DEPARTMENT OF LABOR

Bureau of Labor Statistics

Comment Request on the Local Area Unemployment Statistics Program

AGENCY: Bureau of Labor Statistics, Labor.

ACTION: Request for comments on proposed action.

SUMMARY: The Department of Labor, through the Bureau of Labor Statistics (BLS) and, specifically, the Local Area Unemployment Statistics (LAUS) program, is responsible for the development and publication of State and local area labor force statistics. The LAUS program develops and issues monthly estimates of the labor force, employment, unemployment, and the unemployment rate for approximately 7,300 areas in the Nation. A major program redesign to improve the methodological basis of the LAUS estimates and update the geography and techniques to reflect 2010 Census data was initially funded in FY 2011. After completion of various long-term research projects, the BLS plans to implement improvements to its estimating methods with State and area LAUS estimates for January 2015, to be published in March 2015.

DATES: Written comments must be submitted to the office listed in the Addresses section of this notice on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: Send comments to Patrick Carey, Local Area Unemployment Statistics, Bureau of Labor Statistics, Room 4675, Massachusetts Avenue, NE, Washington, DC 20212 or by email to: *LAUS_FRN@bls.gov*.

FOR FURTHER INFORMATION CONTACT: Walter Sylva, Local Area Unemployment Statistics, Bureau of Labor Statistics, telephone number 202-691-6456 (this is not a toll-free number), or by email to: *LAUS_FRN@bls.gov*.

SUPPLEMENTARY INFORMATION:

I. Introduction

The Department of Labor, through the Bureau of Labor Statistics, is responsible for the development and publication of State and local area labor force statistics through the Local Area Unemployment Statistics (LAUS) program. Currently, monthly estimates of employment, unemployment, and the unemployment rate are prepared for approximately 7,300 areas, including Census

regions, Census Divisions, all States and the District of Columbia, Puerto Rico, metropolitan and small labor market areas, counties, cities of 25,000 population or more, and all cities and towns in New England regardless of population. In a multi-year, multi-project initiative that began in FY 2011, the following prospective improvements to State and area labor force estimation were identified:

- Improve State time series estimating models by introducing:
    - Model-Based Benchmarking that accounts for errors in the estimates
    - Additivity of outlier effects that allocates level shifts to the appropriate State
    - More efficient model structure that reduces processing time
    - Enhanced smoothed seasonal adjustment procedures
- Incorporate American Community Survey (ACS) data to replace Census long form data that are no longer available as inputs
- Update procedures for developing other substate areas that employ innovative and dynamic estimating methods

II. Background

A hierarchy of estimation methods is used to produce the State

and area labor force estimates, based in large part on the availability and quality of data from the Current Population Survey (CPS), the official measure of the labor force for the Nation. Labor force estimates are generated for the nine Census Divisions utilizing time series models and are controlled to National estimates. State estimates also are developed using time series models and are controlled to Division estimates. Finally, substate estimates are developed by means of a building-block approach using locally available data and are controlled to State estimates.

Improved Time Series Models. The estimates for States, the District of Columbia, New York City and the Los Angeles Metropolitan Division, and their respective balances of New York State and California are developed using signal-plus-noise models. These models rely heavily on monthly CPS data as well as current wage and salary employment estimates from the Current Employment Statistics (CES) program and claims data from State unemployment insurance (UI) programs.

There are signal-plus-noise models for five additional substate areas and their respective balances of State. The areas are: the Chicago-Naperville-Joliet, IL metropolitan division; the Cleveland-Elyria-Mentor, OH metropolitan area; the Detroit-

Warren-Livonia, MI metropolitan area; the Miami-Miami Beach-Kendall, FL metropolitan division; and the Seattle-Bellevue-Everett, WA metropolitan division. As with the State and Census Division models, these area models are based on the classical decomposition of a time series into trend, seasonal, and irregular components. A component to identify and remove CPS sampling error is also included. Area models, like the Census Division models, are univariate in design in that only the historical relationship of the CPS is considered — UI claims data and CES employment data are not used each month in the estimation process.

