Long-Term Unemployment and Recessions

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Summary

The recession that began in the United States in December 2007 has been one of the deepest and longest since World War II. One feature that distinguishes the recent recession from its postwar predecessors is the historically high percentage of unemployed persons without jobs for more than six months (the long-term unemployed). This report analyzes the trend in long-term unemployment over the postwar period and compares the individual, job, and household characteristics of the long-term unemployed during the latest recession (2007-2009) with the long-term unemployed at the end of the two previous recessions (1990-1991 and 2001).

In each of the last three recessions, older unemployed workers were more likely than younger workers to have been unemployed for more than six months. On the other hand, during the last two recessions, an equal share of unemployed men and women were without work for over half a year. At the end of the 1990-1991 recession, unemployed women were less likely than men to have been out of work for more than six months. Unlike the two previous recessions, in 2009, unemployed workers with less than a high school education were more likely than unemployed workers with more education to have been out of work for at least six months.

Long-term unemployment varies by industry and occupation. In 2009, workers laid off from the financial activities and information industries were the most likely to have been jobless longer than 26 weeks. Workers displaced from management, business, and financial occupations were most at risk of long-term unemployment during recent recessions.

Unemployment affects both the individuals who are without work and their families. Households of the long-term unemployed have lower earnings and income than other households (where households include married couples, single parents, and single individuals). In 2008, the most recent year for which data are available, the long-term unemployed were more likely than all unemployed workers to live in households with incomes below the official poverty line. They were more likely than other unemployed workers to receive benefits from the Supplemental Nutrition Assistance Program (SNAP, formerly the Food Stamp program) or be covered by Medicaid. In 2008, only 2.7% of the long-term unemployed received public assistance.

Over half (55%) of the long-term unemployed had some type of health insurance coverage at some time during 2008, compared to 84% of employed workers. Although a majority of the long-term unemployed (58%) were homeowners in 2008, they were less likely than employed workers (72%) to own their own homes.

As the economy recovers and employers increase hiring to meet the growing demand for goods and services, many currently unemployed workers will be able to find new jobs. However, finding work may be more difficult for the long-term unemployed if, for example, employers think their skills have deteriorated during their lengthy time away from the workplace. The long-term unemployed displaced from industries in which restructuring has occurred may also have a hard time finding new jobs in other industries, especially if the jobs require skills different from those they possess. Policies to encourage employers to hire the long-term unemployed include wage and training subsidies. Offering wage insurance and reemployment bonuses to unemployed workers may encourage them to accept jobs sooner than they otherwise might have. This report may be updated if issues warrant it.

Contents

Figures

Tables

Appendixes

Contacts

The recession that began in the United States in December 2007 has been one of the deepest and longest since World War II. In response, Congress enacted legislation to stimulate aggregate demand and provide assistance to unemployed workers and their families. The American Recovery and Reinvestment Act of 2009 (ARRA, P.L. 111-5) temporarily raised spending by increasing funding for a number of programs, creating new programs, and providing tax benefits for individuals, families and businesses. Congress also authorized a federally funded temporary program (P.L. 110-252 as amended) to provide additional weeks of unemployment benefits to those who exhausted their eligibility under the federal-state Unemployment Compensation (UC) program. Although some in the public policy community are concerned that extending benefits may discourage recipients from looking for work,[1] Congress has extended the program on multiple occasions.[2]

It is not unusual for improvement in the labor market, as measured by a declining unemployment rate, to begin some months after the official ending date of a recession.[3] It is also not unusual for the proportion of the labor force unemployed for more than six months (the long-term unemployment rate) to continue rising and peak after a recession's end. What is unusual, however, is that the incidence of long-term unemployment currently is higher than at any time in the postwar period.

The purpose of this report is to assist policymakers who may consider legislation to stimulate job growth, provide additional benefits to unemployed workers, or assist families whose incomes have fallen because of a job loss or reduction in hours worked. The report first compares the prevalence of long-term unemployment across business cycles during the postwar period. It next analyzes the likelihood of unemployed workers with different demographic, job, and household characteristics experiencing a very long period without paychecks. The report closes with a discussion of long-term unemployment's implications for public policy.

The Trend in Long-Term Unemployment

The percentage of the labor force without jobs for longer than six months (the long-term unemployment rate)—like the unemployment rate—generally rises as economic activity falls. This countercyclical pattern was evident during the deep recessions of the 1970s and 1980s, when the long-term unemployment rate rose 0.4 percentage points to 0.8% at the 1973-1975 recession's end and 1.1 percentage points to 2.1% at the 1981-1982 recession's end.[4] The same pattern was evident during milder recessions, when the long-term unemployment rate rose 0.3 percentage points to 0.8% at the trough of the 1990-1991 and 2001 recessions. As the latest recession unfolded, the long-term unemployment rate increased from 0.9% in December 2007 to 3.3% in August 2009 (the recession's ending date used in this report).[5] Not only was this 2.4 percentage

[1] Michael A. Fletcher and Dana Hedgpeth, "Are Unemployment Benefits No Longer Temporary?," *Washington Post*, March 9, 2010, pp. A1, A11.

[2] For additional information, see CRS Report RS22915, *Temporary Extension of Unemployment Benefits: Emergency Unemployment Compensation (EUC08)*, by Julie M. Whittaker and Alison M. Shelton.

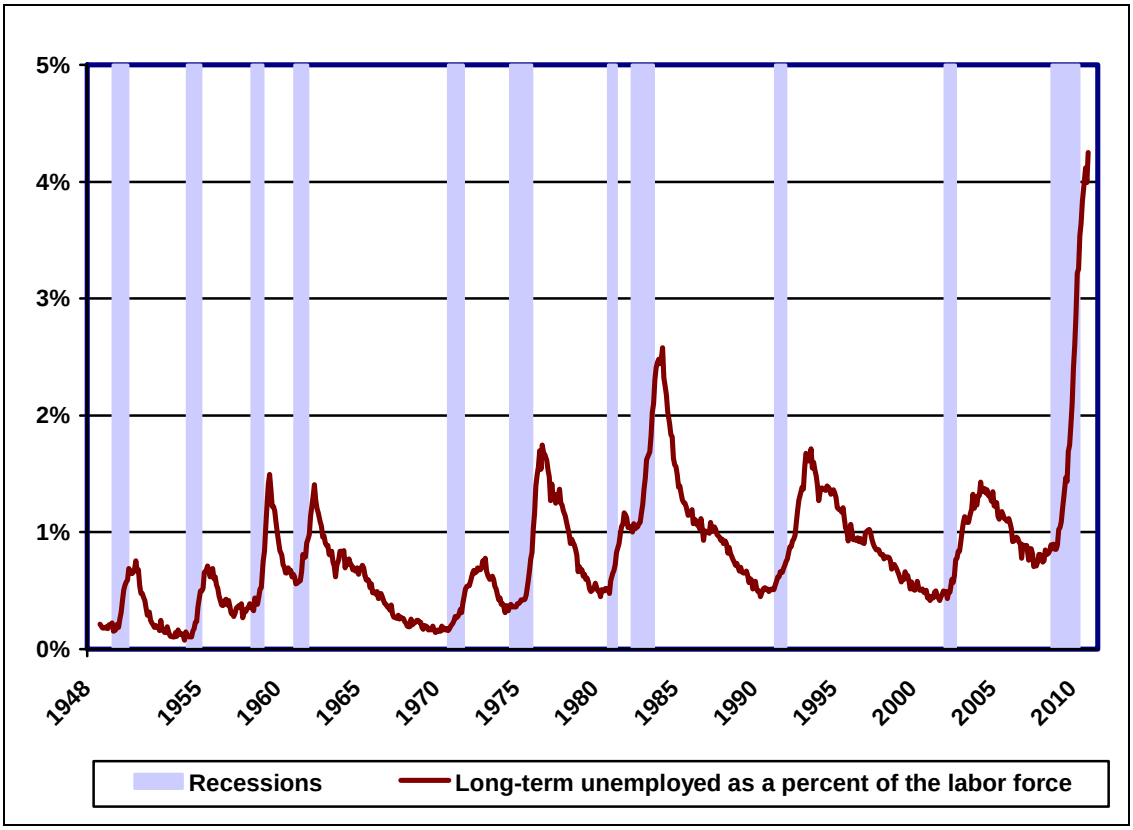
[3] CRS Report R40798, *Unemployment and Employment Trends Before and After the End of Recessions*, by Linda Levine.

[4] Calculated by the Congressional Research Service (CRS) from the Current Population Survey (CPS). Individuals are counted as unemployed if they are not working, have actively looked for work during the four weeks before the CPS survey, and are currently available for work.

[5] The National Bureau of Economic Research is the official arbiter of turning points in the business cycle. It typically (continued...)

point increase much greater than recorded during prior recessions, but it also put the long-term unemployment rate at a postwar high. (See **Figure 1**.)

Figure 1. Long-Term Unemployed as a Percentage of the Labor Force, 1948 to 2010, Seasonally Adjusted



Source: CRS analysis of data from the Current Population Survey (CPS).

As also shown in **Figure 1**, the long-term unemployment rate continues to rise during the early stage of recoveries. For example, the share of the labor force without jobs for more than six months increased from 3.3% in August 2009 to 4.1% in January 2010. The rate rose further to 4.3% in March, the latest month for which data from the Current Population Survey (CPS) are available from the U.S. Bureau of Labor Statistics (BLS).

