2009 are 13 and 32 weeks, respectively. Job leavers and entrants experience unemployment spells with average durations intermediate between those for persons on temporary layoff and other job losers. As will be seen below, long duration unemployment is closely linked to occurrences of poverty.

### **Unemployment Insurance in the Current Recession**

Federal legislation affecting state UI programs has been unusually active during 2008 and 2009. The program has three tiers or levels of benefit payments. Regular UI pays up to 26 weeks of benefits in all but two states (Massachusetts and Montana) and is financed by employer payroll taxes. States set tax rates using one of four methods of experience rating, but the two most common are the reserve ratio and benefit ratio methods. States are responsible for maintaining UI trust funds housed at the U.S. Treasury. Insolvent state UI programs can borrow from the federal partner. At the end of 2009, 24 states, the District of Columbia, and the Virgin Islands had outstanding loans.

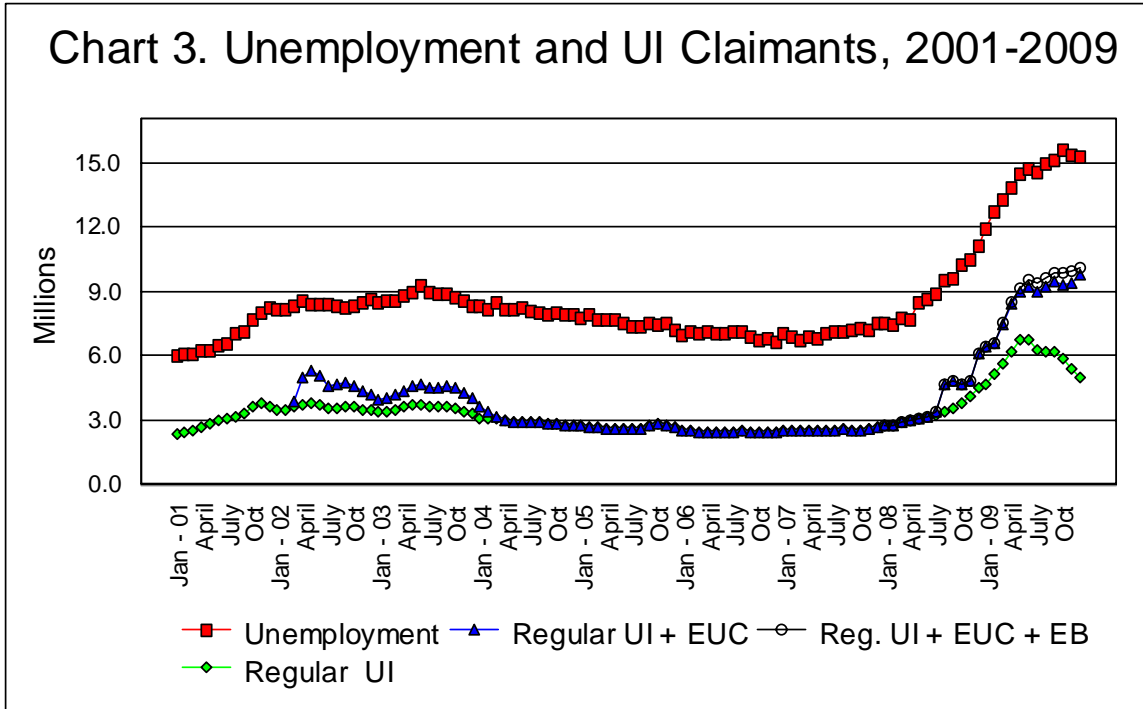
The second tier is the federal-state extended benefits program (EB) that can pay up to half the potential duration of regular UI in nonrecessionary periods. In 2009–10, the maximum duration of EB was extended to 20 weeks for some states with high unemployment. While financing of EB is usually split 50-50 between the state and federal partners, EB in the current recession is being financed fully by the federal partner. EB is also more available in the current recession because easier-to-satisfy temporary triggers were instituted. About two-thirds of 38 states that paid EB at the end of 2009 were doing so under temporary triggers.

The third tier is the extended unemployment compensation (EUC) program. This federally financed program was enacted in June 2008, but it was extended four times in 2008–09 and is likely to have a further extension in early 2010. States can opt to pay EUC before EB, and all but one follow this sequencing.

