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The Trend in Long-Term Unemployment and Characteristics of Workers Unemployed for Two Years or More

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Summary

One of the characteristics of the recession that officially began in the United States in December 2007 and ended in June 2009 was the unprecedented rise in long-term unemployment. The long-term unemployed are often defined as workers who have been unemployed for more than six months. But, many unemployed workers have been looking for work for more than a year or for two years or more.

As the national unemployment rate increased during and after the 2007-2009 recession, so did the unemployment rate for workers unemployed for more than 26 weeks. In April 2010, the unemployment rate for workers unemployed for more than 26 weeks reached 4.5%, which was the highest rate recorded since BLS began collecting data on long-term unemployment in 1948. As the national unemployment rate has fallen, so has the unemployment rate for persons unemployed for more than 26 weeks. From April 2010 to December 2013, the unemployment rate for persons looking for work for more than six months fell from 4.5% to 2.5%. During the months leading up to the 2007-2009 recession, the unemployment rate for persons unemployed for more than six months was less than 1.0%.

In January 2011, the unemployment rate for workers who had been unemployed for more than a year reached 2.3%. By December 2013, the rate had fallen to 1.4%. The unemployment rate for workers unemployed for two years or more peaked in September 2011, at 1.3%. By December 2013, the rate had fallen to 0.8%. For both groups of long-term unemployed, the unemployment rate in December 2013 was higher than immediately before the 2007-2009 recession.

An analysis of differences in the share of the unemployed who have been unemployed for two or more years shows that in 2013:

- unemployed men were more likely than unemployed women to be out of work for two years or more (12.8% compared to 11.9%);
- older workers were more likely than younger workers to be unemployed for two years or more. While 8.2% of unemployed workers under the age of 35 had been looking for work for two years or more, more than twice that percentage (18.2%) of workers ages 45 and over had been out of work for two years or more.
- the percentage of unemployed workers with a high school degree who have been out of work for two years or more (12.8%) was not statistically different from the percentage of unemployed workers with a bachelor's degree who have been out of work for two years or more (13.5%);
- married unemployed workers were more likely than unemployed workers who have never been married to be out of work for two years or more (12.9% and 10.9%, respectively); and
- unemployed black workers were more likely than unemployed white workers to have been unemployed for two years or more (14.2% and 11.8%, respectively); on the other hand, unemployed non-Hispanic workers were more likely than unemployed Hispanic workers to have been unemployed for two years or more (12.9% and 10.3%, respectively). Among workers unemployed for two years or more, white workers were older than black workers and non-Hispanic workers were older than Hispanic workers.

Long-term unemployment rates and the number of long-term unemployed have fallen since peaking after the official end of the 2007-2009 recession. Monthly layoffs and discharges have fallen below their pre-recession levels. The number of jobs has increased since the end of the recession. But, the number of job openings is still below the monthly levels before the recession. The increase in the number of jobs and drop in the number of layoffs and discharges since the end of the recession may contribute to a reduction in the number of long-term unemployed. On the other hand, the slower growth in job openings may slow the hiring of the long-term unemployed. After a recession, as employers hire new workers, those who have been unemployed the longest may be among the last to be hired.

An issue for Congress is whether to reauthorize the Emergency Unemployment Compensation (EUC08) program, which expired at the end of 2013. Another issue may be whether to enact policies that could increase the demand for workers and, therefore, reduce the number of long-term unemployed. Other issues may include whether to adopt policies that may provide greater incentives for employers to hire the long-term unemployed, create incentives for the long-term unemployed to accept new employment, or ensure that the long-term unemployed have the skills that employers need.

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Introduction

One of the characteristics of the recession that officially began in December 2007 and ended in June 2009 was the rise in long-term unemployment.¹ The long-term unemployed are often defined as workers who have been looking for work for more than six months. But many workers have been looking for work for longer periods. The first part of this report examines the trend in long-term unemployment using four measures of the long-term unemployed: persons who have been looking for work for more than 26 weeks, more than 52 weeks, more than 78 weeks, and for two years or more. In this report, workers who have been unemployed for two or more years are defined as the “very long-term unemployed.”

Because unemployment during the 2007-2009 recession and its aftermath increased more among some groups of workers than others, the second part of the report analyzes selected characteristics of the very long-term unemployed.²

High long-term unemployment rates raise several issues for Congress. One issue is whether to reauthorize the Emergency Unemployment Compensation (EUC08) program.³ Other issues include whether to enact policies (1) to increase the demand for workers to reduce the number of long-term unemployed, (2) to provide greater incentives for employers to hire the long-term unemployed, (3) to create additional incentives for the long-term unemployed to accept new employment, (4) to ensure that the long-term unemployed have the skills that employers need, and/or (5) to improve the match between the skills of the long-term unemployed and the jobs that are available.⁴ This report does not address these issues.

Overview of Data and Methodology

The analysis in this report is based on data from the monthly Current Population Survey (CPS), which is a household survey conducted by the Bureau of the Census for the Bureau of Labor Statistics (BLS) of the U.S. Department of Labor. The monthly CPS is the source of the national monthly unemployment rate and other labor market information.

¹ The 2007-2009 recession was one of the deepest and the longest since the Great Depression of the 1930s. The National Bureau of Economic Research (NBER) dates the beginning and end of recessions. National Bureau of Economic Research, *U.S. Business Cycle Expansions and Contractions*, available at <http://www.nber.org/cycles/cyclesmain.html>. For a comparison of long-term unemployment rates during recent recessions, see CRS Report R41179, *Long-Term Unemployment and Recessions*, by Gerald Mayer and Linda Levine.

² **Table A-1** in the **Appendix** shows changes in unemployment rates from 2007 to 2013 for persons ages 16 and over in selected demographic groups.

³ CRS Report R41508, *Expiring Unemployment Insurance Provisions*, by Katelin P. Isaacs. For a discussion of unemployment insurance legislation introduced in the 113th Congress, see CRS Report R42936, *Unemployment Insurance: Legislative Issues in the 113th Congress*, by Julie M. Whittaker and Katelin P. Isaacs.

⁴ A 2012 report by the Government Accountability Office (GAO) analyzed how many workers who lost jobs during the 2007-2009 recession received and exhausted UC benefits, the economic circumstances of those who exhausted UC benefits, and the extent to which state unemployment insurance agencies referred those who exhausted UC benefits to income support programs. U.S. Government Accountability Office, *Unemployment Insurance: Economic Circumstances of Individuals Who Exhausted Benefits*, GAO-12-408, February 2012, available at <http://www.gao.gov/assets/590/588680.pdf>.

In the CPS, persons are classified as unemployed if they are not working, they actively looked for work in the four weeks before the survey, and they are available for work. The CPS asks unemployed persons how long they have been looking for work.

The first part of the report examines the trend in long-term unemployment, by month, over the period from January 2007 through December 2013. The long-term unemployment rate is the number of long-term unemployed divided by the size of the labor force, where the labor force is the sum of persons who are employed or unemployed.

In this report, the very long-term unemployed are defined as workers who have been unemployed for two years or more. This range is used because, before January 2011, persons who reported that they had been unemployed for more than two years were recorded as having been unemployed for two years; their responses were top coded at two years. Starting in January 2011, the CPS allows respondents to report durations of unemployment of up to five years.⁵

An analysis of individual characteristics may rely on small sample sizes. Therefore, the second part of the report, which examines selected characteristics of the very long-term unemployed, uses monthly average data for calendar year 2013.