Another way to look at the trend in long-term unemployment is as a proportion of total unemployment. The long-term unemployed's share of all unemployed individuals was 33.6% in August 2009, up from 17.3% in December 2007.[6] This measure also continues to rise during the early stage of recoveries. It rose to 44.1% in March 2010, as fewer people flowed into (short-

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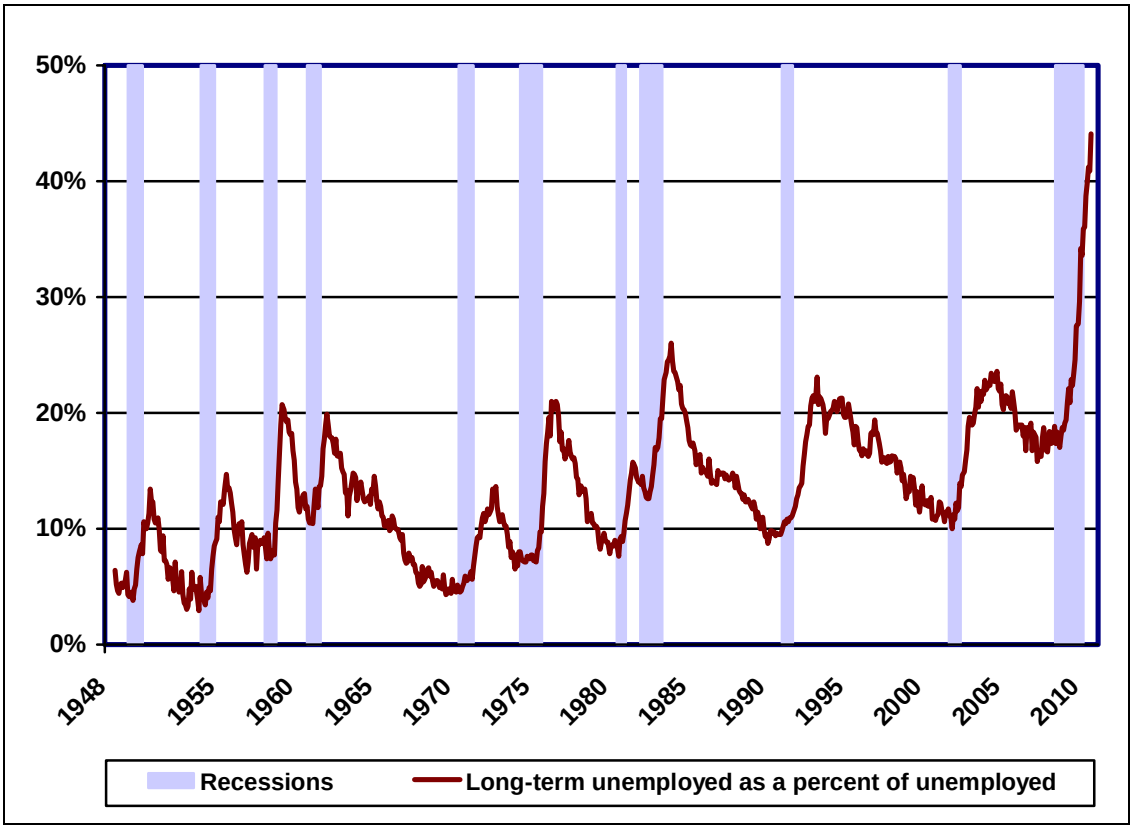
has not announced the starting and ending dates of recessions until well after the fact. For purposes of comparison with prior recessions, August 2009 was used in this report as the month in which the latest recession may have ended because it is the consensus among economists that the business cycle reached its nadir in the third quarter of 2009.

[6] Data derived by BLS from the CPS.

term) unemployment. The proportion of unemployed persons out-of-work over 26 weeks has been considerably above the rate recorded during prior downturns and nascent recoveries. (See **Figure 2**.)

Figure 2. Long-Term Unemployed as a Percentage of Unemployed Workers, 1948 to 2010, Seasonally Adjusted



Source: Bureau of Labor Statistics (BLS) data from the Current Population Survey (CPS).

The historically high incidence of long-term unemployment observed starting in mid-2009[7] coincides with Congress' lengthier than usual temporary extension of UC benefits beyond the duration afforded by the permanently authorized federal-state UC system and Extended Benefit programs.[8] The availability of a maximum of 53 weeks of benefits through the Emergency Unemployment Compensation (EUC) program probably has prompted individuals to continue searching for jobs instead of leaving the labor force due to discouragement over their job

[7] The long-term unemployment rate exceeded 2.6% starting in May 2009; 2.6% was the previous record-high for the postwar period. It was reached in June 1983, seven months after the end of the 1981-1982 recession.

[8] The Extended Benefit (EB) program is automatically triggered when a state surpasses a statutorily set unemployment rate. Workers in high-unemployment states are eligible for up to 20 weeks of benefits beyond the duration provided under their state's UC program (typically 26 weeks). With ARRA, as amended, temporarily paying 100% of EB costs, many workers unemployed during this recession were eligible for the EB benefit as well as the EUC benefit. Additionally, during prior recessions when Congress enacted a temporary unemployment benefit program, states were allowed to suspend the EB program.

prospects upon exhausting their regular UC benefits.[9] The currently low hiring rate of employers makes workers refraining from accepting jobs in order to continue receiving EUC benefits a less plausible explanation for the historically high incidence of long-term unemployment.[10]

The shorter-lived temporary UC benefit programs enacted to mitigate the effects of seven prior recessions coincided with much less long-term unemployment. These programs provided a maximum of 13 to 33 weeks of benefits. After the seven recessions ended, the long-term unemployment rate and share of long-term unemployment ranged from 0.8% to 2.6% and from 13.6% to 25.7%, respectively.[11] The 111th Congress provided a maximum of 33 weeks of benefits from about November 2008 through October 2009. Both the long-term unemployment rate (3.7%) and the share of long-term unemployment (36.0%) in October 2009 were well outside these ranges. The subsequent extension of benefits to a maximum of 53 weeks starting in November 2009 has been accompanied by a still higher long-term unemployment rate and share of long-term unemployment in early 2010. (See **Figure 1** and **Figure 2**.)

The greater industry restructuring that arguably characterized the 2001 recession may have coincided with the latest recession as well, and made it more difficult for workers to find new jobs as quickly as they did after earlier recessions. Workers displaced by industries permanently reducing their demand for labor will take longer to become reemployed than workers waiting to be recalled by their employers from temporary layoffs. The period of job search could be especially prolonged when the skill sets needed for employment in growing industries differ from the skills sets of workers laid off by restructuring industries and when displaced workers must substantially lower their wage expectations to obtain new jobs.[12]

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[9] The official count of unemployment is developed by the BLS from the CPS, not from UC administrative records that cover a subset of unemployed persons who are benefit-eligible. (In 2009, according to Labor Department data, insured unemployment accounted for 40% of total unemployment.) Nonetheless, it is likely that survey respondents are saying that more unemployed members of their households are seeking work than would have been case in the absence of EUC program.

[10] According to BLS data from the Job Openings and Labor Turnover Survey (JOLTS), the hiring rate fell from 3.6% in December 2007 to 3.1% in August 2009. It remained largely unchanged through February 2010, the latest month for which data are available. Data from JOLTS first became available in December 2000. Thus, JOLTS data are available for only one earlier recession. The hiring rate during the March-November 2001 recession and ensuing "jobless recovery" exceeded the hiring rate reported during and after the 2007-2009 recession. The hiring rate fell from 4.4% in March 2001 to 3.9% in November 2001, after which it reached a low of 3.5% in March 2003 before gradually trending upward.

[11] The peak rate rather than the rate at the end of recessions was used in the analysis because in five instances, the temporary federal UC program was enacted after the trough and in two instances, it was enacted very near the trough. Only in the latest case did Congress enact the program well before the recession's end. According to CRS Report RL34340, *Extending Unemployment Compensation Benefits During Recessions*, Congress provided a maximum of 13 weeks of benefits in response to four recessions: 1957-1958, 1960-1961, 1969-1970, and 2001. The peak long-term unemployment rates and peak shares of long-term unemployment after the end of these recessions ranged from 0.8% to 1.5% and from 13.6% to 23.4%, respectively. Congress provided 26 weeks of benefits in response to the severe 1973-1975 recession; the long-term unemployment peaked at 1.7% and the share of long-term unemployment peaked at 21.1% after the recession's end. Congress next provided 16 weeks of benefits in response to the severe 1981-1982 recession; both the long-term unemployment rate (2.6%) and the share of long-term unemployment (25.7%) exceeded the rates attained after Congress provided UC benefits for shorter (13 weeks) and longer (26 weeks) periods. Until the 2007-2009 recession, the longest period for which temporary federal UC benefits were authorized came in response to the 1990-1991 recession. Despite the 33-week benefit period, the peak long-term unemployment rate (1.7%) and peak share of long-term unemployment (23.3%) after the end of the 1990-1991 recession were comparable to figures associated with shorter UC extensions.

[12] When unemployment occurs because of a mismatch between the skills supplied by workers and the skills demanded by employers, it is called structural unemployment. In contrast, cyclical unemployment results from the temporarily (continued...)

The so-called jobless recovery from the 2001 recession prompted several economists to analyze whether increased industry restructuring had led comparatively large numbers of unemployed workers to move from downsizing industries to industries increasing their demand for labor. No consensus was reached, however. Groshen and Potter estimated that, according to their measure, many more industries were undergoing restructuring during the 2001 recession and subsequent recovery than during prior business cycles.[13] In contrast, Aaronson, Rissman, and Sullivan estimated that, based on a different measure of labor reallocation across industries, the degree of restructuring during and after the 2001 recession was less than that during earlier periods. Although this second group of researchers did not find evidence that the rate of permanent job loss was atypically elevated following the 2001 recession, they noted that "the unusually high duration of unemployment [in 2002 and 2003] is consistent with [an] increased mismatch" between the skills of displaced workers and the skills being demanded by employers in growing industries.[14] Similarly, Figura and Wascher estimated that workers displaced from downsizing industries experienced almost a doubling in their time spent not working (from 19 to 35 weeks) between the 1997-1999 and 2001-2003 periods, while workers displaced from other industries exhibited a much smaller increase (from 19 to 28 weeks). The two researchers concluded that while it appears downsizing industries (e.g., manufacturing, information and data processing services, broadcasting and telecommunications, publishing) were quick to layoff workers in the early 2000s, "it took a considerable amount of time for these resources to be re-employed elsewhere."[15]

Rissman's more recent work, covering the period from the first quarter of 1984 to the second quarter of 2009, suggests that the impact of structural realignment on unemployed workers varies by industry. While restructuring in the finance, insurance, and real estate industries resulted in worker displacement, employees from these industries may be "better able to find alternative employment in other sectors of the economy because the skills they possess are more readily transferable to employment in other industries." Alternatively, workers who lose jobs in the construction, manufacturing, and transportation and utilities industries "may be less readily absorbed into other sectors," thereby lengthening the time spent unemployed.[16]

Distinguishing cyclical from structural unemployment is more than an academic exercise. If job losses are the result of a temporary (cyclical) reduction in the demand for goods and services, the use of fiscal and monetary policies to stimulate economic activity is appropriate. However, if job losses also result from changes in technology, trade, or consumer taste that prompt permanent shifts in the demand for labor across sectors, then employment policies are suitable measures to enact as well. This matter will be revisited in "Implications for Public Policy" at the conclusion of this report.

