Benchmarking the Current Employment Statistics survey: the past, present, and future

In the sample survey world, benchmarking is aligning a survey-based estimate with a population value. The Current Employment Statistics (CES) survey has benchmarked its employment estimates since 1935. This article introduces a set of four additional articles on this topic. These articles discuss the current benchmark practices, provide a general overview of research on benchmarking the CES data, and investigate a methodology that may ultimately improve those procedures.

Background

CES data, which include estimates of employment, hours, and earnings by industry for the nation, states, and metropolitan areas, are designated by the Office of Management and Budget as a principal federal economic indicator. These data are published at the national level about 3 weeks after the reference period, which is the pay period that includes the 12th, and at the state and area level about 5 weeks after the reference period. Because of the timeliness and accuracy of the data, they are used as a major factor in assessing the health of the national, state, and area economies.

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The CES survey has an unusual feature that most sample surveys do not have: it retrospectively adjusts its primary estimate of employment to a population value. For CES, this population value is a combination of data primarily from the U.S. Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages (QCEW), with additional data to account for employment not covered by QCEW. In adjusting this estimate to a population value, CES has what is essentially a measure of total survey error. In reality, this measure is an alignment of two values, each with its own sources of error. Nevertheless, this measure is a valuable tool in assessing the quality of the data from the CES survey.

CES data give a very timely measure of the health of the economy. Because of this, there is substantial interest in anything that might assess the quality of that data and in anything that might improve forecasts of the economy built with CES data as an input. Many data users compare CES estimates with data from the lagged QCEW when

they become available each quarter. By comparing these data, the data user is using the most recently available QCEW data to be informed of the potential size and direction of error in the more timely CES estimates. Data users are finding this quarterly evaluation to be highly valuable; therefore, BLS should consider benchmarking the CES data more frequently.

The goal of this set of articles is to describe for the reader the current methods used for CES benchmarking, to provide a bit of history about the CES survey and about its benchmarking procedures and related research, and to examine what a future procedure may look like.

Current practices

The CES survey currently aligns its data to population values using one benchmark procedure for national data and using another procedure for its state and area data. Briefly, the national procedure aligns its prior March estimates with a population estimate for that month, whereas the state and area data are benchmarked by replacing all months prior to March with population estimates. Two articles describe in more detail the current benchmark procedures, one for national estimates and one for state and area estimates.

Overview of research

A third article briefly discusses the history of CES benchmarking and summarizes current procedures. The article then describes one of the methods that some data users outside of BLS are using to develop early benchmarked estimates, by taking advantage of the quarterly publication of QCEW data. Next, the article describes why CES has not yet started benchmarking more than once a year; the reasons are focused on different seasonal patterns in the survey and population estimates and on resource constraints. Finally, the article provides an overview of recent research to find improvements to the current procedures.

A promising methodology

The fourth article examines the most promising benchmarking method researched to date. This method explicitly considers the different seasonal patterns in the survey and population data. Methods that do not explicitly account for the different seasonal patterns have proven to be unsatisfactory.

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