The CPS does not collect information on the number of unemployed workers who have exhausted all available UC benefits. Workers who are counted as unemployed in the CPS may or may not be receiving UC benefits. Conversely, persons who are receiving UC benefits may or may not be counted as unemployed in the CPS. In the CPS, persons are counted as unemployed if they do not have a job, they actively looked for work in the four weeks before they were interviewed, and they are currently available for work.⁶ Persons receiving UC benefits may not meet the CPS definition of who is unemployed; for example, they may not be looking for work because they are in an approved education or training program. Also, persons receiving UC benefits could fit the CPS definition of someone who is employed; for example, they could be in a work-sharing program.⁷

The Trend in Long-Term Unemployment

The first part of this report compares the national unemployment rate to the long-term unemployment rates for workers who have been unemployed for more than 26 weeks, more than 52 weeks, more than 78 weeks, and two years or more. The four groups of the long-term

⁵ U.S. Department of Labor, Bureau of Labor Statistics, *Changes to Data Collected on Unemployment Duration*, available at <http://www.bls.gov/cps/duration.htm>. Before January 2011, the CPS could report a person as being unemployed for more than two years. In the CPS survey, a household is in the survey for four consecutive months, out of the survey for the next eight months, and then back in the survey for the next four months. The duration of unemployment for individuals in the survey for consecutive months is calculated automatically by adding to the number of weeks unemployed since the previous month. Thus, before January 2011, an individual who was initially coded as being unemployed for two years could have been reported as being unemployed for more than two years.

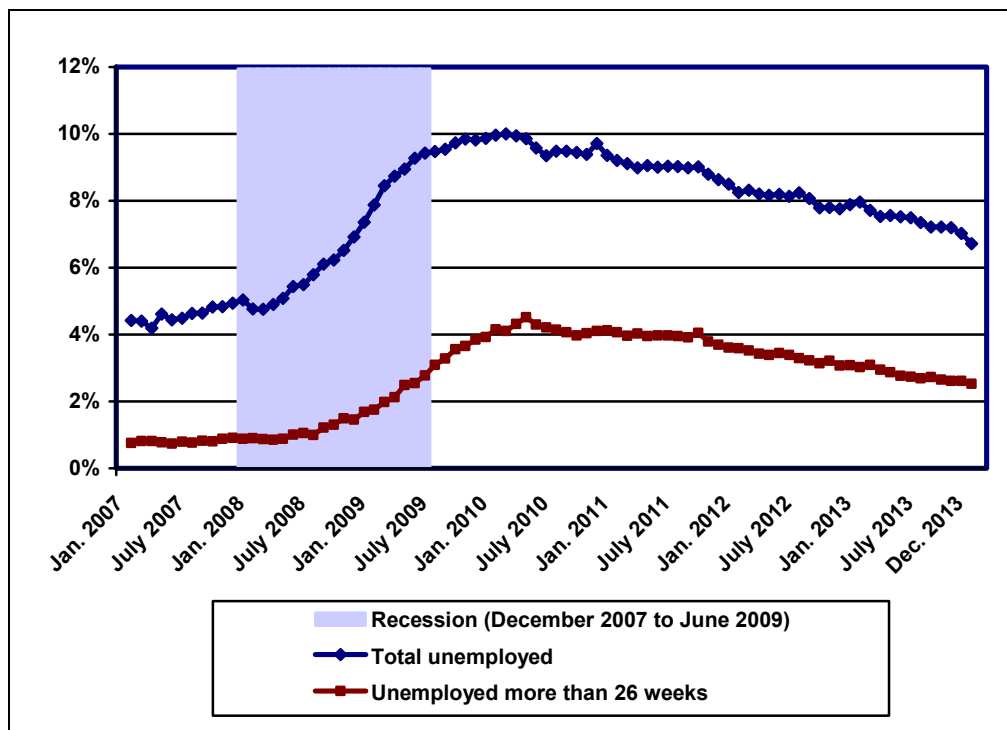
⁶ Persons who are not working and are waiting to be called back to a job from which they have been laid off are also counted as unemployed. U.S. Department of Labor, Bureau of Labor Statistics, *Labor Force Statistics from the Current Population Survey*, available at <http://stats.bls.gov/cps>. (Hereafter cited as BLS, *Labor Force Statistics from the Current Population Survey*.) The **Appendix** provides more detail on the data and methodology used in this report.

⁷ Under a work sharing plan, also called a short-term compensation program, an employee whose work hours are reduced may receive partial UC benefits. See CRS Report R40689, *Compensated Work Sharing Arrangements (Short-Time Compensation) as an Alternative to Layoffs*, by Julie M. Whittaker.

unemployed are not mutually exclusive. Workers who have been unemployed for two years or more are in the group of unemployed workers who have been looking for work for more than 78 weeks. Workers unemployed for more than 78 weeks are in the group of workers who have been unemployed for more than 52 weeks, and so on.

Figure 1 shows the national unemployment rate and the unemployment rate for workers unemployed for more than 26 weeks.⁸ As the national unemployment rate increased during and after the 2007-2009 recession, so did the unemployment rate for workers unemployed for more than 26 weeks. In **Figure 1**, the seasonally adjusted unemployment rate for workers unemployed for more than 26 weeks reached 4.5% in April 2010, which was the highest rate recorded since BLS began collecting data on long-term unemployment in 1948.⁹

Figure 1. Unemployment Rates: Total Unemployed and Workers Unemployed for More than 26 Weeks, January 2007 to December 2013



Source: CRS analysis of data from the Current Population Survey (CPS). Data are seasonally adjusted.

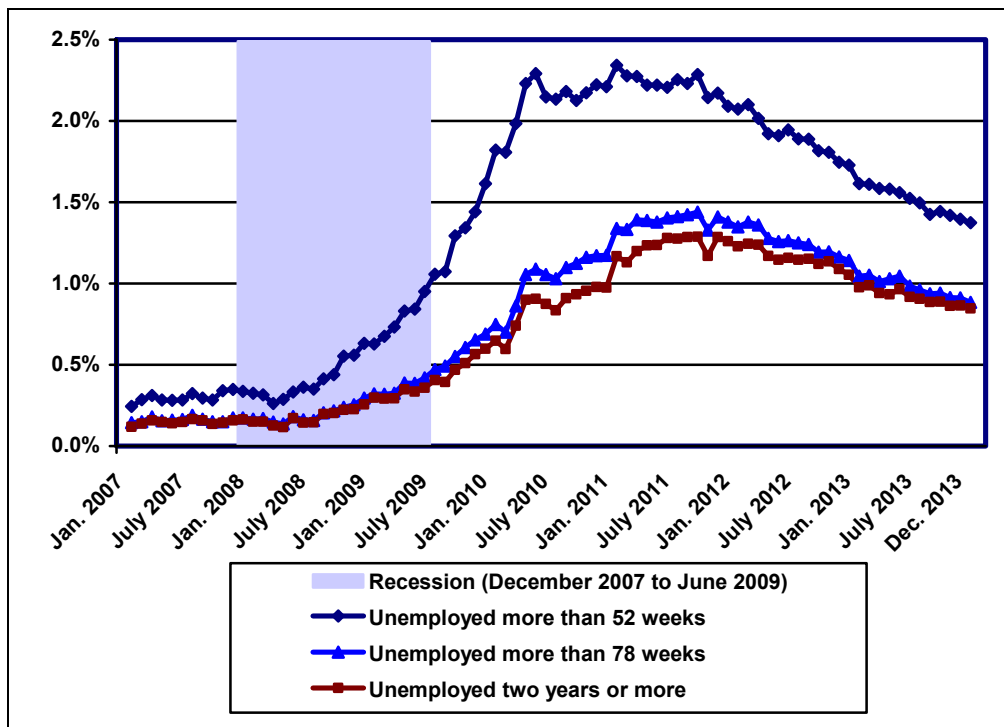
⁸ For consistency in the data series shown in **Figure 1**, **Figure 2**, **Figure 3**, and **Figure 4**, the data were seasonally adjusted by CRS.

⁹ U.S. Department of Labor, Bureau of Labor Statistics, *Labor Force Statistics from the Current Population Survey*, Tables A-1 and A-12, available at <http://www.bls.gov/cps/cpsatabs.htm>.