(...continued)

reduced demand for labor that occurs during recessions when the demand for goods and services is depressed.

[13] Erica Groshen and Simon Potter, "Has Structural Change Contributed to a Jobless Recovery," *Federal Reserve Bank of New York Current Issues in Economics and Finance*, vol. 9, no. 8 (August 2003), pp. 1-7.

[14] Daniel Aaronson, Ellen R. Rissman, and Daniel G. Sullivan, "Can Sectoral Reallocation Explain the Jobless Recovery," *Federal Reserve Bank of Chicago Economic Perspectives*, vol. 28, no. 2 (second quarter 2004), pp. 36-49.

[15] Andrew Figura and William Wascher, "The Causes and Consequences of Sectoral Reallocation: Evidence from the Early 21st Century," *Business Economics*, vol. 45, no. 1 (2010), pp.49-68.

[16] Ellen R. Rissman, "Employment Growth: Cyclical Movements or Structural Change?," *Federal Reserve Bank of Chicago Economic Perspectives*, fourth quarter 2009, pp. 40-57.

Who is Likely to Experience Long-Term Unemployment?

Knowledge of which jobless workers are more likely to suffer very long spells of unemployment may help to identify policies that address their plight. This report compares the long-term unemployed at the end of the three most recent recessions (2007-2009, 2001, and 1990-1991). The report uses data from the monthly Current Population Survey (CPS), which is a household survey conducted by the U.S. Census Bureau for BLS. The report also uses data from the Annual Social and Economic (ASEC) Supplement to the CPS. The supplement collects information on the sources and amounts of household and family income and benefits. (The ASEC Supplement was formerly called the March Supplement.) [17]

Because of changes in the CPS over time, not all variables analyzed in this report can be compared across the last three recessions. For example, beginning in January 2003, the CPS adopted new industry and occupation classification systems that substantially changed the way in which some industries and occupations are categorized. In January 2003, the CPS also changed the way survey respondents can respond to the question on race. While in the past survey respondents had to select one race (e.g., white, black), respondents can now pick more than one race, which makes meaningful comparisons over time difficult. Finally, because the CPS is a household survey, the size of some cells (e.g., number of workers with an advanced or professional degree) limits the detail of the analysis presented below.

Individual Characteristics

Age

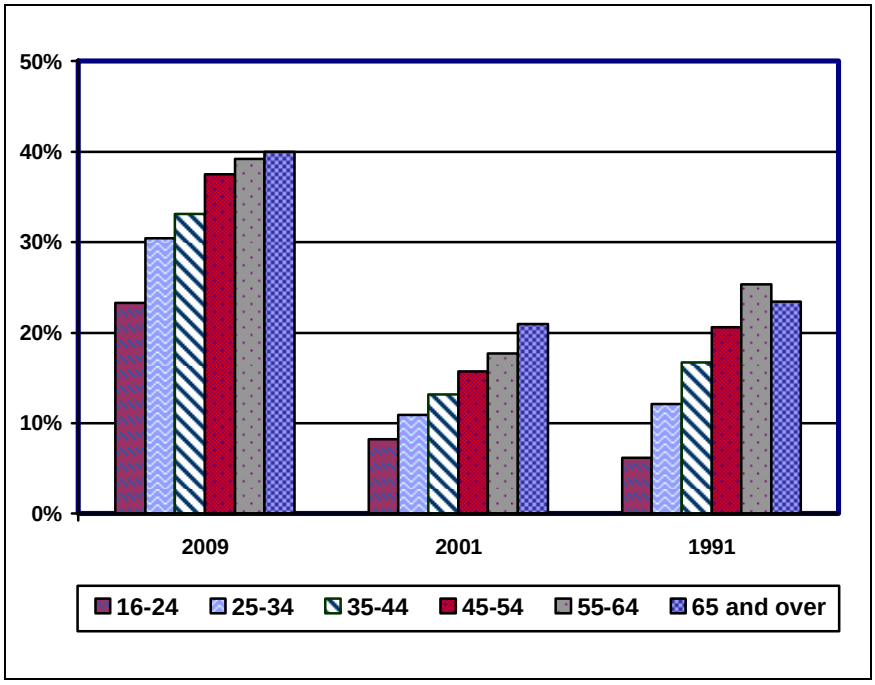
Age appears to be positively related to long-term unemployment. As shown in **Figure 3**, older unemployed workers are more likely to have been without jobs for longer than half a year in 2009, 2001, and 1991. In 2009, for example, 30.4% of unemployed 25-34 year olds and 33.1% of unemployed 35-44 year olds had been out of work for at least 27 weeks, compared to 37.5% of unemployed 45-54 year olds, 39.2% of unemployed 55-64 year olds, and 40.0% of unemployed workers age 65 and older.

Age (a proxy for seniority) tends to protect older workers from being laid off and thereby contributes to the comparatively lower unemployment rate of older workers. But, seniority affords older workers little protection if companies go out of business or close plants. Once they are let go, the higher earnings that often accompany more job tenure would tend to lead older workers to remain unemployed longer than younger workers. Joblessness could be especially prolonged among high-wage, high-tenure persons displaced from industries undergoing structural

[17] In a 2007 report, the Congressional Budget Office (CBO) examined the extent to which unemployment is concentrated among workers who are unemployed for more than six months. The report examined the characteristics of workers who experienced unemployment at any time from 2001 to 2003. Although the report uses data from the monthly CPS, it mainly uses data from the 2001 panel of the Survey of Income and Program Participation (SIPP). SIPP is a longitudinal survey of the population of the United States and is conducted by the U.S. Census Bureau. Unlike the CBO study, this report examines the characteristics of the long-term unemployed during recent recessions. (Congressional Budget Office, *Long-Term Unemployment*, October 2007, pp. vii, 21.)

change in addition to temporarily reduced product demand (e.g., workers in the motor vehicle manufacturing industry).[18]

Figure 3. Percentage of Unemployed by Age Group Who are Long-Term Unemployed, 2009, 2001, and 1991



Source: CRS analysis of data from the Current Population Survey (CPS).

Gender

Unemployment among men has been greater than among women during and shortly after recessions since the 1980 recession. The latest recession is no exception, with men's higher unemployment rate related in part to their dominance of employment in more cyclically sensitive industries (e.g., manufacturing and construction).[19]

A notable change across recent recessions involves the likelihood of long-term unemployment by gender. **Figure 4** shows that in 2009 and 2001, unemployed women were as likely as unemployed men to be out-of-work for over half a year. In 1991, in contrast, unemployed women were significantly less likely than men to experience long-term joblessness.[20] The gap between their probability of long-term unemployment narrowed from 4.8 percentage points in favor of men in 1991 to a statistically insignificant 0.5 percentage points in 2001 and 2009. Women's increased

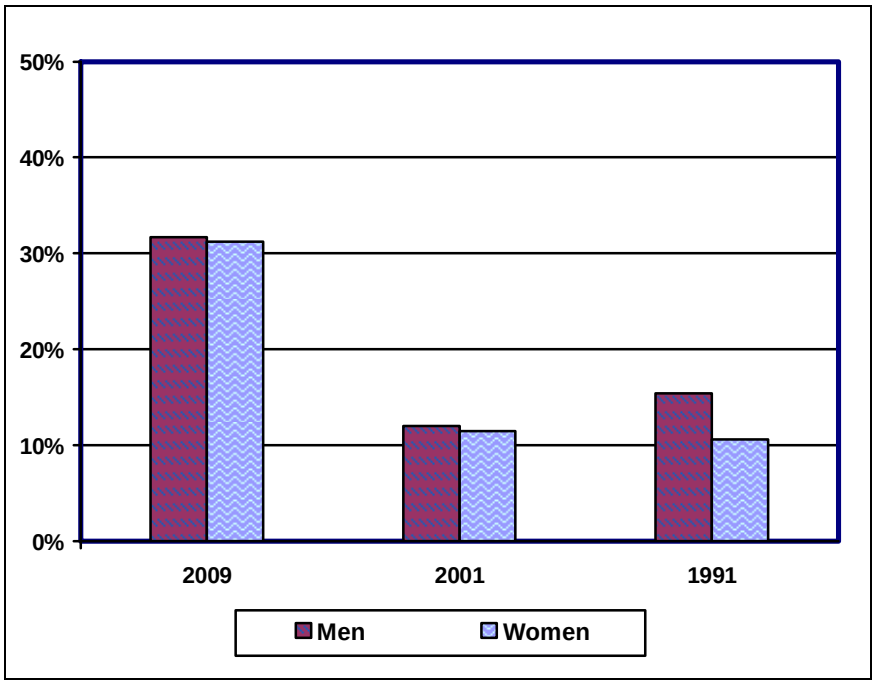
[18] For information on the reemployment problems faced by older workers who lose long-held jobs, see CRS Report RL33054, *Older Displaced Workers in the Context of an Aging and Slowly Growing Population*, by Linda Levine.