The American Recovery and Reinvestment Act of February 2009 includes provisions that affect all three tiers of UI benefits. An extra \$25 for each week of compensation is added for recipients of all three tiers of benefits. Under ARRA, the first \$2,400 of benefits is exempt from the federal personal income tax. States were offered a potential \$7.0 billion to increase benefits, and over 30 have responded positively to this “UI modernization” provision.<sup>2</sup> In short, UI benefits have been widely accessible and more generous in the current downturn than in previous recessions.



Chart 3 plots unemployment and the receipt of UI benefits in monthly data that extend from 2001 to the end of 2009. The chart shows total unemployment, regular UI recipients and the sum of regular UI plus EUC and EB recipients. In recent months, with total unemployment reaching about 15 million, the number of recipients from all three tiers of UI has averaged about 10 million. The recent total represents almost four times the number collecting UI during 2006 and 2007.



Source: Urban Institute calculations based on Bureau of Labor Statistics and Office of Workforce Security data.

Chart 3 also shows the number receiving regular UI decreased by 1.7 million between May and December 2009. During the same eight months, the sum of EUC and EB recipients increased by about 2.5 million yielding a total of 10.1 million recipients in December despite the decrease in the receipt of regular UI benefits.

Details in chart 3 also permit comparing the 2001 recession with the present downturn. Maximum unemployment for the 2001 recession was reached in June 2003, peaking at about 9.0 million. The scale of the extended benefit program was also much smaller during 2002 and 2003 than in 2009.

Finally, note the contrast in the number of unemployed and the number of UI recipients between 2008 and 2009. Monthly UI beneficiaries averaged 3.8 million in 2008 and 8.9 million in 2009. Consequently, UI benefit payments had a much larger effect on poverty in 2009 than in 2008. This contrast is important to note since 2009 CPS data on household income are not (and will not be) available until September 2010.

Table 1 summarizes UI benefit payments for the 2000–09 period. Annual payments are displayed for the three tiers of UI as well as the total. Regular UI already increased in 2008 relative to 2007 by \$10.6 billion, and \$7.8 billion of EUC was paid in 2008. Regular

benefits in 2009 were \$78.4 billion while the two extended benefit programs paid \$49.2 billion. Total benefits in 2009 were \$128.4 billion.

**Table 1. Unemployment Insurance Benefits, 2000–09 (billions of dollars)**

	Regular UI	Extended benefits (EB)	Federal emergency benefits (EUC)	Total UI benefits
2000	20.2	0.0	0.0	20.2
2001	31.4	0.0	0.0	31.4
2002	41.9	0.2	10.7	52.8
2003	41.1	0.4	11.0	52.5
2004	34.2	0.0	1.4	35.6
2005	31.0	0.0	0.0	31.0
2006	29.6	0.0	0.0	29.6
2007	32.0	0.0	0.0	32.0
2008	42.6	0.0	7.8	50.5
2009	79.2	6.1	43.1	128.4

*Source:* Office of Workforce Security.

Total benefits in 2009 of \$128.4 billion were more than twice the total for 2002 or 2003, the years of high unemployment from the previous recession. The annual rate of regular UI payout in 2009 nearly matches that of 2002 and 2003 combined. EUC in 2009 paid \$43.1 billion, while EB paid \$6.1 billion. EB in 2009 exceeded \$1.0 billion for the first time since 1983. The combined effects of higher unemployment and more generous availability of EUC and EB payments explain the increase in total UI benefit payments shown in table 1.

### Unemployment, UI Benefits and Poverty

The link between unemployment, UI benefits, and poverty was explored in a tabular analysis of the March 2009 CPS. The income questions in the March 2009 CPS supplement refer to income year 2008. Although unemployment in 2008 was 0.7 million higher than in 2007, the increase in 2009 was a much larger at 5.4 million. This analysis emphasizes the relationship between unemployment duration, transfer payments, and poverty. Because the analysis controls for unemployment duration, inferences for 2009 may be drawn by the findings to be reported for the long duration categories. There will be strong interest in the 2009 CPS income data when such data become available.