The seasonally adjusted national unemployment rate in **Figure 1** peaked at 10.0% in February 2010, several months after the official end of the 2007-2009 recession.¹⁰ As the national unemployment rate has fallen, so has the unemployment rate for persons unemployed for more than 26 weeks. From April 2010 to December 2013, the unemployment rate for persons looking for work for more than six months fell from 4.5% to 2.5%. The rate in December 2013 was higher than the pre-recession rate, however. During the months leading up to the 2007-2009 recession, the unemployment rate for persons unemployed for more than six months was less than 1.0%.

Figure 2 shows the unemployment rates for workers unemployed for more than 52 weeks, more than 78 weeks, and for two years or more. Like the rate for workers unemployed for more than 26 weeks, as the national unemployment rate increased so did the unemployment rates for these groups of the long-term unemployed.

Figure 2. Unemployment Rates: Unemployed for More than 52 or 78 Weeks or for Two Years or More, January 2007 to December 2013



Source: CRS analysis of data from the Current Population Survey (CPS). Data are seasonally adjusted.

Note: The groups of the long-term unemployed are not mutually exclusive. Workers who have been unemployed for two years or more have been unemployed for more than 78 weeks, and so on.

¹⁰ According to BLS published data, the seasonally adjusted national unemployment rate peaked at 10.0% in October 2009. (Ibid., Table A-1.) The reason for the difference between the seasonally adjusted data in this report and the seasonally adjusted data published by BLS is that the seasonally adjusted data in this report are based on nonseasonally adjusted data for January 2007 to December 2013. See the discussion of “Seasonal Adjustments” in the **Appendix**.

In January 2011, the unemployment rate for workers who were unemployed for more than a year reached 2.3%. By December 2013, the rate had fallen to 1.4%.

The unemployment rate for workers unemployed for more than a year and a half peaked at 1.4% in September 2011. In December 2013, the rate was at 0.9%.

The unemployment rate for workers unemployed for two years or more also peaked in September 2011, at 1.3%. By December 2013, the rate had fallen to 0.8%.

As with the unemployment rate for workers unemployed for more than six months, each of the unemployment rates shown in **Figure 2** was higher at the end of 2013 than during the months immediately preceding the 2007-2009 recession.

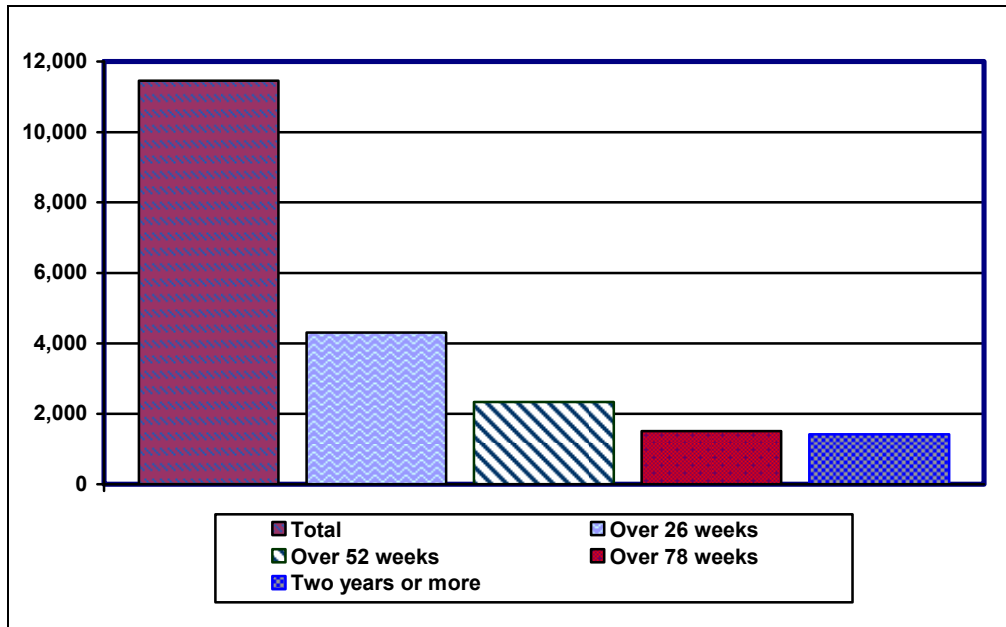
Reliability of Estimates of the Long-Term Unemployed

Figure 3 shows the monthly average number of unemployed workers in calendar year 2013 for each of the unemployment rates shown in **Figure 1** and **Figure 2**. In 2013, the monthly average number of unemployed was 11.5 million persons. An estimated 1.5 million persons were unemployed for more than a year and a half, while almost 1.4 million were unemployed for two years or more. This does not necessarily mean, however, that most workers who report that they have been unemployed for more than a year and a half will still be unemployed six months later.

In the CPS, many respondents round off the number of weeks that they have been unemployed. Thus, the estimates of the duration of unemployment from the CPS may not be precise. For example, many workers who report that they have been unemployed for a year may actually have been unemployed for more than a year or less than a year. In 2013, an estimated 631,000 unemployed workers said that they had been out of work for a year. But, only 14,000 were recorded as having been unemployed for 51 weeks and only 13,000 were recorded as being out of work for 53 weeks. (See **Table A-2** in the **Appendix**.) Similarly, many respondents who report that they have been unemployed for more than a year and a half or for two years or more may actually have been unemployed for a longer or shorter period.

**Figure 3. Monthly Average Number of Unemployed Workers:
Total and by Duration of Unemployment, 2013**

(numbers are in 1,000s)



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

Note: The groups of the long-term unemployed are not mutually exclusive. Workers who have been unemployed for two years or more have been unemployed for more than 78 weeks, and so on.

Will the Number of the Very Long-Term Unemployed Rise or Fall?

Both the total number of unemployed and the number of long-term unemployed have fallen since peaking after the official end of the 2007-2009 recession. Monthly layoffs and discharges have fallen below their pre-recession levels. The number of jobs has increased since the end of the recession. But, the number of job openings is still below the monthly levels before the recession. The increase in the number of jobs and drop in the number of layoffs and discharges since the end of the 2007-2009 recession may contribute to a reduction in the number of long-term unemployed. On the other hand, the slower growth in job openings may slow the hiring of the long-term unemployed.

The Number of Jobs

In December 2013, there were an estimated 1.2 million fewer jobs in the United States than in December 2007, at the start of the 2007-2009 recession. From December 2007 to February 2010, the number of jobs fell by an estimated 8.7 million (from 138.0 million to 129.3 million, seasonally adjusted). Nevertheless, by December 2013, the number of jobs had increased to 136.9 million (seasonally adjusted preliminary estimate), for an increase of 7.6 million jobs since February 2010.¹¹

¹¹ U.S. Department of Labor, Bureau of Labor Statistics, *Employment, Hours, and Earnings from the Current Employment Statistics Survey*, available at <http://www.bls.gov/ces/>.

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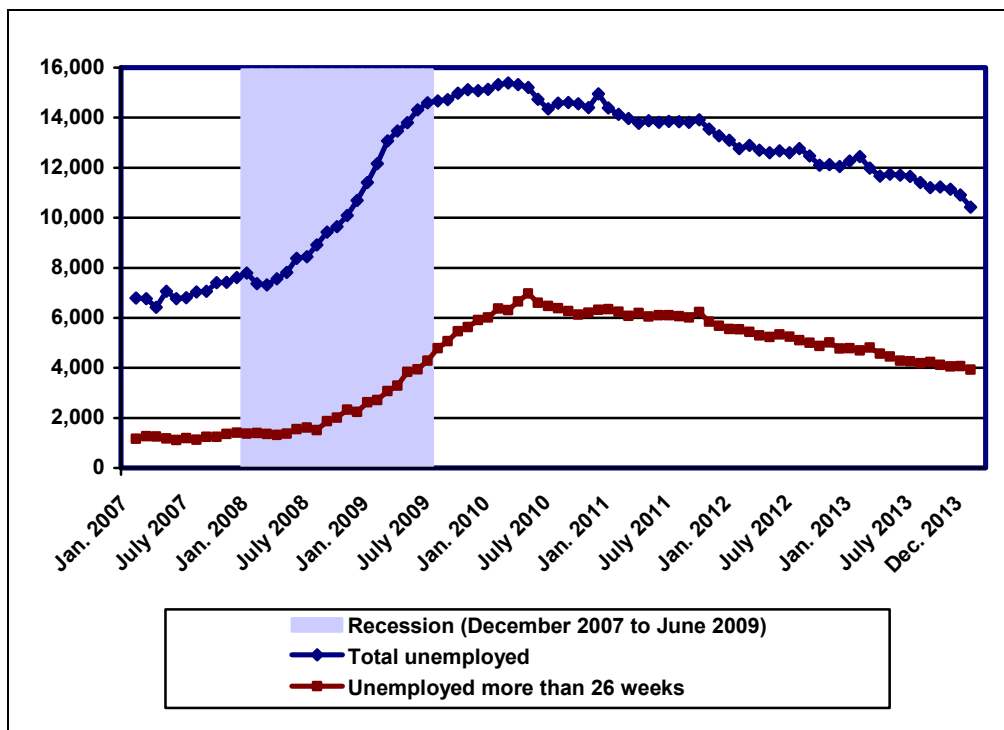
The Number of Unemployed