[19] Aysegul Sahin, Joseph Song, and Bart Hobijn, "The Unemployment Gender Gap during the 2007 Recession," *Federal Reserve Bank of New York Current Issues in Economics and Finance*, vol. 16, no. 2 (February 2010). (Hereafter cited as "The Unemployment Gender Gap.")

[20] Unless otherwise noted, the percentage comparisons in this report are significant at the 90% confidence level or better. See the discussion of confidence intervals in the **Appendix**.

attachment to the labor force may partly explain their labor market behavior becoming more like that of men: rather than immediately withdrawing from the workforce upon being laid off, women have become more likely to seek new jobs and to persist in their job search for a very long time.[21]

Figure 4. Percentage of Unemployed by Gender Who are Long-Term Unemployed, 2009, 2001, and 1991



Source: CRS analysis of data from the Current Population Survey (CPS).

Educational Attainment

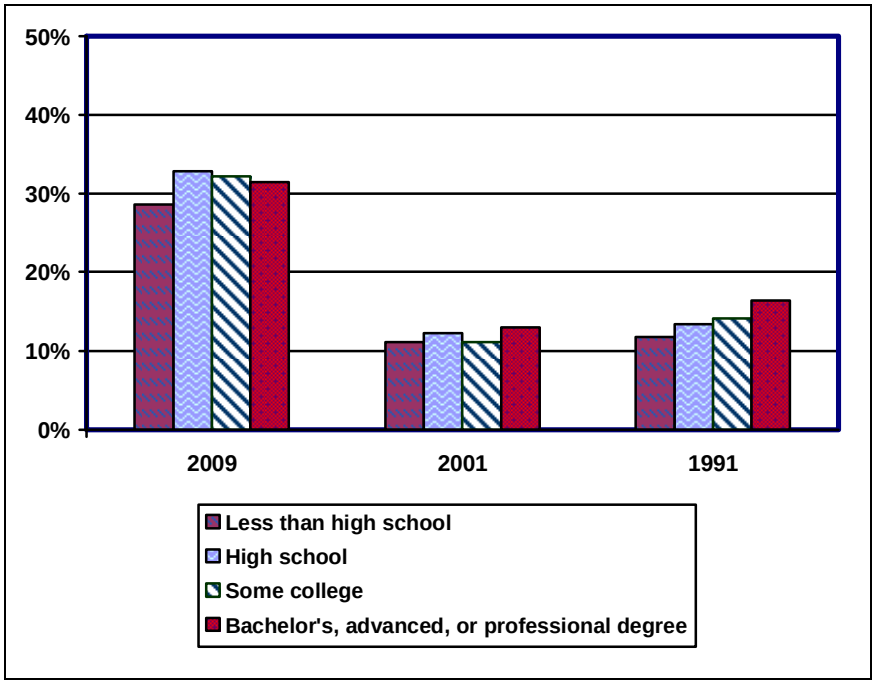
Another notable change concerns the probability of long-term unemployment among the unemployed who ended their formal schooling upon attainment of a high school diploma. They were more likely to be without jobs for longer than 26 weeks in 2009, while their risk of long-term unemployment did not differ substantially from that of other educational groups in 2001 and 1991. (See **Figure 5**.) In part, this change may have occurred because major employers of high school graduates age 25 and older were harder hit during this recession than during the two prior recessions. In 2009, the construction (10.8%) and manufacturing (13.6%) industries employed almost one-fourth of high school graduates in the labor force.[22] Construction employment plummeted by 21.4% between December 2007 and August 2009, compared to only 1.1% during the 2001 recession and 7.5% during the 1990-1991 recession.[23] Similarly, manufacturing employment dropped by 14.9% during the latest recession compared to only 6.6% during the 2001 recession and 3.2% during the 1990-1991 recession.

[21] Another contributory factor may be the 1994 revision of the CPS, which led to more women reporting they were unemployed rather than not being members of the labor force.

[22] Unpublished BLS data from the Current Population Survey (CPS).

[23] Calculated by CRS from BLS establishment survey data.

Figure 5. Percentage of Unemployed by Education Who are Long-Term Unemployed, 2009, 2001, and 1991

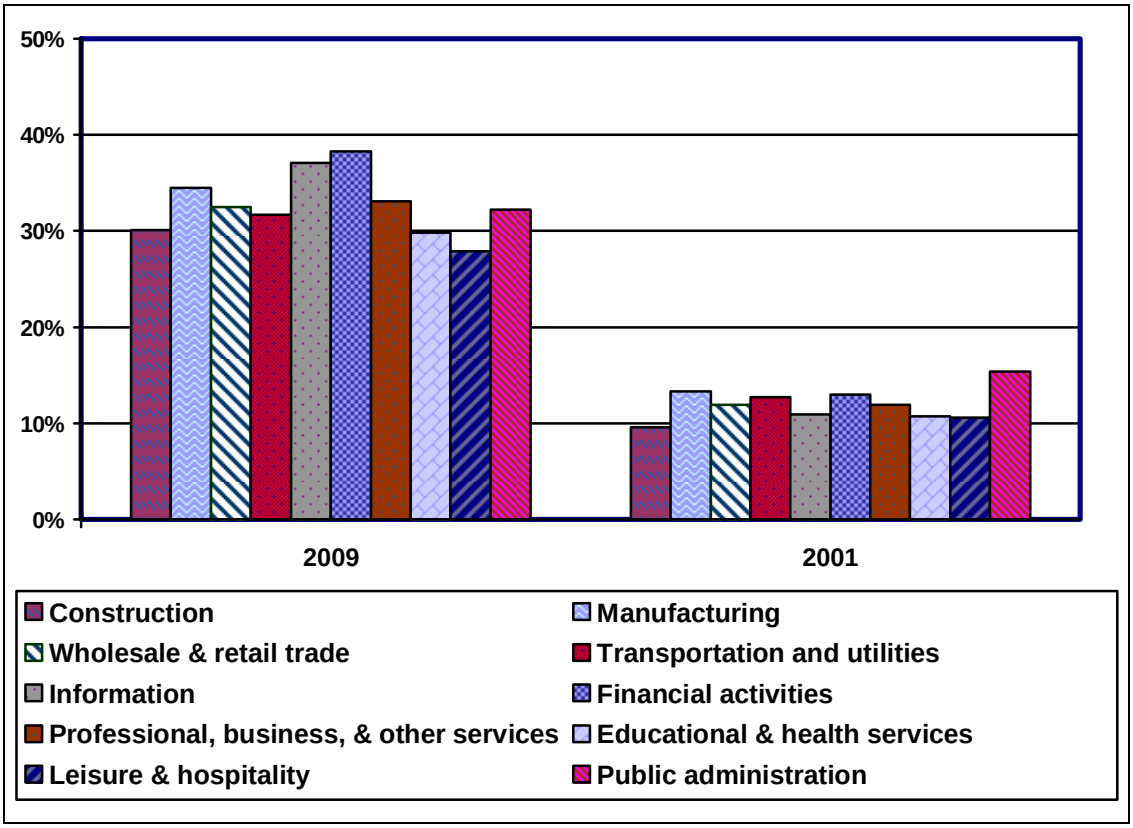


Source: CRS analysis of data from the Current Population Survey (CPS).

Industry

Seemingly unique to this recession is the significantly greater risk of long-term unemployment among workers laid off from the information (e.g., telecommunications, publishing) and financial activities (i.e., finance, insurance, and real estate) industries. Almost two out of five workers laid off from the two industries did not receive a paycheck for over six months in 2009. In fact, long-term unemployment accounted for a larger percentage of total unemployment in the two industries than it did in the cyclically sensitive manufacturing industry (at a little more than one-third). Nonetheless, displaced manufacturing workers consistently were among the industries most likely to experience long-term unemployment. (See **Figure 6**.)

Figure 6. Percentage of Unemployed by Industry Who are Long-Term Unemployed, 2009 and 2001



Source: CRS analysis of data from the Current Population Survey (CPS).

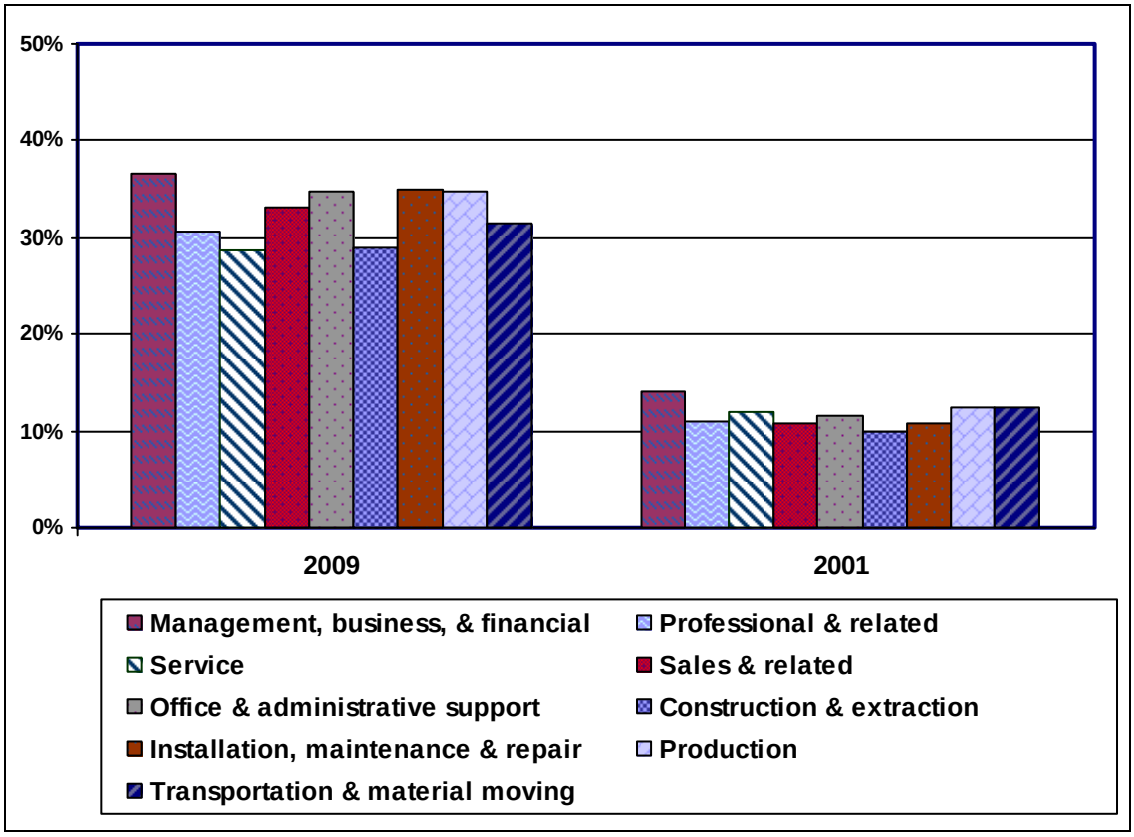
Note: This chart does not include mining or agriculture. In 2009, each of these industries accounted for less than 2% of total employment.