Our tabulations<sup>3</sup> emphasize family income and poverty. To this point, we have not conducted an analysis for individuals. Four types of families are distinguished according to gender and age of the head (16–24, 25 and older). There were 117.2 million families in 2008, of which 20.1 million experienced at least one spell of unemployment.<sup>4</sup>

Income is measured as post-transfer, pre-tax income of all family members. Two kinds of transfer payments are distinguished: UI and “all other” transfers. In the full file, UI transfers totaled \$37.6 billion while UI program data totaled \$51.2 billion.<sup>5</sup> Among families with unemployment, however, UI benefits totaled only \$28.8 billion. While some with partial unemployment do collect partial UI benefits, a reporting problem seems apparent. Simply stated, too many families with no unemployment reported receiving UI benefits. Thus, there is both underreporting of total UI benefits (\$37.6 billion rather than \$51.2 billion) and

misreporting by families with no unemployment. These problems lessen the estimated effect of UI in reducing poverty.

The remaining transfer payments are lumped together into a single category. The total reported receipt of other transfers was \$107.1 billion. The largest categories were Social Security (OASDI) and private pensions, \$40.7 and \$26.3 billion, respectively. SNAP (Food Stamps) and public assistance totaled \$7.8 and \$1.8 billion, respectively.

Table 2 shows counts of families with unemployment and families that received UI benefits. The 20.1 million families with unemployment include 18.2 million where the head is age 25 or older and 1.9 million with a head age 16 to 24. Nearly as many families were headed by women (9.5 million) as by men (10.6 million). For nearly half (9.5 million), the longest spell of unemployment lasted 1–13 weeks while for 5.0 million families the spell lasted half the year or longer. The counts in the two long duration categories will be much higher in data from 2009.

**Table 2. Weighted Counts of Families with Unemployment by Household Type and Unemployment Duration, 2008**

	1–13 weeks	14–26 weeks	27–39 weeks	40–52 weeks	Total
Families with Unemployment (in thousands)					
Female head age 16–24	575	223	80	113	991
Female head age 25+	3,828	2,398	1,221	1,096	8,544
Male head age 16–24	494	231	128	66	919
Male head age 25+	4,603	2,731	1,260	1,083	9,677
All families	9,499	5,584	2,689	2,358	20,130
Families with UI Benefits (in thousands)					
Female head age 16–24	89.0	47.3	14.6	10.1	161.1
Female head age 25+	715.2	818.9	437.9	341.6	2,313.5
Male head age 16–24	57.2	49.1	27.4	11.7	145.4
Male head age 25+	978.8	1,062.9	464.8	361.1	2,867.7
All families	1,840.2	1,978.2	944.7	724.5	5,487.7
Share of Families with UI Benefits					
Female head age 16–24	0.155	0.213	0.184	0.090	0.163
Female head age 25+	0.187	0.341	0.359	0.312	0.271
Male head age 16–24	0.116	0.212	0.215	0.176	0.158
Male head age 25+	0.213	0.389	0.369	0.334	0.296
All families	0.194	0.354	0.351	0.307	0.273

*Source:* Urban Institute calculations based on March 2009 CPS data.

The middle section of table 2 shows families that received UI benefits. The total of 5.49 million represented just over one-quarter (0.273) of all families with unemployment. Receipt of UI was much more prevalent among families with a head age 25 or older. This mirrors the reciprocity pattern in UI administrative data where those 25 and older are more likely to receive benefits than younger workers. For adults, the reciprocity rate in the lower portion of the table is nearly as high among female-headed families (0.271) as among male-headed families (0.296), again a pattern consistent with UI administrative data. Finally, the pattern by unemployment duration shows that those with the shortest durations (1–13

weeks) are much less likely to receive UI than those with longer durations (0.194 versus 0.30–0.35).<sup>6</sup>

Table 3 explores the link between UI and other transfer payments and family poverty rates. The categories of unemployment duration and household types are identical to those of table 2. The top shows family poverty rates among the 20.1 million families with unemployment in 2008. The general poverty rate is 0.153, but a strong gradient with unemployment duration is also obvious. The poverty rate is 0.116 for unemployment duration of 1–13 weeks but 0.261 for duration of 40–52 weeks. The gradient is repeated among three of the four family types (families with a male head age 16–24 are the exception). Finally, the highest poverty rates are experienced in families with a female head age 16–24. In all four unemployment duration categories and in general, young women’s poverty rates are more than twice the poverty rates for the other three family types.

