

## Revised Estimates of Nonagricultural Employees

With this release, the Bureau of Labor Statistics presents another of a series of periodic revisions of estimates of the number of employees in nonagricultural establishments. The chief purpose of these revisions is to adjust the levels of employment estimates to 1945 benchmark data made available by unemployment compensation agencies and the Bureau of Old Age and Survivors Insurance. The present revision also includes a new type of construction estimate which is more consistent with the estimating procedure employed in other industries. In addition, federal force account construction employment has been transferred from the construction segment to government.

Each of the industry divisions is affected by the present revision. In trade, construction, government, and finance, service and miscellaneous the estimates have been revised back to January 1939. In mining, transportation and public utilities no revisions were necessary prior to 1944. Manufacturing, which had previously been adjusted to 1944 levels, are now revised back to January 1945. In revising manufacturing, adjustments have been made in each of the 20 major industry groups comprising the industry division. However, no revisions have as yet been made in the individual manufacturing industries. Estimates for the industries, currently based on the 1939 Census of Manufactures, are now in the process of revision. As the estimates of employment in the industries comprising a major group are corrected, they will be released.

Nature and Extent of Revisions - In all but one of the industry divisions the revisions have resulted in raising the levels of employment. The magnitude of the revisions in trade, mining, and finance, service, and miscellaneous was very substantial. Only minor upward adjustments were necessary in manufacturing, government, and transportation and public utilities. Only in construction has the estimate of employment been lowered. Construction employment, which was formerly derived from the Bureau's estimates of the dollar volume of construction, is lower by approximately 3 percent in 1946. This results partly from the exclusion of Federal force account employment, as noted above, and from the shift to estimating employment on the basis of establishment reports to State unemployment compensation agencies.

How Employment Estimates are Made - Estimates of changes in the level of employment are based on reports from a sample of establishments, inasmuch as full coverage is deemed to be prohibitively costly and time-consuming. In using a sample, it is essential that a sound basis be established from which estimates may be carried forward. This basis or "benchmark" is either a complete count or an estimate with a satisfactory degree of accuracy. When a new benchmark becomes available, estimates prepared since the last benchmark are reviewed to determine if any adjustment of level is required. This is the basic principle of employment estimating used by the BLS. It yields a satisfactory compromise between a slow but highly accurate complete count, on the one hand, and a rapid but less accurate sample count on the other.

Briefly, BLS computes employment estimates as follows: first, a benchmark or level of employment is determined; second, a sample of establishments is selected; and third, changes in employment indicated by this reporting

sample are applied to the benchmark to determine what the monthly estimates of employment are between benchmark periods. For example, if the latest complete data on employment for an industry is 40,200 in September 1945 and if the industry has a reporting sample of 13 establishments, employing 23,200 workers in September and 23,800 in October, the October estimate is obtained as follows:

$$\frac{40,200 \times 23,800}{23,200} = 41,240$$

Why Revisions are Necessary - Because the existence of new firms is not readily ascertainable, they are not introduced into the BLS sample until after they have been in operation for some time. This characteristic causes a rather consistent understatement which becomes larger from year to year. It is important, therefore, that estimates not be allowed to go uncorrected for too long a period. Unfortunately, insufficient funds and the pressure of special assignments during the war period have delayed the adjustment of many of the nonmanufacturing industry divisions for several years. For this reason, the present revision corrects for the downward bias that has accumulated in the nonmanufacturing series since 1941. Revisions in some industry divisions have been carried back to 1939 in order to incorporate greater refinements in methodology and new source materials have become available. For example, improved data on the small firm component of the trade and service industries, supplied by the Bureau of Old Age and Survivors Insurance, made possible refinements in these series back to 1939.

Sources of Benchmark Data - In preparing estimates for employment prior to 1939, the Bureau of Labor Statistics used the various industrial censuses, taken by the Bureau of the Census, as a source of benchmark data. Since that time, data obtained from unemployment compensation agencies and the Bureau of Old Age and Survivors Insurance are the main bases for benchmarks. There are some notable exceptions: Benchmarks for State and local government, for example, are based on data compiled by the Bureau of the Census while data on Federal Government employment is made available by the U. S. Civil Service Commission. For railroads, the source is the Interstate Commerce Commission and for water transportation, the U. S. Maritime Commission.

Projection of Estimates - In general data showing month to month changes in employment reflect the fluctuations shown by establishments reporting to the BLS. However, the usual estimating method is inadequate in finance and service, where a preponderance of small establishments enter and leave the business population at a high rate. A special sampling procedure has been introduced, involving the scientific selection of a sample of cities and a representative list of blocks in these cities. Data obtained from the establishments in these blocks yield substantially better estimates of month to month changes in employment in the service and finance industries. For railroads, complete tabulations of reports are available.

Presentation of Estimates - Summary table 16 of the Detailed Employment Report for February 1947 presents revised estimates of employees by industry division from 1939 through 1946. A more detailed technical statement of the methodology used in adjusting each series will be available shortly.