Occupation

Both in 2009 and 2001, workers displaced from management, business, and financial occupations had a greater probability of being unemployed for more than six months compared to workers laid off from other occupations. The relatively high wages of individuals in management, business, and financial occupations probably contributed to their lengthy unemployment while searching for jobs offering comparable compensation. So, too, would their industry-specific (not-easily transferable) skills if they needed to change industries to obtain new jobs. In contrast, only in 2009 were workers laid off from office and administrative support jobs significantly more likely to experience long-term unemployment. The overrepresentation of office and administrative support workers in two industries (information and financial activities) hit uncharacteristically hard during the 2007-2009 recession might have contributed to the occupational group's elevated risk of long-term unemployment.24 (See Figure 7.)

[24] In 2009, office and administrative support workers accounted for 13.0% of total employment. They accounted for a larger share of employment in the information industry (18.6%) and in the financial activities industry (24.6%), according to CRS calculations utilizing BLS data from the CPS.

Figure 7. Percentage of Unemployed by Occupation Who are Long-Term Unemployed, 2009 and 2001



Source: CRS analysis of data from the Current Population Survey (CPS).

Note: This chart does not include farming occupations.

Household Characteristics

Unemployment affects both the individuals who are without work and their families. Workers who become unemployed face a loss of earnings and, in some cases, fringe benefits, such as employer contributions for health insurance or to a retirement plan. As a result, their families may experience a loss of household income and health insurance coverage. Unemployed homeowners may find it difficult to keep up with their mortgage payments and could face foreclosure.

At the same time, workers who become unemployed may be eligible for UC benefits, food assistance, or cash public assistance. Under the Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA, P.L. 99-272), they may be able to purchase health insurance through their former employer. Workers could be eligible for a temporary subsidy to buy health insurance under COBRA. Some workers may be eligible for a health coverage income tax credit (HCTC). Unemployed workers may also be covered by the insurance policy of another family member or they may be eligible for Medicaid.

This section compares workers who have been unemployed for 27 weeks or more with all unemployed workers and all employed workers. The analysis compares "all households" with

married couple households. All types of households includes married couples, single parent households, and single individuals.

The analysis in this section is based on data from the Annual Social and Economic (ASEC) Supplement to the monthly CPS. The supplement collects information on household earnings and income for the previous year. The supplement also asks individuals whether they had health insurance at any time during the previous year. The supplement is conducted at the beginning of each year, mainly in March. The most recent data available are for 2008.

The data from the CPS supplement have some limitations in analyzing the household characteristics of workers unemployed for more than six months. Since the supplement collects information for the previous year (when a long-term unemployed worker may have been employed), it may not fully capture the household characteristics of workers at the time the survey is conducted.

In household surveys like the CPS, households tend to under report their income. Households report their wages and salaries more accurately than their income from interest, dividends, public assistance, or other sources. [25] Thus, the estimates in this section may understate the percentage of individuals or households receiving different types of income or benefits.

Earnings and Income

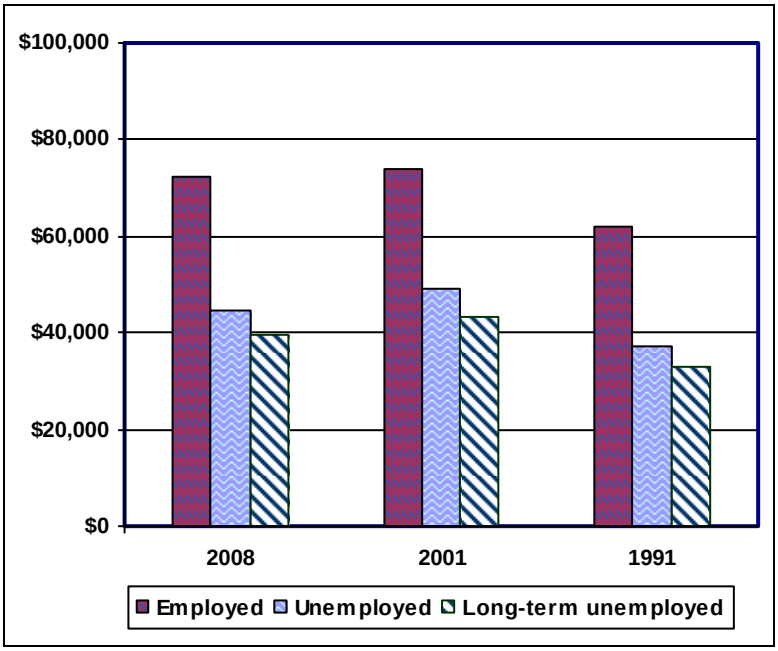
Figure 8 shows the average real earnings of households in 2008, 2001, and 1991. Average earnings are shown for employed workers, unemployed workers, and long-term unemployed workers. Unemployed workers include both the long-term unemployed and other unemployed persons. Average earnings are in constant (i.e., inflation-adjusted) 2009 dollars.

In 2008, the average household earnings of workers unemployed for more than six months were lower than the average household earnings of employed workers. The long-term unemployed had average household earnings that were about 55% of the average household earnings of employed workers ($39,780 compared to $72,450). The difference in average household earnings between the long-term unemployed and employed workers was similar in both 2001 and 1991.

[25] U.S. Census Bureau, *Current Population Survey, 2009 Annual Social and Economic (ASEC) Supplement*, available at http://www.census.gov/apsd/techdoc/cps/cpsmar09.pdf, p. 9-4. (Hereafter cited as U.S. Census Bureau, *Current Population Survey, 2009 Annual Social and Economic (ASEC) Supplement*.)

Figure 8. Average Annual Real Earnings, All Households, 2008, 2001, and 1991

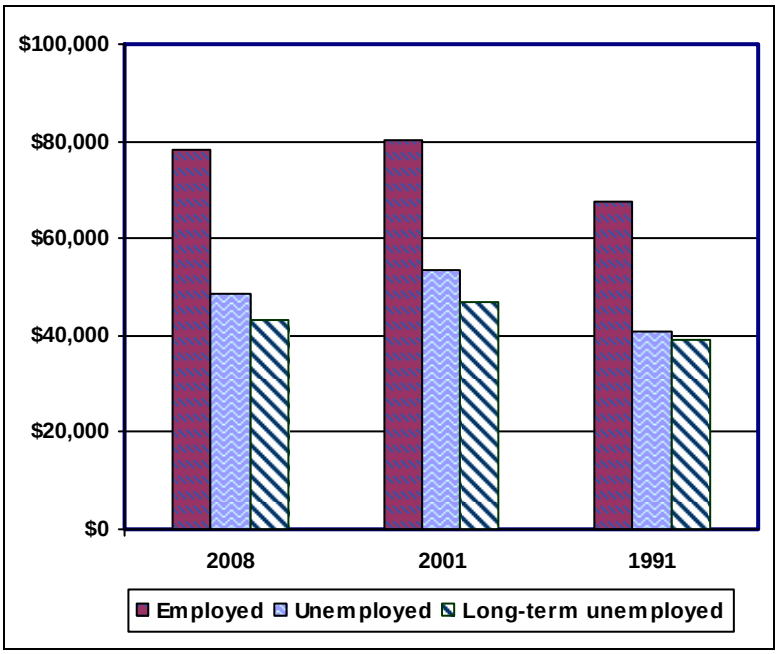
(in 2009 dollars)



Source: CRS analysis of data from the Annual Social and Economic (ASEC) Supplement to the Current Population Survey (CPS).

Figure 9. Average Annual Real Income, All Households, 2008, 2001, and 1991

(in 2009 dollars)



Source: CRS analysis of data from the Annual Social and Economic (ASEC) Supplement to the Current Population Survey (CPS).

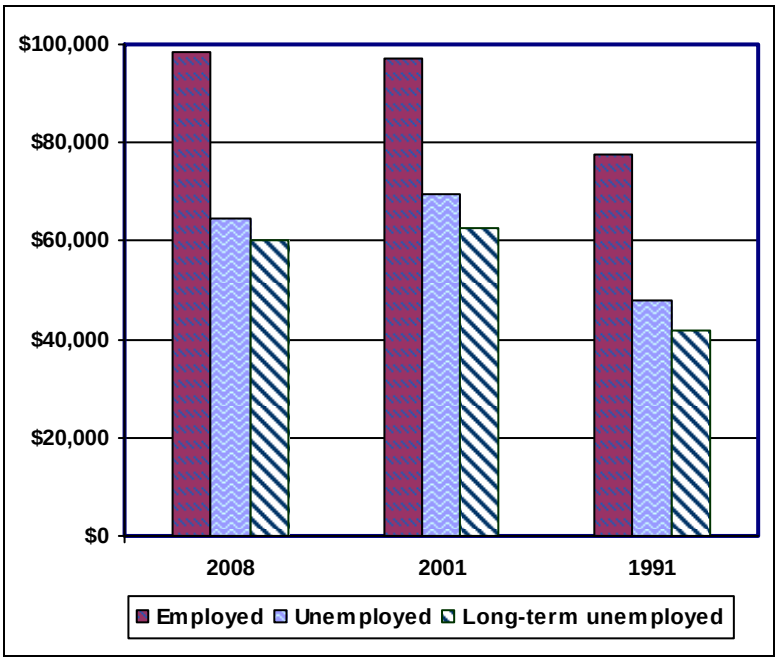
Households may have income from sources other than work. For example, they may receive rent, interest, or dividends, as well as cash income in the form of UC benefits or public assistance. In 2008, the average household income of long-term unemployed workers was approximately $43,390. Again, this was about 55% of the average household income of employed workers ($78,350), and similar to the patterns in 2001 and 1991. (See **Figure 9**.)

