

A Closer Look at the Unemployment Rate

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On the first Friday of every month, the Bureau of Labor Statistics (BLS) releases the Employment Situation Report, otherwise known as the “Jobs Report.” Among other things, this report presents information on the labor force as collected by the Current Population Survey (CPS).

The concept of the CPS is simple. All persons who worked at least one hour as a paid employee during the reference week are classified as employed. In addition, those who worked on their own farm or worked 15 hours or more as unpaid workers in a family business are classified as employed. Those who had no employment during the reference week but were actively looking for work and were available for work are classified as unemployed. These two groups constitute the civilian labor force. The unemployment rate is the percent of the labor force that are unemployed. Monthly data on the labor force are collected by a survey sample of households conducted by the Census Bureau for BLS.

No Sample Is 100% Accurate. Even though the survey is scientifically designed to reflect the entire civilian noninstitutional population 16 years of age and over, it has its shortcomings due to sampling and nonsampling error. Nonsampling errors occur for a variety of reasons, including unwillingness of selected respondents to cooperate, misinterpretation of questions, providing false information, etc. Sampling errors, on the other hand, occur by chance and are caused by observing a sample rather than the whole population.

According to the Census Bureau, there are approximately 112.6 million households in the U.S. Of these, approximately 60,000, or 0.05%, are selected for the CPS sample. Even though the sample is scientifically designed to reflect the characteristics of the total number of households there are many thousands of other samples that could have been selected based on the same selection criteria and each would yield slightly different results. This difference between the sample results and “real world” results is known as sampling error. Fortunately, the extent of the extent of sampling error can be estimated allowing for the construction of a “confidence interval” around a sample result.

For example, the unemployment rate for June 2011 was widely reported as 9.2%, an increase of 0.1% over May. A confidence interval around the unemployment rate indicates that we can be 95% confident that the true unemployment rate for June was within the range of 9.0% and 9.4%.

Labor Force Data Are Seasonally Adjusted. The labor force data collected by the CPS are subject to regularly recurring seasonal changes. For example, the number of employed workers tends to be consistently lower than normal in January and consistently higher than normal in July. Seasonal adjustment is a mathematical procedure that removes these recurring seasonal patterns. While seasonal adjustment of the CPS data is a valuable analytic tool, it does not result an estimate of the actual number of employed and unemployed members of the labor force. Instead, it sometimes understates and sometimes overstates the estimated “nose count.”

For example, in January 2010, the unadjusted “nose count” estimate of the employed labor force was 136.8 million and the seasonally adjusted estimate was 138.5 million. Thus, the seasonal adjustment procedure added 1.7 million workers. These workers did not exist. Conversely, in July 2010, 1.2 million workers were subtracted from the unadjusted estimate of 140.1 million. These workers existed and had jobs but were not included in the seasonally adjusted results. Because the unemployment rate is based on the estimates of employed and unemployed workers, it can also be affected by seasonal adjustment. The “Jobs Report” includes both seasonally adjusted and unadjusted data. Adjusted data are typically reported by the media. Users should select the one that best meets their requirements.

Which Comes First—A Recession or a Bump in the Unemployment Rate? The National Bureau of Economic Research defines recessions as a “...significant decline in economic activity spread across the economy, lasting more than a few months....” There is no question that there is a relationship between recessions and the unemployment rate. But, what is that relationship?

The U.S. economy has experienced five recessions since 1980. The first recession officially began in January 1980 and ended in July of that year. The second recession began a year later in July 1981 and ended in November 1982. There was essentially no change of the unemployment rate during the one-year period between these two recessions. At the beginning of the first recession, the seasonally-adjusted unemployment rate was 6.3%. It steadily increased to a high of 10.8% at the end of the second recession in November 1982. The rate did not return 6.3% until April 1987—88 months later.

This pattern is typical, although the recovery time of the unemployment rate varies with the severity of the recession. In the recessions of the early 1990s and 2000s, the rate did not reach its peak until nearly two years after the onset of the recessions and required between 5 and 6 years to return to prerecession levels.

The most recent recession officially began in December 2007 when the unemployment rate was 5.0% and officially ended in June 2009 with the rate standing at 9.5%. Since then, the unemployment rate has decreased slightly but has not approached prerecession levels. This should not be surprising. If history provides any insight, the unemployment rate will not return to prerecession levels anytime soon. It is not inconceivable that a return to a “normal” rate, 5% or so, could take several years.

What Does It All Mean? The unemployment rate as reported in the “Jobs Report” has become an eagerly anticipated and widely-reported economic measure. The rate is based on sample data and is subject to errors. The most commonly reported version is based on seasonally-adjusted data and does not represent a “nose count” estimate. The rate is frequently viewed as a predictor of future economic trends. In fact, is neither a leading nor a coincident economic indicator. Rather, it is a lagging indicator because it measures the effects of a recession after it has already started and frequently measures aftereffects by continuing to rise even after the economy has started to recover from the recession. The unemployment rate is a valuable tool but its limitations and weaknesses should be recognized and it should not be over interpreted.