Figure 4 shows that the total number of unemployed workers peaked at 15.4 million in February 2010, eight months after the end of the 2007-2009 recession. By December 2013, the number of persons classified as unemployed had fallen to 10.4 million. The total number of long-term unemployed has also fallen. From April 2010 to December 2013, the number of workers unemployed for more than six months fell from 7.0 million to 3.9 million. In both cases, however, the number of persons unemployed at the end of 2013 was higher than during the months immediately before the 2007-2009 recession.

The number of workers unemployed for more than a year peaked later than the number of workers unemployed for more than six months. **Figure 5** shows that the number of persons unemployed for more than a year peaked at 3.6 million in January 2011. By December 2013, the number had fallen to 2.1 million persons. From September 2011 to December 2013, the number of persons unemployed for more than a year and a half fell from 2.2 million to 1.4 million. The number of persons unemployed for two years or more fell from 2.0 to 1.3 million from August 2011 to December 2013. (See **Figure 5**.)

Figure 4. The Total Number of Unemployed and the Number of Workers Unemployed for More than 26 Weeks, January 2007 to December 2013

(numbers are in 1,000s)



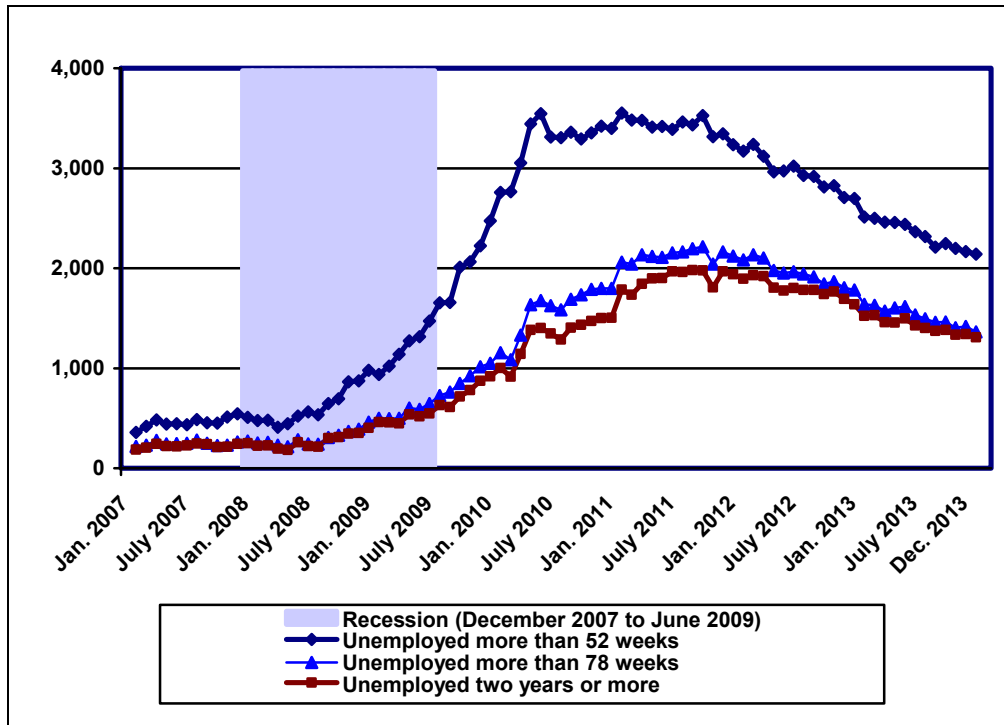
Source: CRS analysis of data from the Current Population Survey (CPS). Data are seasonally adjusted.

(...continued)

For an analysis of job growth since the end of the 2007-2009 recession, see CRS Report R41434, *Job Growth During the Recovery*, by Craig K. Elwell.

Figure 5. The Number of Workers Unemployed for More than 52 or 78 Weeks or for Two Years or More, January 2007 to December 2013

(numbers are in 1,000s)



Source: CRS analysis of data from the Current Population Survey (CPS). Data are seasonally adjusted.

Note: The groups of the long-term unemployed are not mutually exclusive. Workers who have been unemployed for two years or more have been unemployed for more than 78 weeks.

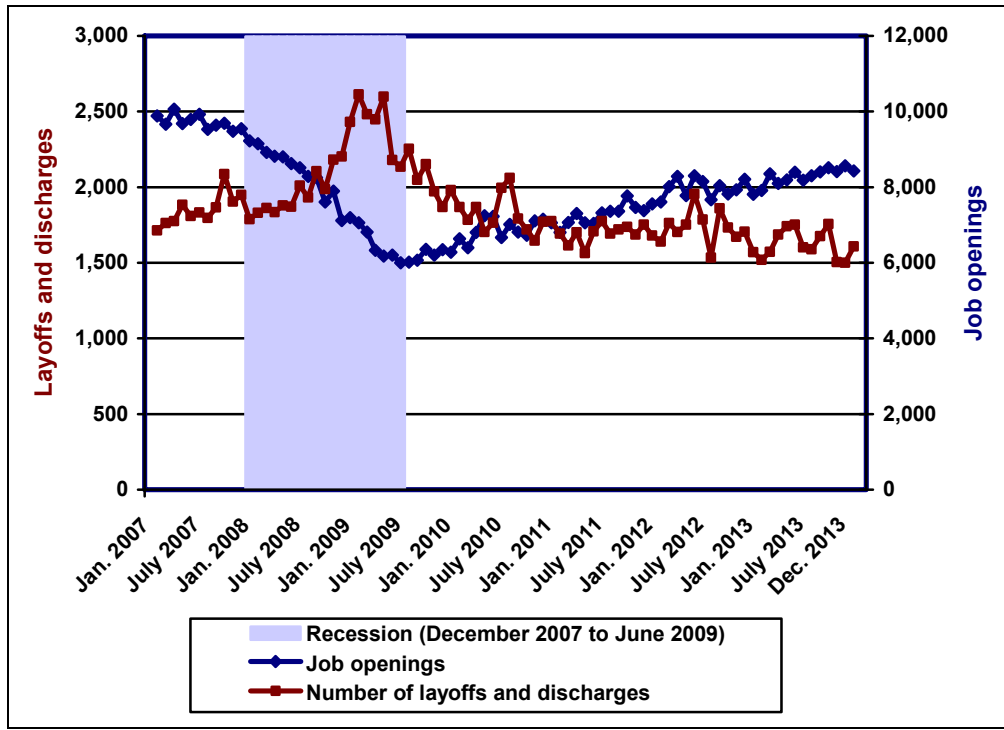
The Number of Layoffs and Discharges and the Number of Job Openings

The number of layoffs and discharges have fallen below their pre-recession levels. During the 11 months leading up to the 2007-2009 recession (January through November 2007), there was an average of 1.9 million layoffs and discharges per month. During calendar year 2013, there was an average of 1.6 million layoffs and discharges per month.