Married couples have higher average earnings than all household types considered together. In 2008, as shown in **Figure 10**, married couples with at least one spouse unemployed for over six months had average earnings of $60,210 (compared to $39,780 for all household types). The average earnings of married couples with at least one long-term unemployed spouse were approximately three-fifths (61%) of the average earnings of married couples in which neither spouse was unemployed ($60,210 compared to $98,440). This percentage was slightly lower than in 2001 (64%), but higher than in 1991 (54%).

The average income of married couples is higher than their average earnings. **Figure 11** shows that in 2008, the average income of married couples with at least one long-term unemployed spouse was $70,370, which was about two-thirds of the average income of married couples with no unemployed spouse ($106,130). This was the same percentage as in 2001, but higher than in 1991 (61%).

Figure 10. Average Annual Real Earnings, Married Couples, 2008, 2001, and 1991

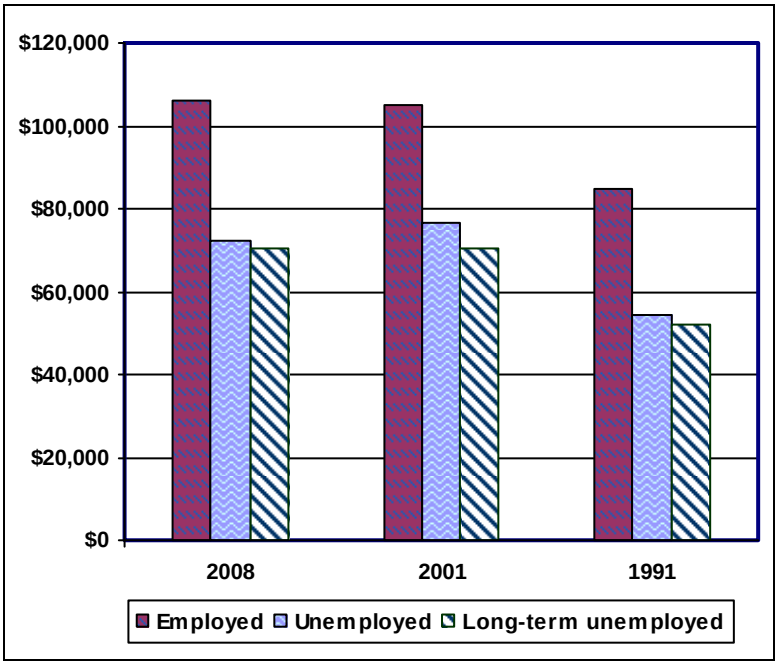
(in 2009 dollars)



Source: CRS analysis of data from the Annual Social and Economic (ASEC) Supplement to the Current Population Survey (CPS).

Figure 11. Average Annual Real Income, Married Couples, 2008, 2001, and 1991

(in 2009 dollars)



Source: CRS analysis of data from the Annual Social and Economic (ASEC) Supplement to the Current Population Survey (CPS).

Unemployment Benefits

In 2008, almost a third (31.7%) of long-term unemployed workers received unemployment benefits (e.g., UC, EB and EUC benefits, Trade Adjustment Assistance).[26] As shown in **Table 1**, this was the same as in 2001 (30.6%), but lower than in 1991 (48.5%).[27]

Poverty

Poverty is a common measure of economic well-being. In 2008, almost a third (31.0%) of the long-term unemployed lived in households that had incomes below the official poverty level. This percentage was not statistically different from either 2001 (27.1%) or 1991 (27.4%). (See **Table 1**.)

[26] The 2009 ASEC Supplement asks survey participants the following question: "At any time during 2008 did (name/you) receive any State or Federal unemployment compensation?" U.S. Census Bureau, *Current Population Survey, 2009 Annual Social and Economic (ASEC) Supplement*, p. D-20.

[27] Estimates for 2008 may not be comparable to estimates for 2001 or 1991, the official end dates of the two previous recessions. NBER has not announced the official end date of the recent recession, but many economists believe that it will be in the third quarter of 2009.

Table 1. Percent of Employed, Unemployed, and Long-Term Unemployed by Individual or Household Characteristic, 2008, 2001, and 1991

Characteristic	Labor Force Status of Individual	2008	2001	1991
Individual received unemployment compensation	Employed	2.8	3.5	5.0
	All unemployed	23.5	22.0	29.9
	Long-term unemployed[a]	31.7	30.6	48.5
Individual lived in a household below poverty	Employed	6.3	5.8	6.3
	All unemployed	21.0	20.5	23.5
	Long-term unemployed	31.0	27.1	27.4
Someone in the household received benefits under the Supplemental Nutrition Assistance Program (SNAP, formerly the Food Stamp program)	Employed	4.1	2.6	3.8
	All unemployed	15.7	13.1	18.0
	Long-term unemployed	20.3	15.7	19.3
Individual was covered by Medicaid	Employed	4.3	3.1	2.3
	All unemployed	12.1	11.1	11.9
	Long-term unemployed	15.5	12.8	11.1
Individual received public assistance[b]	Employed	0.3	0.4	0.9
	All unemployed	2.0	3.0	7.7
	Long-term unemployed	2.7	4.3	7.6

Source: CRS analysis of data from the Annual Social and Economic (ASEC) Supplement to the Current Population Survey (CPS).

Note: The unit of analysis is either the individual or the household. Thus, in 2008, 2.8% of persons employed at the time of the 2009 ASEC Supplement received unemployment compensation in 2008. But 6.3% of the employed lived in a household with income in 2008 that was below the official poverty level.

a. A person is unemployed if they are not working, have actively looked for work during the four weeks before the CPS is conducted, and are currently available for work. The long-term unemployed are persons who have been unemployed for 27 weeks or more.

b. Public assistance consists of cash payments under the Temporary Assistance for Needy Families (TANF) program, state and local general assistance programs, and other forms of cash assistance.

Public Assistance and Supplemental Nutrition Assistance

Households that receive public assistance or benefits under the Supplemental Nutrition Assistance Program (SNAP, formerly the Food Stamp program) have low incomes. In 2008, about one in five (20.3%) long-term unemployed workers lived in a household where someone received SNAP benefits. This was higher than in 2001 (15.7%) but statistically the same as in 1991 (19.3%).

In 2008, only 2.7% of the long-term unemployed received income from public assistance.[28] This percentage was down from an estimated 4.3% in 2001 and 7.6% in 1991. Public assistance

[28] Public assistance consists of cash payments under the Temporary Assistance for Needy Families (TANF) program, state and local general assistance programs, and other forms of cash assistance.

caseloads for 1991 and 2001 are not comparable, however. The number of families receiving cash welfare assistance declined after Congress enacted the Temporary Aid to Needy Families (TANF) program in 1996.[29] In addition, the CPS may underestimate the percentage of unemployed who receive public assistance. A comparison of estimates from the CPS with administrative data from the TANF program suggests that the CPS does not capture a significant portion of persons who receive public assistance and that this underreporting has worsened over time.[30] (See **Table 1**.)

Health Insurance Coverage

Unemployed workers may lose employer contributions for health insurance.[31] They may, however, be eligible for coverage under Medicaid, be covered by the insurance policy of a family member, or buy insurance through their former employer or directly from an insurer.

The American Recovery and Reinvestment Act of 2009 (ARRA, P.L. 111-5) included a subsidy for up to 15 months for unemployed workers who buy health insurance under COBRA. The subsidy is available to workers who lost their jobs between September 1, 2008, and March 31, 2010. The subsidy consists of an employer tax credit equal to 65% of the unemployed worker's health insurance premium.[32]

Some unemployed workers may be eligible for a health coverage income tax credit (HCTC), which may bolster the share with benefits. The credit against health insurance premiums is available to workers who are receiving income or wage subsidies under the TAA program or are between the ages of 55 and 64 and are receiving payments from the Pension Benefit Guaranty Corporation (PBGC).[33]

In 2008, as shown in **Table 1**, approximately 15.5% of long-term unemployed workers were covered by Medicaid. Statistically, this percentage was not different from either 2001 (12.8%) or 1991 (11.1%).

Figure 12 shows that an estimated 55% of long-term unemployed had health insurance coverage at some time during 2008. This is significantly less than the 84% of employed workers who had insurance coverage. It is also less than the percentage of long-term unemployed who had health insurance coverage in 2001 (60.3%) but statistically the same as in 1991 (57.3%).

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[29] See CRS Report RL32760, *The Temporary Assistance for Needy Families (TANF) Block Grant: Responses to Frequently Asked Questions*, by Gene Falk.