The middle of table 3 displays poverty rates after UI benefits have been removed from family income. Removal of UI benefits increases the poverty rate by 0.013 from 0.153 to 0.166. Recall that total reported UI benefits in these families was \$28.7 billion. However this was only 2.2 percent of family income for all families with unemployment, hence a small effect of UI.

While UI benefits have only a small overall effect on the poverty rate, the effect increases as one moves to the longer unemployment duration categories. The difference in overall poverty rates between All Income and All Income Less UI is 0.004 for the 1–13 weeks category but 0.036 for the 40–52 weeks category. UI has the largest poverty-reducing effect among families where unemployment duration is longest.

**Table 3. Poverty Rates in Families with Unemployment by Household Type and Unemployment Duration, 2008**

	1–13 weeks	14–26 weeks	27–39 weeks	40–52 weeks	Total
Poverty Rates—All Income Sources					
Female head age 16–24	0.278	0.387	0.486	0.569	0.352
Female head age 25+	0.136	0.172	0.201	0.279	0.174
Male head age 16–24	0.164	0.205	0.218	0.193	0.184
Male head age 25+	0.073	0.115	0.156	0.215	0.112
All families	0.116	0.154	0.189	0.261	0.153
Poverty Rates—All Income Less Unemployment Insurance					
Female head age 16–24	0.278	0.390	0.517	0.590	0.358
Female head age 25+	0.140	0.188	0.227	0.324	0.190
Male head age 16–24	0.170	0.213	0.219	0.193	0.189
Male head age 25+	0.077	0.131	0.179	0.244	0.124
All families	0.119	0.169	0.213	0.297	0.166
Poverty Rates—All Income Less All Transfer Payments					
Female head age 16–24	0.329	0.445	0.566	0.611	0.406
Female head age 25+	0.208	0.254	0.336	0.447	0.270
Male head age 16–24	0.196	0.238	0.311	0.193	0.222
Male head age 25+	0.122	0.174	0.256	0.371	0.182
All families	0.173	0.222	0.304	0.413	0.232

Source: Urban Institute calculations based on March 2009 CPS data.

It may be surprising to note in table 3 the large poverty-reducing effect of other transfer payments. Recall that other transfers totaled \$107.1 billion among families with unemployment. Removal of these transfers (after removing UI benefits) causes the poverty rate to increase from 0.166 to 0.232 or by 0.066. For families with unemployment duration of 26 and fewer weeks, the average poverty rate is more than 0.050 lower when these transfers are included. Poverty rate reduction is even larger among families with unemployment duration of 27 and more weeks (0.091 and 0.116 for the two long-duration categories). The effects of these transfers on poverty reduction is of roughly the same per dollar order of magnitude as the effects of UI benefits.

Recall from the bottom of table 2 that only about one of every four (0.273) families with unemployment received UI benefits in 2008. Table 4 summarizes the poverty rates of these 5.49million families using the same family headship and unemployment duration categories as in tables 2 and 3. The three family income measures in table 4 repeat those from the preceding two tables.

**Table 4. Poverty Rates in Families with Unemployment Insurance Benefits by Household Type and Unemployment Duration**

	1–13 weeks	14–26 weeks	27–39 weeks	40–52 weeks	Total
Poverty Rates—All Income Sources					
Female head age 16–24	0.253	0.120	0.362	0.161	0.218
Female head age 25+	0.063	0.074	0.104	0.158	0.089
Male head age 16–24	0.085	0.069	0.075	0.092	0.078
Male head age 25+	0.043	0.053	0.097	0.147	0.069
All families	0.062	0.064	0.104	0.151	0.082
Poverty Rates—All Income Less Unemployment Insurance					
Female head age 16–24	0.253	0.136	0.531	0.404	0.253
Female head age 25+	0.085	0.122	0.175	0.303	0.148
Male head age 16–24	0.137	0.103	0.084	0.092	0.112
Male head age 25+	0.060	0.093	0.161	0.236	0.111
All families	0.082	0.107	0.171	0.268	0.131
Poverty Rates—All Income Less All Transfer Payments					
Female head age 16–24	0.270	0.263	0.554	0.417	0.303
Female head age 25+	0.152	0.174	0.284	0.432	0.226
Male head age 16–24	0.137	0.134	0.129	0.092	0.131
Male head age 25+	0.093	0.130	0.232	0.367	0.164
All families	0.126	0.152	0.258	0.394	0.193

Source: Urban Institute calculations based on March 2009 CPS data.