However, the number of job openings has not returned to the level before the recession. During the 11 months leading up to the 2007-2009 recession, there were an average of 9.7 million job openings per month. (Job openings are defined here as the number of hires per month plus the number of unfilled job openings on the last business day of the month.) During calendar year 2013, there were an average 8.3 million job openings per month. See **Figure 6**.

Figure 6. The Monthly Number of Layoffs and Discharges and the Monthly Number of Job Openings, January 2007 to December 2013

(numbers are in 1,000s)



Source: Data are from the BLS Job Openings and Labor Turnover Survey (JOLTS). Data are seasonally adjusted.

Notes: The number of job openings is the sum of the monthly number of hires and the number of unfilled job openings on the last business day of the month.

Characteristics of the Very Long-Term Unemployed

This part of the report analyzes selected characteristics of the very long-term unemployed, who are unemployed workers who have been looking for work for two years or more. The analysis is based on monthly average data for calendar year 2013. The data underlying the analysis in this section are provided in **Table A-3** in the **Appendix**.

Gender

In 2013, unemployed workers were more likely to be male than female. Men were also more likely than women to have been out of work for two years or more.

In 2013, an estimated 53.0% of persons with jobs were men. But, men accounted for 55.1% of unemployed workers. Men also accounted for a disproportionate share (56.9%) of workers who had been unemployed for two years or more.¹²

¹² Unless otherwise noted, the percentage comparisons in this part of the report are significant at the 90% confidence (continued...)

An estimated 12.4% of unemployed workers had been looking for work for two years or more in 2013. Men were slightly more likely than women (12.8% compared to 11.9%) to have been out of work for two years or more.

Age

In 2013, unemployed workers were more likely to be younger than older, but older workers were more likely than younger workers to have been out of work for two years or more.

Although an estimated 34.2% of persons with jobs were under the age of 35 in 2013, approximately half (50.8%) of unemployed workers were under the age of 35. On the other hand, among workers who had been unemployed for two years or more, 33.7% were under the age of 35, while almost half (47.6%) were ages 45 and over.

Among unemployed workers under the age of 35, 8.2% had been unemployed for two years or more. Among unemployed workers ages 45 and over, more than twice that percentage, 18.2%, had been looking for work for two years or more.

Education

In 2013, a majority of unemployed workers had a high school education or less. But, unemployed workers with a high school degree only or with a bachelor's degree or better were equally likely to have been looking for work for two years or more.

Among persons who had jobs in 2013, 35.8% had a high school education or less. However, among unemployed workers, 54.0% had a high school education or less.

Among unemployed workers, those with a bachelor's degree (13.5%) were more likely than those with some college (11.9%) or those with less than a high school education (11.4%) to have been looking for work for two years or more. However, the percentage of unemployed workers with a high school education only (12.8%) who had been looking for work for two or more years was not statistically different from the percentage of unemployed workers with a bachelor's degree (13.5%) or the percentage with an advanced or professional degree (13.9%) who had been looking for work for two years or longer.

Marital Status

In 2013, a disproportionate share of unemployed workers had never been married. But, among unemployed workers, married workers were more likely than workers who had never been married to have been unemployed for two years or more.

In 2013, persons who had never been married accounted for 29.5% of employed workers, but 50.5% of workers who were unemployed.

(...continued)

level or better. See the discussion of confidence intervals in the **Appendix**.

Among unemployed workers, married workers were more likely than workers who had never been married to have been out of work for two years or more (12.9% compared to 10.9%). Similarly, unemployed workers who were widowed, divorced, or separated were more likely than workers who had never been married to have been out of work for two or more years (16.2% compared to 10.9%).

Race and Hispanic Origin

In 2013, a disproportionate share of unemployed workers were either black or Hispanic (i.e., their shares of the unemployed were greater than their shares of the employed). Black workers were also more likely than white workers to have been unemployed for two years or more. On the other hand, Hispanic workers were less likely than non-Hispanic workers to have been out of work for two years or longer.

In 2013, while black workers accounted for 11.2% of persons with jobs, they made up 21.2% of unemployed workers. Likewise, while Hispanic workers made up 15.6% of persons with jobs, they accounted for 19.7% of unemployed workers.

Among unemployed workers, a larger percentage of black than white workers had been unemployed for two years or more (14.2% compared to 11.8%). On the other hand, non-Hispanic workers were more likely than Hispanic workers to have been looking for work for two years or longer (12.9% compared to 10.3%).

Among workers unemployed for two years or more, white workers were older than black workers and non-Hispanic workers were older than Hispanic workers. Among white workers unemployed for two years or more, 53.0% were ages 45 and over, compared to 34.0% of black workers. Among non-Hispanic workers unemployed for two years or more, 48.6% were ages 45 and over, compared to 42.9% of Hispanic workers. (These numbers are not shown in **Table A-3**.)

Citizenship

In 2013, foreign-born non-U.S. citizens were just as likely as native-born citizens to be unemployed. But, U.S. citizens were more likely than noncitizens to have been looking for work for two years or more.¹³

While native-born U.S. citizens made up 83.6% of all employed persons in 2013, they accounted for 84.8% of unemployed workers. Similarly, while foreign-born non-U.S. citizens made up 8.6% of employed workers, they accounted for 9.0% of unemployed workers. On the other hand, 7.8% of employed persons were foreign-born, naturalized U.S. citizens, but they were only 6.3% of unemployed workers.

Compared to noncitizens, U.S. citizens were more likely to have been out of work for two or more years. While 12.1% of unemployed native-born citizens and 18.9% of unemployed

¹³ The CPS asks respondents if they are citizens of the United States. The survey also asks citizens if they were born a U.S. citizen or if they are naturalized citizens. The CPS does not ask noncitizens if they are legal immigrants, nonimmigrants who are in the United States temporarily (e.g., guest workers), or whether they are in the United States without authorization. Therefore, in this report, the definition of noncitizens includes legal immigrants, legal nonimmigrants, and persons in the country without authorization.

naturalized citizens had been looking for work for at least two years, 11.1% of unemployed noncitizens had been looking for work for two years or more.

Industry

In 2013, a disproportionate share of unemployed workers had been employed in four industries: leisure and hospitality; construction; professional and business services; and wholesale and retail trade. But, none of the workers who had been employed in these industries were more likely than other workers to have been out of work for two years or more.

In 2013, 9.4% of persons with jobs worked in the leisure and hospitality industries, but 14.5% of unemployed workers had worked in these industries. While 12.6% of all unemployed workers had been out of work for two or more years, persons who had been employed in the leisure and hospitality industries were less likely, 10.3%, than other workers to have been looking for work for two years or more.¹⁴

Although they were not overrepresented among unemployed workers in 2013, unemployed workers who had worked in two industries—financial activities and manufacturing—were overrepresented among the very long-term unemployed. An estimated 15.8% of unemployed workers who had worked in financial activities had been out of work for two years or more. Similarly, approximately 15.1% of workers who had been employed in manufacturing had been looking for work for two years or longer.

Occupation

In 2013, workers in six broad occupational categories were overrepresented among the unemployed. Among these six occupations, only workers who had been employed in “office and administrative support” occupations were overrepresented among workers who had been unemployed for two years or more.

Workers in the following occupations were overrepresented among the unemployed in 2013: services; construction and extraction; transportation and material moving; production; sales and related; and office and administrative support. Although an estimated 12.6% of all unemployed workers had been out of work for two or more years, approximately 15.1% of unemployed workers who had worked in office and administrative support occupations had been looking for work for two years or more. Among unemployed workers who had worked in service occupations, 11.4% had been looking for work for two or more years, which is less than the average of 12.6% for all unemployed workers.

¹⁴ In 2013, 12.6% of unemployed workers had been out of work for two or more years. Among unemployed workers who had been employed in the wholesale and retail trades, 13.5% had been looking for work for two years or more. The difference is not statistically significant.