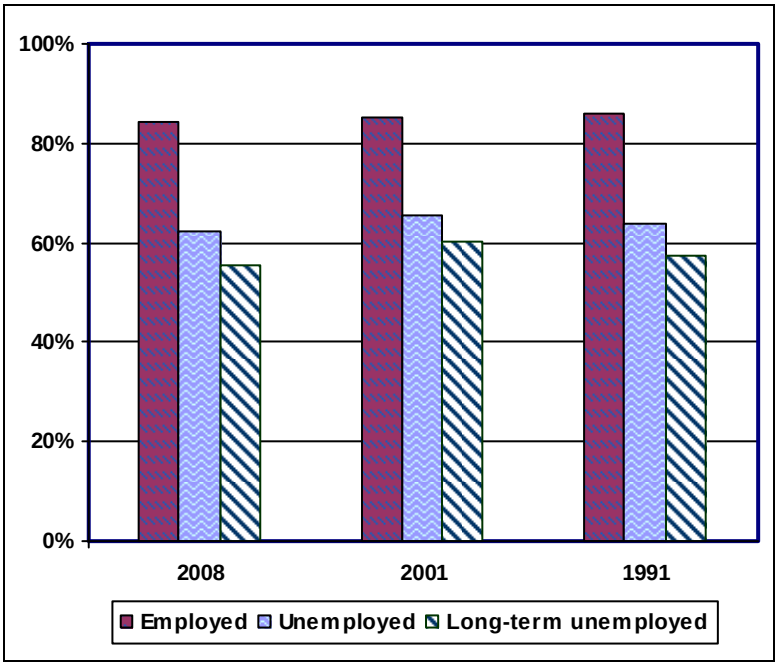
[30] See CRS Report RL30797, *Trends in Welfare, Work, and the Economic Well-Being of Female-Headed Families with Children: 1987-2008*, by Thomas Gabe.

[31] For information on employer-provided fringe benefits, see CRS Report RL33835, *Real Earnings, Health Insurance and Pension Coverage, and the Distribution of Earnings, 1979-2007*, by Gerald Mayer.

[32] Both the House and Senate have passed legislation that would extend the eligibility period for the COBRA subsidy. On December 16, 2009, the House passed H.R. 2847, the Jobs for Mainstreet Act, 2010, which would extend the COBRA subsidy to workers who lose their jobs through June 30, 2010. On March 10, 2010, the Senate passed H.R. 4213, the American Workers, State and Business Relief Act, which would extend eligibility for COBRA subsidies to workers who lose their jobs through December 31, 2010. See CRS Report R40165, *Unemployment and Health Insurance: Current Legislation and Issues*, by Janemarie Mulvey.

[33] For more information on the HCTC, see CRS Report RL32620, *Health Coverage Tax Credit*, by Bernadette Fernandez. Beginning in 2014, the Patient Protection and Affordable Care Act (H.R. 3590, P.L. 111-148) would provide subsidies to individuals and families with incomes between 133% and 400% of the federal poverty level who buy health insurance through new insurance exchanges. CRS Report R40942, *Private Health Insurance Provisions in Senate-Passed H.R. 3590, the Patient Protection and Affordable Care Act* , by Hinda Chaikind et al.

Figure 12. Percentage of Individuals with Health Insurance Coverage, 2008, 2001, and 1991



Source: CRS analysis of data from the Annual Social and Economic (ASEC) Supplement to the Current Population Survey (CPS).

Number of Earners in the Household

Many households have more than one member who is employed. If a worker becomes unemployed, other household members may continue to work, work more hours, or enter the workforce. In 2008, however, one-fourth of the households of the long-term unemployed had no earned income. As shown in **Table 2**, the percentage with no earners in 2008 was higher than in 2001 (17.2%) but not statistically different from 1991 (22.5%).

Table 2. Number of Earners in the Households of the Employed, Unemployed, and Long-Term Unemployed, 2008, 2001, and 1991

(percent)

Labor Force Status of Individual	Number of Earners	2008	2001	1991
All Households				
Employed	No earners[a]	1.0	1.0	0.9
	One earner	47.6	45.9	44.1
	Two earners	41.5	42.3	42.7
	Three or more earners	9.9	10.9	12.3
Unemployed	No earners	9.9	8.2	10.8
	One earner	51.8	51.6	47.5
	Two earners	30.8	32.8	34.5
	Three or more earners	7.4	7.4	7.2

Long-Term Unemployed	No earners	24.9	17.2	22.5
	One earner	48.4	51.9	41.2
	Two earners	21.6	25.9	29.8
	Three or more earners	5.1	4.9	6.5
Married Couples Only				
Employed	No earners	0.4	0.3	0.5
	One earner	18.0	17.6	20.1
	Two earners	65.7	64.8	60.6
	Three or more earners	15.9	17.3	18.9
Unemployed	No earners	2.1	2.2	4.1
	One earner	26.9	23.5	27.6
	Two earners	57.2	61.0	55.1
	Three or more earners	13.8	13.3	13.2
Long-Term Unemployed	No earners	4.2	7.4	12.2
	One earner	40.3	33.6	31.5
	Two earners	43.3	49.9	44.4
	Three or more earners	12.3	9.1	12.0

Source: CRS analysis of data from the Annual Social and Economic (ASEC) Supplement to the Current Population Survey (CPS).

Note: Percentages may not add to 100% because of rounding.

a. The ASEC Supplement collects earnings information for both wage and salary workers and self-employed persons. Some self-employed workers report negative earnings if the losses from their business are greater than their wages. In this report, workers with negative earnings are not counted as earners. Only workers with positive earnings are counted as earners.

If a single parent or single individual becomes unemployed, there may not be anyone else in the household with earnings. Among married couples, if one spouse becomes unemployed, the other spouse (or someone else in the household) may be working or may go to work.

Among married couples in 2008, only 4.2% of the families of the long-term unemployed had no earned income in 2008. This percentage was not statistically different from 2001 (7.4%), but was lower than in 1991 (12.2%). The decline since 1991 may be due to a number of factors, including the lack of data for 2009, an increase in the labor force participation rate of married women, a change in the average age of married persons, and changes in the size and composition of married couple households.[34]

Homeownership

Employed workers are more likely than unemployed workers to own their own home. Nevertheless, a majority of unemployed workers regardless of unemployment duration are

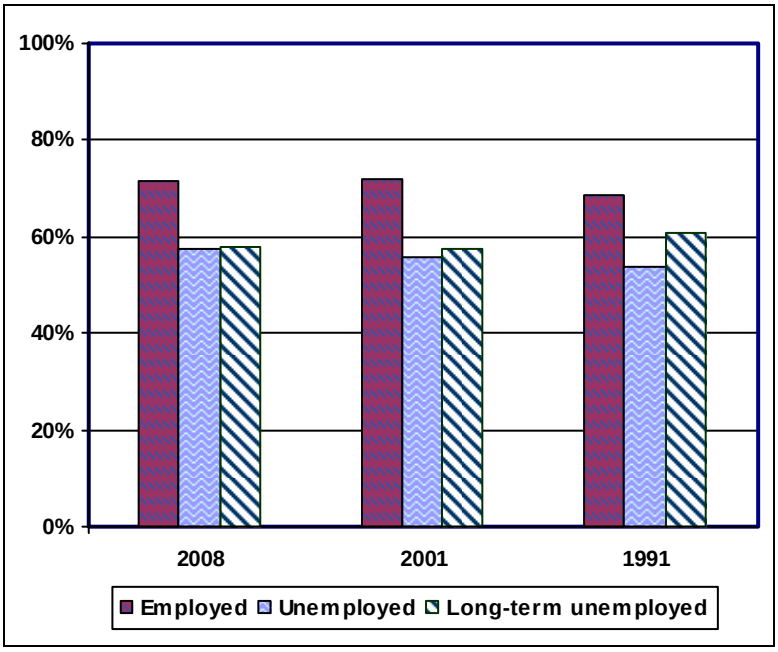
[34] From 1991 to 2008, the labor force participation rate of women increased from 57.4% to 59.5%. For men, it declined from 75.8% to 73.0%. Bureau of Labor Statistics, *Labor Force Statistics from the Current Population Survey*, available at http://stats.bls.gov/cps/.

homeowners. **Figure 13** shows that, in 2008, 72% of employed workers owned their own home, compared to 57% of unemployed workers and 58% of the long-term unemployed.[35]

From 1991 to 2008, homeownership fell among workers who were unemployed for more than six months (from 61% to 58%). However, homeownership rose among employed workers (from 69% to 72%) and for all unemployed workers (from 54% to 57%). From 2001 to 2008, there were no significant changes in the percentages of employed, unemployed, or long-term unemployed workers who owned their own homes.

Job loss and a reduction in household income may cause some borrowers to become delinquent on their mortgage loans. A borrower who has missed three or more mortgage payments is generally considered to be in default. After a default, lenders may take a number of steps—including rescheduling loan payments or restructuring a loan—before proceeding to foreclosure (i.e., a lender may recover losses on a loan by repossessing the home).[36] At the end of 2009, the percentage of mortgages that were 90 or more days past due accounted for over half of all delinquent loans, double the percentage from a year earlier.[37] For this report, the most recent data on homeownership are for 2008. Data for 2009 may or may not show a change in homeownership from 2008 for either unemployed workers or the long-term unemployed.

Figure 13. Percentage of Individuals Who are Homeowners, 2008, 2001, and 1991



Source: CRS analysis of data from the Annual Social and Economic (ASEC) Supplement to the Current Population Survey (CPS).

[35] Most households that do not own their homes are renters. A small percentage of households neither own nor rent. They receive nonmoney income from their employer in the form of rent free housing.

[36] See CRS Report RL34232, *The Process, Data, and Costs of Mortgage Foreclosure*, coordinated by Darryl E. Getter, and CRS Report R40210, *Preserving Homeownership: Foreclosure Prevention Initiatives*, by Katie Jones.

[37] Renae Merle, "Mortgage Delinquency Rate Slows in Fourth Quarter," *Washington Post*, February 20, 2010.

Implications for Public Policy

Recessions are generally characterized by a drop in consumer demand and a decline in investment. Consumers buy fewer cars and homes, and cut back on purchases from retail stores, for example. For their part, businesses invest less in new buildings and equipment. A result of the decline in aggregate demand is an increase in unemployment. Fiscal and monetary policy are the macroeconomic responses to a recession. Fiscal policy consists of changes in government spending and taxes. Monetary policy consists of actions by the Federal Reserve to affect the supply of money and interest rates.[38]

The strength of an economic rebound largely determines the pace of net job growth (i.e., the extent to which additions exceed separations from employer payrolls) and reduction in unemployment, including long-term unemployment. In the early stages of an economic recovery, increased demand for goods and services first slows the flow of workers into unemployment. While short-term unemployment consequently falls, the average duration of unemployment increases for some time following a recession's end. Once employers become confident that an economic upturn is firmly in place, they go beyond restoring the hours worked by employees whom they retained during the recession to hire additional workers.