Among families that received UI benefits, the effects on the poverty rates are more noticeable in table 4 than in table 3. When UI is removed from family income in table 4, the poverty rate increases from 0.082 to 0.131 or by 0.049. Also, the poverty-reducing effects of UI benefits increase across the unemployment duration categories: 0.020 in the 1–13 weeks group but 0.116 in the 40–52 weeks group. Given the large increase in long-term UI benefit availability in 2009 over 2008 (see table 1), even larger poverty-reducing effects of UI would be anticipated in 2009 data.

Table 4 also shows that the poverty-reducing effects of other transfers are strong even when restricted to families that received UI benefits. The overall effect of these transfers is to reduce the average poverty rate by 0.063 among the 5.49million families with unemployment and UI benefits. Except among families headed by men age 16–24, there is also a strong poverty reduction gradient with a larger effect of other transfers on the poverty rate as unemployment duration lengthens. Other transfers reduce the poverty rate by 0.044 among families in the 1–13 weeks group but by 0.127 among families in the 40–52 weeks group. Since only a minority of other transfers are income conditioned (roughly a quarter of the \$107.1 billion), families with long unemployment spells have better access to these transfers than families with short unemployment spells. A more detailed analysis of the individual subcategories of these transfers seems warranted.

### **Summary**

Four findings of this paper seem noteworthy. First, permanent job separations initiated by employers have been growing as a share of total unemployment. In 2009, their share of the total (0.530) was the highest ever in the 43 years covered by the reason-for-unemployment data. Second, since workers permanently separated have unusually long post-separation unemployment spells, both active and passive labor market policies are needed to speed reemployment and provide long-term income support for these persons. The ad hoc extensions of potential UI benefit duration of 2008–10 may need to be replaced by some other mechanism to compensate the long-term unemployed. Training, counseling, and improved information on job openings need to be emphasized at the same time to counter a trend toward increased average unemployment duration. Third, UI benefits and other transfer payments contribute to poverty reduction, and both have larger effects in families with long unemployment spells. Fourth, when income and poverty data from 2009 become available, a new analysis the topics investigated here will definitely be in order.

## Appendix A. Regression Analysis of Unemployment by Reason

Table A1 displays 12 time-series regressions that explain variation in the shares of total unemployment by reason. There are four reason categories: job losers on temporary layoff, other job losers, job leavers, and labor force entrants (new entrants plus reentrants).

The regressions span three periods: 1967 to 1989, 1990 to 2009, and 1967 to 2009. The regressions all use the same three explanatory variables: the current unemployment rate (TUR), the unemployment rate lagged one year (TUR Lag), and a linear trend (Trend). Unemployment is measured as a fraction so that the slope coefficients for TUR and TUR Lag show the response to an increase of 0.01 in the unemployment rate.

The regression analysis tests for possible changes in the determinants of the reason-for-unemployment proportions. The earlier period spans available data from the 1960s, 1970s, and 1980s while the later period spans the 1990s and 2000s.

Note the signs and sizes of the coefficients on the TUR, consistently negative for job leavers and entrants and positive for temporary layoffs and other job losers. The relative sizes of the TUR coefficients for the two job loser groups changes sharply between the two periods. The temporary layoff coefficient is the larger of the two during 1967–89 but it is zero during 1990–2009. The other job loser coefficient triples in size between the earlier and the later period. The trend coefficients for the job loser groups also change sharply: from zero to significantly negative for those on temporary layoff and more than doubling in size for other job losers.

