

# Estimating Unemployment

By Charles Caldwell

**E**ach month the Department of Labor publishes in *Alaska Economic Trends* the most current estimates of labor force, resident unemployment, resident employment, and the unemployment rate for Alaska and areas within Alaska. Sometimes readers question the accuracy of these estimates, especially the unemployment rates for rural areas. For those people who wish to use Department of Labor's estimates of unemployment to show the social hardship of unemployment in rural areas, their perception that the unemployment rate for rural areas is understated is probably correct.

Two problems contribute to the gap between the Department of Labor's unemployment estimates and some people's perceptions that rural areas have more unemployed people than the estimates would lead one to believe. The first problem is the definition of "unemployed." The Bureau of Labor Statistics (BLS) definition differs from the popular use of the term, and misunderstanding can occur if the person interpreting the data is not aware of this difference. The second problem is that the methodology prescribed by BLS has built in problems in estimating unemployment in rural areas.

To some degree the problem of the definition will remain because BLS's goals in gathering data may differ from the goals of some individuals who use the data. BLS must use consistent definitions nationwide in order for the research to be useful. Even if the estimates were perfectly accurate, the unemployment rates still would not be sufficient to explain how many people are unemployed in the popular sense of the word.

The Alaska Department of Labor has been actively seeking a solution to the second problem of methodology by working with the Bureau of Labor Statistics to improve the methods used to estimate and allocate labor force data.

This article will focus on answering the following questions:

- How are employment, unemployment, and related terms defined?
- How is employment estimated?
- What is being done to improve the estimates?

## **Definitions**

*Resident Employment* - is an estimate of civilians residing in an area who during a survey week that includes the twelfth of the month either:

worked for pay;

were self-employed;

worked 15 hours or more as an unpaid worker in a family owned business;

were temporarily absent due to paid vacation, illness, bad weather, labor-management disputes, or personal reasons;

were waiting to be recalled from layoff; or

were waiting to report to a new job within the next 30 days.

*Nonagricultural Wage and Salary Employment* - is an estimate of the number of jobs (rather than persons) in an area. In nonagricultural wage and salary employment people are counted twice if they have two jobs, but only once in estimates of employment by place of residence.

Though less inclusive than resident employment nonagricultural wage and salary employment is usually larger than resident employment in Alaska. This is due to the large number of nonresident workers employed in this state.

*Unemployment* - is an estimate of civilians who:

were available to work;

were not employed at any time during the survey week that included the twelfth of the month; and

sought work within a four week period up to and including the survey week.

*Discouraged Workers* - refers to people who are not counted as unemployed because they did not perform a job search in the four week period up to and including the survey week.

In 1981 Research and Analysis staff completed a household survey patterned after the Current Population Survey (CPS) and published the results in *Lower Yukon-Kuskokwim Region Labor Market Analy-*

sis. Results revealed that the number of discouraged workers in the Wade Hampton area in January 1981 (538) was nearly double the number who were unemployed by the official definition (282). It is reasonable to infer that the number of discouraged workers will often be high in small isolated communities with few job search options.

*Labor Force* - is the sum of resident employment and unemployment.

*Unemployment Rate* - is derived by dividing the number of unemployed by the labor force, and expressing as a percent.

*Current Population Survey (CPS)* - a national monthly survey of households, carefully constructed to provide estimates of labor force composition.

*Labor Market Area* - An area with a central community and economic concentration in which workers can generally change jobs without changing their residence.

### **Unemployment Estimating**

Unemployment rates for over 3,000 areas are estimated nationwide each month. The only estimates of resident employment and unemployment accepted for grants and allocations of federal funds are those produced by methodologies accepted by the U.S. Department of Labor, Bureau of Labor Statistics (BLS).

Financing of state and local area unemployment statistics will never permit monthly, statistically valid, household surveys to be taken for all areas of the nation for which unemployment estimates are now prepared. Compromises have been made in order to work within budget constraints.

The primary place where savings have historically been made is to blend information from available data sources that were not designed for the primary purpose of unemployment estimating, with CPS and decennial Census data to produce reasonable estimates for 39 states and nearly all areas. Methodology for producing unemployment rates for the 11 other states is discussed in method one below.

### **State Estimates**

There are two basic methodologies used to estimate resident employment and unemployment by month at the statewide level:

1. National estimates of labor force and unemployment, as well as the estimates for 11 populous states and two areas, are directly derived

from the CPS. This survey is conducted using a sample of nearly 60,000 households each month. It permits an unbiased estimate that is not dependent upon data collected for other purposes which can vary because of administrative differences between states.

2. Alaska is one of 39 states, plus the District of Columbia and 25 areas (including Alaska's six economic regions), which can vary because of administrative differences between states.

a. A preliminary estimate of resident employment is produced by adding estimates of:

nonagricultural wage and salary employment adjusted to place of residence with decennial Census relationships,

self-employed workers;

unpaid family workers; and

agricultural employment.

b. A preliminary estimate of unemployment is produced using estimates of the following components:

unemployment insurance claimants;

workers who have exhausted their unemployment insurance benefits;

unemployed workers who never filed for unemployment insurance;

unemployed workers whose previous employment was not covered by unemployment insurance; and

persons who are seeking employment either for the first time or who have reentered the labor force.

c. The CPS sample is designed to produce annual estimates in 39 states. Monthly CPS estimates for those states have too much variation to be used directly as the official estimates. Instead estimates from the CPS for those states are aggregated for the most recent six month period and compared to the statewide estimates from the two steps above. The resulting factors are then used to correct the level of the preliminary estimates of resident employment and unemployment. This correction to the level of the CPS improves consistency between states, while maintaining a reasonable monthly trend.

### **Substate Estimates**

Substate area labor force data estimates are produced using three methodologies.

1. Labor market area totals are forced to equal the adjusted statewide estimates.
2. Within each labor market area, the employment and unemployment estimates may be allocated to the smaller areas based upon the distribution of population and unemployment insurance claims data.
3. For smaller areas which have no unemployment insurance claims data available, the employment and unemployment estimates are allocated using population data only.

Currently, the allocation procedures for substate estimates overstate employment in rural areas. Because of this bias, unemployment rates in rural areas are lower than they would be otherwise. This happens because employment estimates are allocated by population, and jobs are not distributed evenly throughout the estimating areas proportionate to population.

Research and Analysis proposed a procedure which would more accurately reflect the lack of employment opportunities in rural areas. BLS has tentatively scheduled this procedure to be included in the approved methodologies for estimates beginning with the January 1987 data.

### **Improving The Estimates**

The Bureau of Labor Statistics has been working for several years to upgrade state and local area unemployment estimates. This spring Research and Analysis conducted a survey of states to determine which attributes in a labor force estimating methodology were most important to them. The consensus was that accuracy and an explainable monthly trend, closely followed by realistic substate estimates, were judged by the states to be the most important of the several attributes listed in the survey.

Recently BLS proposed working with a group of states to revise unemployment estimating procedures. States will test proposed methodologies in parallel with existing methods over the next year. Changes resulting from this cooperative effort will probably be incorporated in estimates released beginning in February 1988.

Alaska will be involved in this effort. Other states will be selected to provide a representative mix of geographic areas with an emphasis on the 39 states which are not using the CPS directly.