But, a return to economic growth may not be sufficient to fully overcome the reemployment problems of the long-term unemployed. Employers may rank job applicants by their duration of unemployment and hire from the front of the queue (i.e., the short-term unemployed) because they consider lengthy unemployment to be a signal of poor worker quality (i.e., low productivity). In effect, long-term unemployment stigmatizes workers. Firms may also be reluctant to hire the long-term unemployed because they believe the group's skills have atrophied during their lengthy time away from the workplace. In addition, businesses may discriminate against older workers who, as previously described, are more likely than younger workers to be among the long-term unemployed.

A variety of employment policies might be considered to ameliorate these labor market difficulties. Offering wage subsidies to firms that hire the long-term unemployed compensates employers for the group's actual or perceived skill shortcomings.[39] So, too, does providing a training subsidy to companies that hire workers with arguably deteriorated skills due to their lengthy bout of unemployment.[40] Passage of a temporary public jobs program early in a recession may prevent the skill erosion potentially induced by long-term unemployment. The latter was one of the rationales for enacting job creation programs during the Great Depression.[41] And,

[38] Fiscal policy (i.e., budget surpluses or deficits) may also affect interest rates.

[39] For example, P.L. 111-147 includes a provision temporarily reducing the payroll tax of employers who hire persons unemployed for 60 days or more. (For additional information, see CRS Report R41006, *Unemployment: Issues and Policies*, by Jane G. Gravelle, Thomas L. Hungerford, and Marc Labonte.) Other legislation was introduced to add the long-term unemployed to the groups for whom an employer can claim the Work Opportunity Tax Credit. (For additional information, see CRS Report RL30089, *The Work Opportunity Tax Credit (WOTC)*, by Linda Levine.)

[40] For information about on-the-job training under the Workforce Investment Act, see CRS Report R41135, *The Workforce Investment Act and the One-Stop Delivery System*, by David H. Bradley.

[41] For additional information on two of these programs, see CRS Report R41017, *Job Creation Programs of the Great Depression: the WPA and the CCC*, by Linda Levine.

employers might be discouraged from failing to hire older displaced workers through stepped up enforcement of workplace discrimination laws.[42]

A return to economic growth also may be insufficient to fully overcome the reemployment problems of the long-term unemployed given the history of structural change coinciding with cyclical downturns. Before the back-to-back recessions of the early 1980s, for example, workers in the steel industry were about half as likely as the average worker to experience long-term unemployment. With the advent of these recessions, long-term unemployment among steelworkers became "among the worst of any worker group. …Considerable evidence indicates that the Nation's steel industry is suffering from some basic problems quite unrelated to cyclical declines in demand."[43]

One approach that has been suggested to reemploy workers displaced from jobs in restructuring industries is wage insurance. Such a program may encourage high-tenure, high-wage workers to accept lower paying jobs in growing industries by compensating them for the difference in wages from their new and old jobs. Under the Alternative Trade Adjustment Assistance (ATAA) program, older workers who become reemployed within 26 weeks of being laid off can receive one-half of the difference in earnings from their former and new jobs up to a maximum of $10,000 over two years.[44]

Another potential policy response is providing reemployment bonuses to unemployed workers who accept new jobs within a given time frame, thereby shortening their spell of unemployment. Experiments were conducted in a few states in the 1980s to evaluate the efficacy of variously designed reemployment bonus programs. The evaluations and subsequent reanalyses generally concluded that offering bonuses to UC recipients shortened their length of benefit receipt, especially when UC recipients also were offered job search assistance and when the bonus programs were targeted at those UC recipients most likely to exhaust their benefits.[45]

If restructuring industries are concentrated geographically, then economic development and relocation assistance may be appropriate measures as well. But, these strategies do not necessarily focus on assisting the long-term unemployed. States typically take the lead in efforts to attract growing industries to reemploy their laid off residents. To assist the workers and communities adversely affected by the auto industry's restructuring, however, President Obama created the position of Director of Recovery for Auto Communities and Workers within the Department of Labor to leverage available federal resources (e.g., ARRA funds). In contrast, providing assistance to unemployed workers to encourage them to take jobs in other areas is not often mentioned today. Relocation assistance currently is one of the benefits offered to TAA-eligible workers, those receiving Department of Labor national emergency grants, and adult and dislocated workers served by the Workforce Investment Act.

[42] For additional information, see CRS Report RL34652, *The Age Discrimination in Employment Act (ADEA): A Legal Overview*, by Jody Feder.

[43] Philip L. Rones, "Recent Recessions Swell Ranks of the Long-Term Unemployed," *Monthly Labor Review*, February 1984, pp. 25-29.

[44] For additional information on the ATAA program, see CRS Report RL34383, *Trade Adjustment Assistance (TAA) for Workers: Current Issues and Legislation*, by John J. Topoleski.

[45] For additional information, see CRS Report RL31825, *Personal Reemployment Accounts: Results from Bonus Experiments*, by Linda Levine and Ann Lordeman.

Lastly, workers laid off due to structural changes in the economy may not possess the skills needed to get jobs in expanding industries. While these individuals can undertake education and training to acquire the requisite skills, these activities may not result in reemploying the long-term unemployed as quickly as some of the approaches discussed above.

Appendix. Data and Methodology

The analysis in this report is based on data from the Current Population Survey (CPS), which is a household survey conducted by the U.S. Census Bureau for the Bureau of Labor Statistics (BLS). The monthly CPS is the source of the national unemployment rate and other labor market information. The survey is representative of the civilian, noninstitutional population. The sample does not include persons living in institutions (such as mental hospitals, nursing homes, or correctional facilities). The monthly survey does not include individuals who are on active duty in the military. The monthly sample includes approximately 60,000 households.[46]

Each year, the CPS conducts the Annual Social and Economic (ASEC) supplement to the monthly CPS. The supplement collects information on the types and sources of family income, health insurance coverage, and other household information. The supplement collects information for the previous year. The sample for the ASEC supplement is representative of the civilian, noninstitutional population of the United States. The sample for the supplement includes members of the Armed Forces living in civilian housing units on a military base or in a household not on a military base. The 2009 supplement collected information from about 76,200 households.[47]

In the supplement, earnings include wage and salary income and income from self-employment. Wages and salaries include earnings from self-employment, tips, commissions, and cash bonuses. Total income includes earnings, interest and dividends, social security and pension benefits, public assistance, unemployment and worker's compensation, alimony and child support, and other types of money income. Money income does not include in-kind transfers for food, housing, healthcare, or energy assistance. Money income does not include capital gains and is income before taxes or other deductions. [48] In this report, total family earnings and income consist of the sum of earnings and income of all persons in a household or married couple family.

In the CPS, a family is defined as a group of two or more persons who are living together and who are related by birth, marriage, or adoption.[49] In the CPS, a family may include a related subfamily, such as a married son or daughter or an unmarried son or daughter with a child. The CPS defines single individuals as either "nonfamily householders" or "secondary individuals." Following the CPS definition of a family, in this report married couples and single parent families may include one or more related subfamilies. A primary family and an unrelated subfamily living in the same household are treated as two separate families. Unmarried parents are treated as a single parent and a single individual. Unmarried couples without children are treated as two single individuals.

The analysis in this report includes persons in the labor force, either employed or unemployed, who are ages 16 or over. The analysis of household and family earnings and income includes households and families with positive earnings or income.

[46] Bureau of Labor Statistics, "Labor Force Data Derived from the Current Population Survey," *Handbook of Methods*, available at http://www.bls.gov/opub/hom/pdf/homch1.pdf, pp. 1-2.

[47] U.S. Census Bureau, *Current Population Survey, 2009 Annual Social and Economic (ASEC) Supplement*, pp. 1-1, 9-3, G-3.

[48] Ibid., p. 9-4.

[49] Ibid., p. 9-2.

Topcoding

To protect the confidentiality of survey participants, the CPS assigns an income amount to higher income persons. Changes in these amounts, or topcodes, over time can affect the observed trend in real income and earnings. For example, in 1991, individual earnings were topcoded at $99,999; in 2001, earnings were topcoded at $150,000; and in 2008, earnings were topcoded at $200,000. Since 1996, for persons with earnings above the topcoded amounts, the amount of earnings reported in the public CPS files is the average earnings of workers with similar characteristics. Average earnings are calculated for persons based on gender, race, ethnicity, and whether or not a person works full-time, year-round. Since 1999, for persons with incomes above the topcoded amounts, the public CPS files report the average income of persons with topcoded income. For consistency, for the years 2001 and 2008, this report uses average topcoded earnings and income as reported in the CPS and, for 1991, average earnings and income from a report published by the National Bureau of Economic Research (NBER).[50]

Confidence Intervals

Estimates based on survey responses from a sample of households have two kinds of error: nonsampling and sampling. Examples of nonsampling error include information that is misreported and errors made in processing collected information. Sampling error occurs because a sample, and not the entire population, of households is surveyed. The difference between an estimate based on a sample of households and the actual population value is known as sampling error. When using sample data, researchers typically construct confidence intervals around population estimates. Confidence intervals provide information about the accuracy of estimated values. With a 90% confidence interval and repeated samples from a population, 90% of intervals will include the average estimate of the population characteristic.

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[50] Jeff Larrimore, Richard V. Burkhauser, Shuaizhang Feng, and Laura Zayatz, *Consistent Cell Means for Topcoded Incomes in the Public Use March CPS (1976-2007)*, NBER, Working Paper 13941, April 2008, available at http://www.nber.org/papers/w13941, p. 46. U.S. Census Bureau, *Current Population Survey, 2009 Annual Social and Economic (ASEC) Supplement*, p. 5-1.