Formal Chow tests for stability of regression coefficients across the two periods were conducted. The null hypothesis of coefficient stability was rejected at the 0.01 level for those on temporary layoff, other job losers, and job leavers. The underlying determinants of the shares of unemployment by reason changed between 1967–89 and 1990–2009. Employers became much more prone to use permanent separations to make workforce adjustments in the later period, hence an increase in the other job loser proportion and a decrease in the temporary layoff proportion.

**Table A1. Regressions Explaining Reason-for-Unemployment Proportions, 1967–2009**

	Constant	TUR	TUR Lag	Trend	Adj. R2	Std. Error	Durbin Watson	Mean
1967 to 1989								
Temporary layoff	0.093 (10.2)	2.577 (11.6)	-1.831 (7.6)	0.00019 (0.4)	0.858	0.011	1.52	0.144
Other job losers	0.174 (14.1)	1.396 (4.6)	0.680 (2.1)	0.00156 (2.6)	0.890	0.014	0.74	0.324
Job leavers	0.208 (23.4)	-1.356 (6.3)	-0.032 (0.1)	0.00061 (1.4)	0.809	0.010	0.48	0.127
Entrants	0.528 (49.4)	-2.645 (10.2)	1.192 (4.2)	-0.00249 (4.8)	0.909	0.012	1.66	0.405
1990 to 2009								
Temporary layoff	0.214 (29.5)	-0.021 (0.2)	-1.139 (7.6)	-0.00147 (8.0)	0.863	0.004	2.43	0.135
Other job losers	0.097 (3.1)	4.252 (10.0)	-0.093 (0.1)	0.00359 (4.5)	0.907	0.018	0.78	0.370
Job leavers	0.212 (14.6)	-0.844 (4.3)	-0.61 (2.1)	-0.00186 (5.1)	0.793	0.081	1.21	0.112
Entrants	0.476 (12.9)	-3.391 (6.8)	1.861 (2.5)	-0.00247 (0.3)	0.729	0.0206	0.89	0.383
1967 to 2009								
Temporary layoff	0.124 (9.2)	1.308 (4.6)	-0.948 (3.2)	-0.00032 (1.4)	0.328	0.018	0.90	0.140
Other job losers	0.143 (8.1)	2.771 (7.4)	-0.401 (1.0)	0.00268 (9.1)	0.810	0.0239	0.72	0.345
Job leavers	0.2 (23.4)	-1.196 (6.7)	0.205 (1.1)	-0.00091 (6.4)	0.732	0.012	0.52	0.120
Entrants	0.536 (42.3)	-2.896 (10.9)	1.126 (4.1)	-0.0015 (7.1)	0.829	0.017	0.92	0.395

*Source:* Regression analysis of BLS annual data on unemployment by reason. TUR is the unemployment rate measured as a fraction of the labor force. T ratios are shown beneath each regression coefficient.



## Notes

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<sup>1</sup> The calculated F ratios for testing the equality of the regression coefficients were 9.35 for the temporary layoff proportion, 13.29 for the other job loser proportion, 1.51 for the job leaver proportion, and 6.05 for the entrant proportion. The F ratio needed for significance at the 0.01 level is 3.93. Thus, the job leaver proportion was the only one of the four for which the coefficients did not differ between the two subperiods.

<sup>2</sup> ARRA has other UI provisions with less direct implications for UI benefit payments. These provisions include reduced costs of health insurance, interest forgiveness on UI trust fund loans during 2009 and 2010, and added monies for UI administration.

<sup>3</sup> “Our” refers to tables prepared by Daniel Kuehn.

<sup>4</sup> The CPS work experience data for 2008 indicate that 21.2 million persons experienced unemployment during 2008. This work experience count is surprisingly close to the count of families with unemployment.

<sup>5</sup> This total exceeds the total shown in table 1 for 2008 by \$0.7 billion, the combined amount of UI paid to federal government employees and ex-servicemen under separate UI programs.

<sup>6</sup> Another indicator of underreporting the receipt of UI benefits in the 2008 CPS data is provided by the reciprocity rate based on aggregate annual data for the year. Regular UI beneficiaries represented 0.335 of total unemployment; with inclusion of EUC and EB, the reciprocity ratio was 0.377 or about 10 percentage points higher than shown in the bottom of table 2. The reciprocity rate from all three tiers of UI in 2009 was much higher at about 0.600.