The monthly estimates of employment and unemployment utilize a tiered approach to estimation known as real-time benchmarking. Model-based estimates (using a univariate form) are developed for the nine Census Divisions that geographically exhaust the Nation. These estimates are controlled to the National levels of employment and unemployment. State model-based estimates are then made and controlled to the Census Division estimates. In this manner, the monthly State employment and unemployment estimates will add to the National levels, precluding differences between the sum of States and the National estimates, and National shocks related to the business cycle or outliers like September 11 will be addressed in real time.

Monthly pro-rata factors for each Census Division are used to adjust the sum of the States within each Census Division to sum to the Division totals. Census Divisions also use pro-rata factors to ensure that they sum to the Nation. Substate estimates, including the area and balance-of-State models noted above, are controlled directly to the State totals, which are themselves controlled to the National CPS via the Census Division models.

The new time series models introduce the following major improvements: 1) model-based benchmarking, 2) additivity of outlier effects, 3) new model structure, and 4) enhanced smoothed seasonal adjustment procedure.

The improved models will directly produce estimates that automatically sum to Census Division controls and thus eliminate the need for the external pro-rata factors currently in use to benchmark State estimates to their Census Divisions. During the benchmarking process the new models account for the errors inherent in each facet of the estimating procedure. These include State-specific CPS sampling error, State model prediction errors based on historical patterns, errors in the estimates used as a benchmark (Census Division & National), and the relation of these errors to the overall size of the

benchmark discrepancy. This approach provides greater flexibility (monthly benchmarking adjustments will vary by State and by type of series), smoother monthly adjustment factors, and improved reliability measures.

Another important improvement is that the new models allow for the additivity of outlier effects. Outlier estimates will be separated from the benchmarking process, resulting in the outliers being specific to where they occurred. Level shifts and onetime outliers will not be spread across all States within a Census Division so as not to distort the magnitude of the outlier effect.

The new model structure uses CES and UI trend estimates as regressor variables to explain trend variation in the CPS. This produces results similar to current bivariate models but with a major reduction in computing time. The new structure also allows for more flexibility for model development over the long term.

An enhanced smooth seasonal adjustment procedure will be utilized to address the presence of residual seasonality that is noticeable in some of the smoothed seasonally adjusted employment series. The smoothed seasonal adjustment (SSA) procedure was implemented in 2005 with the third generation of

models. The SSA procedure uses the Henderson Trend Filter to isolate the trend of the series by removing much of the volatility that is introduced to the State's estimates during the real-time benchmarking process. However, even with the application of the SSA there still remained some statistical evidence of weak residual seasonality in the SSA employment series. (The unemployment levels and the unemployment rates were not affected.)

To address this concern, the fourth generation of models utilize an improved smoothed seasonal adjustment filter. In addition to the trend filter, additional weights have been added to create a seasonal filter as well. The enhanced procedure will continue to remove the volatility introduced by real-time benchmarking, while simultaneously removing all residual seasonality that results from benchmarking to a seasonal series.

Incorporation of American Community Survey. For the 2010 Census, the long- and short-form questionnaires used from 1940 to 2000 were replaced by a single questionnaire asking 10 questions. The more detailed socio-economic data once obtained by the long-form questionnaire are now provided by the American Community Survey (ACS). The LAUS program had been reliant on the long form data as the basis for developing substate estimates for self-

employed, unpaid family workers, private household workers, and agricultural workers throughout the decade. These data elements represent employment that is either not covered by unemployment insurance compensation programs or not included in the payroll survey data CES, thus the Census long form had been the sole source for this type of information at the local level.

ACS data are issued on an annual basis and they do not represent a single point in time as did the decennial Census, which represented April 1 in the year that the Census was conducted. Instead ACS data are estimates that span 1 year, 3 years, or 5 years depending on the population level of each area. To ensure coverage of all LAUS geography, which includes areas with 25,000 population or more and all cities and towns in New England regardless of population, the 5-year estimates must be used. In addition to covering all LAUS geography, the 5-year estimates use the largest sample size and are the most statistically reliable of the ACS estimates. However, since they represent a 5-year span they cannot be directly used to develop current monthly estimates.

The most current source of the needed data inputs is the CPS which does not have the geographic detail of the ACS. The proposed methodology will utilize the strengths of the CPS and

the ACS to develop monthly estimates of self-employed, unpaid family, and private household workers (collectively known as "all-other" employment) and agricultural workers at the needed level of geography.