Appendix. Data and Methodology

This appendix provides a more detailed description of data and methodology used in this report.

Data

The analysis in this report is based on data from the monthly Current Employment Statistics (CES) Survey and the monthly Current Population Survey (CPS).

The CES is a survey of nonfarm establishments conducted by the Bureau of Labor Statistics (BLS). The sample includes approximately 160,000 businesses and government agencies. The survey does not include self-employed persons, agricultural workers, private household workers, unpaid family workers, or persons on active military duty.¹⁵

The CPS is a household survey conducted by the U.S. Bureau of the Census for the Bureau of Labor Statistics (BLS) of the U.S. Department of Labor. The CPS interviews approximately 55,500 households each month.¹⁶ The sample for the monthly CPS is representative of the civilian noninstitutional population of the United States. The sample does not include persons living in institutions (such as psychiatric hospitals, nursing homes, or correctional facilities) or persons on active military duty.¹⁷

In the CPS, persons are counted as employed if they did any work for pay during the survey week, if they did at least 15 hours of unpaid work in a family-run business, or if they were temporarily absent from their regular job because of illness, vacation, bad weather, industrial dispute, or various personal reasons. Persons are counted as unemployed if they did not have a job, actively looked for work in the four weeks before the survey, and are currently available for work. Persons who are not working and are waiting to be called back to a job from which they have been temporarily laid off are also counted as unemployed.¹⁸

In the CPS, “duration of unemployment” is the number of weeks that a person who is classified as unemployed has been looking for work. For someone on layoff, duration of unemployment is the number of weeks since the person was laid off. A period of two weeks or more during which a person is employed or stopped looking for work is considered a break in the continuous period of unemployment.¹⁹

The data that are available to public users of the CPS may not be the same as the data available to BLS. In order to protect the confidentiality of persons in the survey, the Census Bureau modifies

¹⁵ U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings*, vol. 58, February 2011, available at <http://www.bls.gov/opub/ee/empearn201102.pdf>, p. 197.

¹⁶ U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings*, February 2006, p. 192, available at http://www.bls.gov/cps/eetech_methods.pdf.

¹⁷ U.S. Census Bureau, *Current Population Survey (CPS)*, available at <http://www.census.gov/cps/>.

¹⁸ BLS, *Labor Force Statistics from the Current Population Survey*.

¹⁹ U.S. Department of Commerce, Census Bureau, *Current Population Survey, 2013 Annual Social and Economic (ASEC) Supplement*, available at <http://www.census.gov/prod/techdoc/cps/cpsmar13.pdf>, p. 9-1.

(or “masks”) the age variable in the data available to public users.²⁰ As a result, some estimates produced by public users of the CPS may not match estimates published by BLS.

In this report, estimates of the employed include both wage and salary workers and self-employed persons who work in unincorporated businesses.

As noted in the introduction, during and after the 2007- 2009 recession, unemployment increased more among some groups of workers than others. **Table A-1** shows that, from 2007 to 2013, the unemployment rate increased by 2.9 percentage points among men, but by 2.6 points among women. The unemployment rate increased by 5.0 points among young workers (ages 16 to 24), but by 2.6 points among workers ages 25 to 54. Among black workers, the unemployment rate increased more than among white workers (4.8 versus 2.4 points). Unemployment increased by 3.5 points among Hispanic workers, but by 2.6 points among non-Hispanic workers.

Table A-2 illustrates how respondents in the CPS may round off the number of weeks that they are unemployed. Until January 2011, BLS capped the duration of unemployment at two years. Beginning in January 2011, respondents can report up to five years of unemployment.

Table A-3 provides the data discussed in the second part of the report on the “Characteristics of the Very Long-Term Unemployed.”

²⁰ U.S. Department of Commerce, Census Bureau, *Analysis of Perturbed and Unperturbed Age Estimates: 2008*, available at http://www.census.gov/cps/user_note_age_estimates.html.

Table A-1. Labor Force Characteristics of Persons 16 and Over, Comparison of Calendar Years 2007 and 2013

(numbers are in 1,000s)

Characteristic	2007			2013			Change from 2007 to 2013	
	Labor Force	Number Unemployed	Unemployment Rate	Labor Force	Number Unemployed	Unemployment Rate	Number Unemployed	Percentage Point Change in the Unemployment Rate
Total	153,124	7,078	4.6%	155,389	11,460	7.4%	4,382	2.8
Men	82,136	3,882	4.7%	82,667	6,314	7.6%	2,432	2.9
Women	70,988	3,196	4.5%	72,722	5,146	7.1%	1,950	2.6
Youth (16-24)	22,217	2,342	10.5%	21,381	3,324	15.5%	981	5.0
Adult (25-54)	104,353	3,904	3.7%	100,772	6,360	6.3%	2,456	2.6
Total	153,124	7,078	4.6%	155,389	11,460	7.4%	4,382	2.8
White only	124,935	5,143	4.1%	123,412	8,033	6.5%	2,890	2.4
Black only	17,496	1,445	8.3%	18,580	2,429	13.1%	984	4.8
Other	10,693	489	4.6%	13,397	998	7.4%	508	2.9
Total	153,124	7,078	4.6%	155,389	11,460	7.4%	4,382	2.8
Hispanic	21,602	1,220	5.6%	24,771	2,257	9.1%	1,037	3.5
Non-Hispanic	131,522	5,858	4.5%	130,618	9,203	7.0%	3,345	2.6

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

Table A-2. Number of Workers Unemployed by Duration of Unemployment, Averages of Monthly Data, 2013

Weeks Unemployed	Number Unemployed	Weeks Unemployed	Number Unemployed	Weeks Unemployed	Number Unemployed
50	5,829	76	2,169	102	2,309
51	14,146	77	5,331	103	611
52	630,621	78	68,210	104	406,006
53	13,036	79	1,973	105	303
54	4,453	80	543	106	97

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

Note: The CPS asks unemployed persons how long they have been looking for work. **Table A-2** illustrates how respondents may round off the number of weeks that they have been unemployed. **Table A-3** sums the responses to the question on duration of unemployment for persons who have been unemployed for more than six months, more than a year, more than 18 months, and for two years or more.

Table A-3. Characteristics of the Unemployed, Averages of Monthly Data, 2013

(numbers are in 1,000s)

Characteristic	Employed	Unem- ployed	Number of Unemployed by Duration					Unem- ployment Rate	Distribution of the Unemployed by Duration Of Unemployment					
			0-26 Weeks	Over 26 Weeks	Over 52 Weeks	Over 78 Weeks	Two Years or More		0-26 Weeks	Over 26 Weeks	Over 52 Weeks	Over 78 Weeks	Two Years or More	
Gender														
Total	143,929	11,460	7,155	4,305	2,336	1,517	1,421	7.4%	62.4%	37.6%	20.4%	13.2%	12.4%	
Male	76,353	6,314	3,913	2,401	1,320	864	808	7.6%	62.0%	38.0%	20.9%	13.7%	12.8%	
Female	67,577	5,146	3,241	1,904	1,016	653	612	7.1%	63.0%	37.0%	19.7%	12.7%	11.9%	
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%						
Male	53.0%	55.1%	54.7%	55.8%	56.5%	57.0%	56.9%							
Female	47.0%	44.9%	45.3%	44.2%	43.5%	43.0%	43.1%							
Age														
Total	143,929	11,460	7,155	4,305	2,336	1,517	1,421	7.4%	62.4%	37.6%	20.4%	13.2%	12.4%	
16-24	18,057	3,324	2,483	841	364	202	189	15.5%	74.7%	25.3%	11.0%	6.1%	5.7%	
25-34	31,242	2,504	1,560	944	502	307	290	7.4%	62.3%	37.7%	20.0%	12.3%	11.6%	
35-44	30,650	1,913	1,114	799	439	282	264	5.9%	58.2%	41.8%	22.9%	14.7%	13.8%	
45-54	32,520	1,943	1,083	860	517	351	320	5.6%	55.7%	44.3%	26.6%	18.0%	16.5%	
55-64	23,774	1,342	677	665	401	288	274	5.3%	50.4%	49.6%	29.9%	21.4%	20.4%	
65 and over	7,686	434	238	196	113	87	83	5.3%	54.8%	45.2%	25.9%	20.1%	19.1%	
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%						
16-24	12.5%	29.0%	34.7%	19.5%	15.6%	13.3%	13.3%							
25-34	21.7%	21.8%	21.8%	21.9%	21.5%	20.3%	20.4%							
35-44	21.3%	16.7%	15.6%	18.5%	18.8%	18.6%	18.6%							
45-54	22.6%	17.0%	15.1%	20.0%	22.1%	23.1%	22.5%							
55-64	16.5%	11.7%	9.5%	15.5%	17.2%	19.0%	19.3%							
65 and over	5.3%	3.8%	3.3%	4.6%	4.8%	5.7%	5.8%							

