



How is the Unemployment Rate Calculated?

In simple terms, the unemployment rate for any area is the number of area residents without a job and looking for work divided by the total number of area residents in the labor force. However, the methods used to produce this data are not so simple.

Attempting to contact every household, as is done in the decennial census, to count every person that is unemployed would be far too time consuming and costly. At the same time, counting only those persons filing claims for unemployment benefits does not account for all persons who don't have a job and want to work. Consequently, other methods must be used.

The national unemployment rate is computed solely from a nationwide survey of about 60,000 households conducted by the Census Bureau for the Bureau of Labor Statistics. Residents of selected households are asked, among other questions, about their employment status. From their responses, the Bureau of Labor Statistics then estimates the size of the labor force – all people employed and unemployed – and the number of people who are jobless.

The Bureau of Labor Statistics (BLS) is responsible for the concepts, definitions, technical procedures, validation, and publication of the estimates that all state workforce agencies, including the Connecticut Department of Labor, prepare under agreement with BLS. It follows then that Connecticut's unemployment rate and the rates for its individual labor market areas, cities and towns are computed by the Office of Research of the Connecticut Department of Labor in accordance with BLS procedures. With all states using the same procedures, the resulting data are comparable across the country.

The portion of the national household survey sample taken in Connecticut (and other states) is too small by itself to produce estimates for the state that are reasonably reliable. Consequently, alternative methods and additional information must be used. For all states and the District of Columbia, statistical models have been developed to estimate the number of residents that are employed and unemployed. The models use time series regression techniques that are based on historical and current data for each state's economy. While all the state estimation models have important components in common, they differ somewhat from one another to better reflect individual state labor force characteristics.

The primary components of the state estimation models are the results from state residents' responses to the household survey, the numbers of persons filing claims for unemployment insurance and the current estimate of nonfarm jobs in the state. The inclusion of the household survey results ensures that people who have exhausted their unemployment benefits are represented in the estimate of unemployed state residents. It also accounts for new entrants and re-entrants into the workforce, those who exhaust unemployment benefits and are still looking for work, those found ineligible for benefits or who simply choose not to file, and others not covered by unemployment insurance such as some agricultural workers, private household workers, self-employed, and unpaid family workers.

With the number of employed and unemployed state residents estimated, the labor force – the sum of the employed and unemployed – is determined, and the unemployment rate – the percentage of the labor force that is unemployed – is calculated.

To account for predictable movements in employment that occur during the same periods every year (usually associated with the seasons; e.g., summer school break activity, winter construction slowdowns, temporary holiday retail employment), the data are “seasonally adjusted;” that is, the customary seasonal activity is removed from the estimates. This seasonal adjustment allows for better identification of underlying trends in the economy from one month to the next.

Each month, BLS independently develops estimates for the nine Census divisions that geographically exhaust the nation. These Census division estimates are aligned with the data produced for the nation. The division estimates are then used to align the estimates for the states within each division. This process ensures that the monthly state estimates will add to the national figures.

The labor force estimates for each month are revised the following month and at the end of each year as more current information becomes available on nonfarm jobs and unemployment claims, and from the household survey and other Census Bureau sources.

The official unemployment rate, discussed above, has specific limitations. It does not differentiate between full-time and part-time jobs. It also does not account for people who are underemployed; that is, working in jobs for which they are overqualified because they cannot find a job that better matches their knowledge and experience. It will not tell you how many people have become so discouraged in their job search that they have given up hope of finding a job. However, there are alternative measures derived from the household survey that provide estimates of unemployment that include these groups.

As these are estimates, based largely on a sample, there is a margin of error in the calculations. Currently, Connecticut’s statewide unemployment rate for any month has a margin of error of +/- 0.7-0.8 percentage point, with 90% confidence that the true rate (if the entire population could be surveyed) falls within this range. The error range on the annual average is +/-0.4 percentage point. Generally, estimates for smaller areas are less precise than for larger areas. Nevertheless, the unemployment rate provides a reasonable approximation of what it is supposed to measure.

For more information ...

Additional details about the estimation processes described here, with a focus on the household survey, are available in *How the Government Measures Unemployment*, published by the Bureau of Labor Statistics.

For a more technical discussion of the methods used to estimate state unemployment, see *LAUS Technical Documentation*, also published by the Bureau of Labor Statistics.