Enhanced procedures for developing other substate areas. Utilizing ACS data to replace the Census long form data facilitated the enhancement of some of the substate methodologies making up the building-block approach used to develop independent substate estimates. Revisions are proposed for the methodology of adjusting place-of-work data to a place-of-residence basis, the estimation of what is known as "all-other" employment, the estimation of agricultural employment, and the estimation of agricultural unemployment not covered by unemployment insurance. In addition, substate estimates will be developed at the county level rather than the labor market area level. A brief discussion of the new methodologies is below.

Place-of-Work Residency Adjustment. The LAUS program uses the same labor force concepts as the CPS. Thus employment inputs from the CES and Quarterly Census of Employment and Wages (QCEW) programs, which are based on place-of-work, must be adjusted to reflect the worker's place of residence per the CPS. To accomplish this, Dynamic Residency Ratios (DRRs) are applied to

CES and QCEW employment inputs for LAUS estimation. This methodology assumes that resident employment in an area is a function of the relationship between employed residents and jobs not only in that area, but in other areas within commuting distance. The procedure is more dynamic than the use of a single residency ratio insofar as job count changes in commuting areas can affect resident employment.

In the past, journey-to-work data from the decennial Census were incorporated into the DRRs. Journey-to-work data were not available from 2010 Census due to the discontinuation of the long form. For the LAUS 2015 redesign, DRRs will be computed using ACS journey-to-work data in the same manner that they are computed now with one major modification. Currently, an area must be the destination workplace of at least 100 resident commuters (50 in New England) to be considered a potential commuter area. BLS proposes replacing these criteria with a percentage threshold. In the new set of DRRs, commuter areas will be limited to those areas that are the work destination of no less than 10 percent of resident commuters. This will eliminate marginal commuter areas included in the previous methodology to account for potential future growth.

The previous threshold for DRR commutation areas reflected the

ten-year span between Census journey-to-work data releases. The inclusion of a relatively high number of areas would accommodate any potential changes to commuting patterns over the ensuing decade. The new data source for DRRs, ACS journey-to-work data, is intended to be updated every five years. The increased frequency in the availability of commutation data will make the list of commutation areas more responsive to changing commuting patterns, reducing the need to include minor destinations which may grow in importance over time.

Estimation of All-Other Employment. The current method uses Census 2000 data as the starting point for the self-employed, unpaid family, and private household workers (known as "All-Other Employment) and moves it forward through time by applying the relationship of all-other employment to the nonfarm wage and salary employment estimate at the time of the Census.

The new method uses the relationship of each area's share of ACS all-other employment to the State's total ACS all-other employment. This relationship is then used to allocate a monthly 5-year weighted average of each State's CPS estimate of all-other employment. A weighted average of the CPS estimate is used because, depending on the State's CPS sample size, the monthly estimate for this element may be volatile due to sampling error.

This monthly 5-year weighted average consists of the current month's estimate averaged with the same month's estimate going back 4 years, with more weight placed on the more current estimates. This technique borrows strength from prior estimates while preserving seasonal trends.

Estimation of Agricultural Employment. The current method uses the Census 2000 data as the base and moves the estimate forward using a monthly change factor based on a State's membership in a multi-State agricultural region.

The new method for estimation of agricultural employment uses a similar approach as the all-other employment method. A monthly 5-year weighted average of each State's CPS estimate of agricultural employment is developed and allocated to substate areas using each areas' share of the State's total ACS agricultural employment. This method is State-specific and eliminates the need for an agricultural regional factor.

Estimation of non-covered agricultural unemployment. This is an optional procedure that is currently utilized by 19 States. The current procedure uses an indirect approach for the estimation of agricultural unemployment not covered by unemployment insurance. It assumes that there is unemployment associated with

employment and that the unemployment rate in non-covered agriculture is related to the rate of unemployment in covered sectors of the economy. To estimate non-covered agricultural employment, the annual average of covered agricultural employment from the QCEW program is subtracted from the covered agricultural employment estimate that is developed each month (as described in the prior section). Seasonal factors derived from CPS agricultural data from 1977-1982 are applied to account for seasonality.