Characteristic	Employed	Unem- ployed	Number of Unemployed by Duration					Unem- ployment Rate	Distribution of the Unemployed by Duration Of Unemployment				
			0-26 Weeks	Over 26 Weeks	Over 52 Weeks	Over 78 Weeks	Two Years or More		0-26 Weeks	Over 26 Weeks	Over 52 Weeks	Over 78 Weeks	Two Years or More
Education													
Total	143,929	11,460	7,155	4,305	2,336	1,517	1,421	7.4%	62.4%	37.6%	20.4%	13.2%	12.4%
Less than high school	12,672	2,268	1,510	758	416	270	259	15.2%	66.6%	33.4%	18.4%	11.9%	11.4%
High school degree	38,827	3,918	2,388	1,530	825	530	501	9.2%	61.0%	39.0%	21.1%	13.5%	12.8%
Some college or Associate's degree	42,496	3,250	2,037	1,213	651	417	386	7.1%	62.7%	37.3%	20.0%	12.8%	11.9%
Bachelor's degree	32,377	1,462	884	577	316	212	197	4.3%	60.5%	39.5%	21.6%	14.5%	13.5%
Advanced or professional degree	17,557	562	335	227	127	88	78	3.1%	59.6%	40.4%	22.5%	15.6%	13.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%					
Less than high school	8.8%	19.8%	21.1%	17.6%	17.8%	17.8%	18.2%						
High school degree	27.0%	34.2%	33.4%	35.5%	35.3%	34.9%	35.2%						
Some college or Associate's degree	29.5%	28.4%	28.5%	28.2%	27.9%	27.5%	27.2%						
Bachelor's degree	22.5%	12.8%	12.4%	13.4%	13.5%	13.9%	13.8%						
Advanced or professional degree	12.2%	4.9%	4.7%	5.3%	5.4%	5.8%	5.5%						
Marital Status													
Total	143,929	11,460	7,155	4,305	2,336	1,517	1,421	7.4%	62.4%	37.6%	20.4%	13.2%	12.4%
Married	80,383	3,818	2,340	1,479	809	531	491	4.5%	61.3%	38.7%	21.2%	13.9%	12.9%
Widowed, divorced, or separated	21,085	1,853	1,035	818	468	320	301	8.1%	55.8%	44.2%	25.3%	17.3%	16.2%
Never married	42,461	5,788	3,780	2,008	1,058	665	629	12.0%	65.3%	34.7%	18.3%	11.5%	10.9%

Characteristic	Employed	Unem- ployed	Number of Unemployed by Duration					Unem- ployment Rate	Distribution of the Unemployed by Duration Of Unemployment				
			0-26 Weeks	Over 26 Weeks	Over 52 Weeks	Over 78 Weeks	Two Years or More		0-26 Weeks	Over 26 Weeks	Over 52 Weeks	Over 78 Weeks	Two Years or More
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%						
Married	55.8%	33.3%	32.7%	34.3%	34.7%	35.0%	34.6%						
Widowed, divorced, or separated	14.6%	16.2%	14.5%	19.0%	20.1%	21.1%	21.2%						
Never married	29.5%	50.5%	52.8%	46.6%	45.3%	43.9%	44.3%						
Race													
Total	143,929	11,460	7,155	4,305	2,336	1,517	1,421	7.4%	62.4%	37.6%	20.4%	13.2%	12.4%
White only	115,379	8,033	5,159	2,874	1,568	1,017	946	6.5%	64.2%	35.8%	19.5%	12.7%	11.8%
Black only	16,151	2,429	1,379	1,050	559	363	344	13.1%	56.8%	43.2%	23.0%	14.9%	14.2%
Other	12,399	998	617	381	208	137	131	7.4%	61.8%	38.2%	20.9%	13.7%	13.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%						
White only	80.2%	70.1%	72.1%	66.8%	67.1%	67.0%	66.6%						
Black only	11.2%	21.2%	19.3%	24.4%	24.0%	23.9%	24.2%						
Other	8.6%	8.7%	8.6%	8.8%	8.9%	9.0%	9.2%						
Hispanic Origin													
Total	143,929	11,460	7,155	4,305	2,336	1,517	1,421	7.4%	62.4%	37.6%	20.4%	13.2%	12.4%
Hispanic	22,514	2,257	1,477	780	402	245	232	9.1%	65.4%	34.6%	17.8%	10.9%	10.3%
Non-Hispanic	121,415	9,203	5,678	3,525	1,934	1,272	1,189	7.0%	61.7%	38.3%	21.0%	13.8%	12.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%						
Hispanic	15.6%	19.7%	20.6%	18.1%	17.2%	16.2%	16.4%						
Non-Hispanic	84.4%	80.3%	79.4%	81.9%	82.8%	83.8%	83.6%						

Characteristic	Employed	Unem- ployed	Number of Unemployed by Duration					Unem- ployment Rate	Distribution of the Unemployed by Duration Of Unemployment				
			0-26 Weeks	Over 26 Weeks	Over 52 Weeks	Over 78 Weeks	Two Years or More		0-26 Weeks	Over 26 Weeks	Over 52 Weeks	Over 78 Weeks	Two Years or More
Citizenship													
Total	143,929	11,460	7,155	4,305	2,336	1,517	1,421	7.4%	62.4%	37.6%	20.4%	13.2%	12.4%
Native-born, citizen	120,361	9,716	6,106	3,610	1,938	1,253	1,171	7.5%	62.8%	37.2%	19.9%	12.9%	12.1%
Foreign-born, naturalized	11,252	718	375	343	205	146	136	6.0%	52.2%	47.8%	28.6%	20.4%	18.9%
Foreign-born, non-citizen	12,317	1,026	673	352	192	118	114	7.7%	65.7%	34.3%	18.8%	11.5%	11.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%						
Native-born, citizen	83.6%	84.8%	85.3%	83.8%	83.0%	82.6%	82.4%						
Foreign-born, naturalized	7.8%	6.3%	5.2%	8.0%	8.8%	9.7%	9.5%						
Foreign-born, non-citizen	8.6%	9.0%	9.4%	8.2%	8.2%	7.8%	8.0%						
Industry													
Total	143,929	10,162	6,286	3,876	2,120	1,370	1,277	6.6%	61.9%	38.1%	20.9%	13.5%	12.6%
Agriculture, forestry, fishing, and hunting	2,128	159	120	39	18	12	12	6.9%	75.5%	24.5%	11.2%	7.4%	7.3%
Mining	1,066	66	51	15	7	3	3	5.9%	77.1%	22.9%	10.3%	5.1%	4.8%
Construction	9,269	1,092	712	379	204	139	135	10.5%	65.2%	34.8%	18.7%	12.8%	12.4%
Manufacturing	14,859	1,043	600	442	252	167	158	6.6%	57.6%	42.4%	24.2%	16.0%	15.1%
Wholesale and retail trade	19,668	1,524	903	621	341	221	205	7.2%	59.2%	40.8%	22.4%	14.5%	13.5%
Transportation and utilities	7,410	467	281	186	103	66	60	5.9%	60.2%	39.8%	22.0%	14.2%	12.8%
Information	2,962	196	115	81	49	33	31	6.2%	58.6%	41.4%	25.1%	16.9%	15.8%
Financial activities	9,844	459	265	194	110	76	72	4.5%	57.8%	42.2%	24.0%	16.6%	15.8%
Professional and business services	16,781	1,439	874	565	302	187	174	7.9%	60.8%	39.2%	21.0%	13.0%	12.1%
Educational and health services	32,519	1,517	926	591	321	203	183	4.5%	61.0%	39.0%	21.1%	13.4%	12.1%
Leisure and hospitality	13,593	1,477	990	487	253	161	153	9.8%	67.1%	32.9%	17.1%	10.9%	10.3%
Other services	7,127	487	311	176	102	65	61	6.4%	63.9%	36.1%	21.0%	13.4%	12.5%
Public administration	6,703	237	136	101	58	35	31	3.4%	57.5%	42.5%	24.5%	14.8%	13.1%