The new method replaces the annual average QCEW covered agricultural employment with a 1-year lagged monthly estimate of agricultural employment from the QCEW and eliminates the potentially outdated seasonal factors. Use of a 1-year lagged monthly estimate will incorporate seasonal trends into the estimate, simplifying the calculation and making it more responsive to long-term changes in seasonal patterns.

New procedure for estimating employment and unemployment at the county level. Labor market areas (LMAs) are independently estimated using a building block approach that incorporates the new methods discussed above and other methods still currently in use. The employment component is comprised of non-agricultural wage and salary employment, all-other employment and

agricultural employment. While the unemployment component is derived by summing the estimates of non-covered agricultural unemployment (if applicable), total unemployment insurance (UI) continued claims without earnings, unemployed exhaustees and unemployed entrants into the labor force.

The current procedure consists of first developing these independent substate estimates at the LMA level and then disaggregating them into counties and cities. With the exception of non-agricultural wage and salary employment, all inputs for estimating the components of employment and unemployment are readily available at the county level (Minor Civil Division (MCD) level in New England, MCDs being cities and towns). Aggregating these more geographically detailed data into LMAs is an unnecessary step that results in the distortion of these data when they are reallocated backed to the county level or MCD level, particularly for some of the unemployment components.

The new method proposes to first develop the independent substate estimates at county level and then sum them to their appropriate LMA. This approach will result in more accurate estimates and will allow better operational flexibility for future updates to the geographic definitions of LMAs as counties

(MCDs in New England) are the basic component of LMA geographic definitions issued by the Office of Management (OMB), as well as for small labor market areas as defined by the BLS.

The current method estimates the labor force in LMAs, which are defined to comprise one or more counties (MCDs in New England). Employment and unemployment inputs are entered at the LMA level. In a multi-county LMA, county unemployment estimates are disaggregated from the LMA using the share of UI claims for the experienced unemployed, the share of the 16-19 population for unemployed new entrants, and the share of the 20+ population for unemployed re-entrants.

The new procedures discussed above for estimating the employment components of all-other employment and agricultural employment produce these estimates at the county level. The non-agricultural wage and salary employment component, which is provided by the CES and the QCEW programs, is generally available at the LMA level and must be allocated into the counties that comprise the LMA. This will be accomplished by using ACS non-agricultural wage and salary employment ratios derived from the most recent ACS five-year dataset to distribute the CES/QCEW LMA data to its component counties (and MCDs in New England). This step is not needed for single county LMAs.

All of the necessary inputs for estimating unemployment are already available at the county (and MCD) level. The new procedure results in more accurate county estimates by estimating the level of persons who remain unemployed after exhausting their eligibility for unemployment insurance benefits (known as exhaustees) at the county level and by avoiding the disaggregation of entrants from interstate LMAs.

In the current method, if a layoff event occurs in a county that is part of a multi-county LMA, the exhaustees later associated with this event are not necessarily assigned to the county where the layoff occurred. This is because estimates of persons who have exhausted their eligibility for further UI benefits are disaggregated to a county using that county's share of persons who continue to be eligible for benefits. Using the new county-based methodology, each county will have its own independently estimated number of exhaustees, which will make it unnecessary to disaggregate exhaustees from the LMA level.

In addition, unemployed entrants to the labor force are allocated from a Statewide control total to the intrastate parts of interstate LMAs using ratios based on annually updated population data from the Census Bureau. These entrants are then

summed into their respective interstate LMAs before being disaggregated again using ratios based on population data specific to each interstate LMA. In some cases this two-step process has the effect of reallocating entrant unemployment estimates across State lines. Using the new county-based methodology, each county will be allocated its share of entrants in one step.

Detailed descriptions of the current and Redesign approaches are available at the above address and at the BLS LAUS Web site *http://www.bls.gov/lau/home.htm*.

II. Desired Focus of Comments

This notice is a general solicitation of comments from the public.

Comments submitted in response to this notice will be summarized and included in the Notice of Decision on this proposal.

Signed at Washington, DC, this 29th day of August 2014.

Eric Molina

Acting Chief, Division of Management Systems, Bureau of Labor Statistics.

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