Characteristic	Employed	Unemployed	Number of Unemployed by Duration					Unemployment Rate	Distribution of the Unemployed by Duration Of Unemployment				
			0-26 Weeks	Over 26 Weeks	Over 52 Weeks	Over 78 Weeks	Two Years or More		0-26 Weeks	Over 26 Weeks	Over 52 Weeks	Over 78 Weeks	Two Years or More
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%						
Agriculture, forestry, fishing, and hunting	1.5%	1.6%	1.9%	1.0%	0.8%	0.9%	0.9%						
Mining	0.7%	0.7%	0.8%	0.4%	0.3%	0.2%	0.2%						
Construction	6.4%	10.7%	11.3%	9.8%	9.6%	10.2%	10.6%						
Manufacturing	10.3%	10.3%	9.6%	11.4%	11.9%	12.2%	12.3%						
Wholesale and retail trade	13.7%	15.0%	14.4%	16.0%	16.1%	16.1%	16.1%						
Transportation and utilities	5.1%	4.6%	4.5%	4.8%	4.8%	4.8%	4.7%						
Information	2.1%	1.9%	1.8%	2.1%	2.3%	2.4%	2.4%						
Financial activities	6.8%	4.5%	4.2%	5.0%	5.2%	5.6%	5.7%						
Professional and business services	11.7%	14.2%	13.9%	14.6%	14.3%	13.7%	13.6%						
Educational and health services	22.6%	14.9%	14.7%	15.3%	15.1%	14.9%	14.3%						
Leisure and hospitality	9.4%	14.5%	15.8%	12.6%	11.9%	11.8%	12.0%						
Other services	5.0%	4.8%	5.0%	4.5%	4.8%	4.8%	4.8%						
Public administration	4.7%	2.3%	2.2%	2.6%	2.7%	2.6%	2.4%						

Characteristic	Employed	Unem- ployed	Number of Unemployed by Duration					Unem- ployment Rate	Distribution of the Unemployed by Duration Of Unemployment				
			0-26 Weeks	Over 26 Weeks	Over 52 Weeks	Over 78 Weeks	Two Years or More		0-26 Weeks	Over 26 Weeks	Over 52 Weeks	Over 78 Weeks	Two Years or More
Occupation													
Total	143,929	10,162	6,286	3,876	2,120	1,370	1,277	6.6%	61.9%	38.1%	20.9%	13.5%	12.6%
Management, business, and financial	22,773	830	475	355	202	131	116	3.5%	57.2%	42.8%	24.3%	15.7%	14.0%
Professional and related Service	31,900	1,203	758	445	242	157	140	3.6%	63.0%	37.0%	20.1%	13.0%	11.7%
Sales and related	25,957	2,446	1,550	896	477	296	278	8.6%	63.4%	36.6%	19.5%	12.1%	11.4%
Office and administrative support	15,459	1,212	751	462	251	166	154	7.3%	61.9%	38.1%	20.7%	13.7%	12.7%
Farming, fishing, and forestry	17,801	1,361	784	578	327	218	205	7.1%	57.6%	42.4%	24.0%	16.0%	15.1%
Construction and extraction	966	125	94	30	14	9	9	11.4%	75.6%	24.4%	11.5%	7.2%	7.0%
Installation, maintenance, and repair	7,131	1,014	673	341	182	124	120	12.4%	66.4%	33.6%	18.0%	12.2%	11.8%
Production	4,961	283	168	115	66	42	39	5.4%	59.4%	40.6%	23.2%	14.9%	13.7%
Transportation and material moving	8,271	791	465	326	178	113	108	8.7%	58.8%	41.2%	22.5%	14.3%	13.7%
	8,711	897	568	329	180	115	107	9.3%	63.3%	36.7%	20.1%	12.8%	12.0%

Characteristic	Employed	Unemployed	Number of Unemployed by Duration					Unemployment Rate	Distribution of the Unemployed by Duration Of Unemployment				
			0-26 Weeks	Over 26 Weeks	Over 52 Weeks	Over 78 Weeks	Two Years or More		0-26 Weeks	Over 26 Weeks	Over 52 Weeks	Over 78 Weeks	Two Years or More
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%						
Management, business, and financial	15.8%	8.2%	7.6%	9.2%	9.5%	9.5%	9.1%						
Professional and related	22.2%	11.8%	12.1%	11.5%	11.4%	11.5%	11.0%						
Service	18.0%	24.1%	24.7%	23.1%	22.5%	21.6%	21.8%						
Sales and related	10.7%	11.9%	11.9%	11.9%	11.9%	12.1%	12.0%						
Office and administrative support	12.4%	13.4%	12.5%	14.9%	15.4%	15.9%	16.1%						
Farming, fishing, and forestry	0.7%	1.2%	1.5%	0.8%	0.7%	0.7%	0.7%						
Construction and extraction	5.0%	10.0%	10.7%	8.8%	8.6%	9.1%	9.4%						
Installation, maintenance, and repair	3.4%	2.8%	2.7%	3.0%	3.1%	3.1%	3.0%						
Production	5.7%	7.8%	7.4%	8.4%	8.4%	8.2%	8.5%						
Transportation and material moving	6.1%	8.8%	9.0%	8.5%	8.5%	8.4%	8.4%						

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

Note: Although the differences in percentages discussed in the text of this report are significant at the 90% confidence level or better, small differences in percentages in **Table A-3** may not be statistically significant.

Seasonal Adjustments

Month-to-month changes in labor force data may be affected by both seasonal and nonseasonal factors. Seasonal factors include regular changes in the weather, holidays, and the opening and closing of schools. Removing changes in unemployment that are due to regular seasonal fluctuations makes it easier to observe cyclical changes in employment (i.e., changes associated with economic expansions and contractions).²¹

BLS publishes seasonally adjusted data of the total number of unemployed workers and the number of workers unemployed for more than 26 weeks. In this report, the data series shown in **Figure 1**, **Figure 2**, **Figure 3**, and **Figure 4** were seasonally adjusted by CRS using procedures developed by the U.S. Census Bureau and used by BLS.²² The seasonal adjustments in this report are based on nonseasonally adjusted data for the same time period; that is, the seven-year period from 2007 through 2013. In some cases, the seasonally adjusted data shown in this report for all unemployed workers and for workers unemployed for more than 26 weeks may not match the seasonally adjusted data published by BLS.

Confidence Levels

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 a population characteristic.

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²¹ Richard B. Tiller and Thomas D. Evans, *Revision of Seasonally Adjusted Labor Force Series in 2009*, April 2009, available at <http://www.bls.gov/cps/cpsrs2009.pdf>, p. 1.

²² U.S. Census Bureau, *The X-12-ARIMA Seasonal Adjustment Program*, available at <http://www.census.gov/srd/www/x12a>. The current version of X-12-ARIMA (version 0.3) is available to CRS in statistical software from the SAS Institute.