

**Department of Commerce
U.S. Census Bureau
OMB Information Collection Request
Service Annual Survey
OMB Control Number 0607-0422**

B. Collections of Information Employing Statistical Methods

1. Description of Universe

The Service Annual Survey (SAS) is a sample survey of approximately 78,000 firms having one or more service establishments. The sample size differs from the number of reporting units, which is 91,401, because firms are required to provide separate reports for each industry in which they are engaged. The sample represents a universe of approximately 4.6 million establishments, based on the Census Bureau's Business Register and Economic Census data.

2. Sampling Methodology and Estimation Procedures

a. Sampling Methodology

The current sample was introduced with the 2016 SAS. This sample was designed to produce estimates based on the 2012 North American Industry Classification System (NAICS). This section describes the design, selection, and estimation procedures for this sample. Similarly, a new sample will be introduced with the 2021 SAS survey year based on the 2017 Economic Census and will produce estimates based on the 2017 NAICS. For descriptions of prior samples, see the Service Annual Survey publications.

Sampling Frame

The Service Annual Survey sampling frame has two types of sampling units: single-establishment firms and large, multiple-establishment firms. The information used to create these sampling units was extracted from data collected as part of the 2012 Economic Census and from establishment records contained on the Census Bureau's Business Register as updated to December 2015. The sample is redesigned and reselected every 5 to 7 years to redistribute reporting burden and to introduce sampling and processing efficiencies.

To create the sampling frame, records are extracted for all employer establishments located in the United States that are classified in service sectors as defined by the 2012 NAICS. For these establishments the Census Bureau extracts revenue, payroll, employment, name and address information, as well as primary identifiers and, for establishments owned by multi-unit firms, associated EINs.

To create the sampling units for multi-unit firms, the extracted economic data are aggregated to a multi-unit firm level by tabulating the establishment data for all service establishments associated with the same firm identifier. No aggregation is necessary to put single-unit establishment information on a firm basis. Thus, the sampling units created for single-unit firms simultaneously represent establishment, EIN, and firm information.

Stratification

The SAS uses a stratified, one-stage design with primary strata defined by industry, tax status, and government ownership. There are 397 primary strata. Further stratification of the sampling units within industry group is done by a measure of size (substratification) related to their annual revenue. Sampling units expected to have a large effect on the precision of the estimates are selected “with certainty.” This means they are sure to be selected and will represent only themselves (i.e., have a selection probability of 1 and a sampling weight of 1). To identify the certainty units, a substratum boundary (or cutoff) is determined that divides the certainty units from the non-certainty units. These cutoffs are based on a statistical analysis of data from the 2012 Economic Census. Accordingly, these values are on a 2012 revenue basis. This analysis is also used to determine the number and boundaries of non-certainty substrata for each industry stratum and to set preliminary sampling rates needed to achieve specified sampling variability constraints on revenue estimates for different industry groups. The size substrata, substratum bounds, and sampling rates are later updated through analysis of the sampling frame.

Sample Selection

Sample selection is a two-step process and begins by identifying the firms selected with certainty. If a firm’s annual receipts are greater than the corresponding certainty cutoff, that firm is selected into the SAS sample with certainty.

In the second step, all firms not selected with certainty are subjected to sampling. To be eligible for the initial sample, a firm had to have nonzero payroll in 2014. The firms are stratified according to their major industry and their estimated revenue (on a 2012 basis). Within each non-certainty stratum, a simple random sample of firms is selected without replacement.

Sample Maintenance

The sample is updated to represent EINs issued since the initial sample selection. These new EINs, called births, are EINs that have an active payroll filing requirement on the Internal Revenue Service (IRS) Business Master File (BMF). An active payroll filing requirement indicates that the EIN is required to file payroll for the next quarterly period. The Social Security Administration attempts to assign industry classification to each new EIN.

EINs with an active payroll filing requirement on the IRS BMF are said by the Census Bureau to be "BMF active" and EINs with an inactive payroll filing requirement are said to be "BMF inactive."

EIN births are sampled on a quarterly basis using a two-phase selection procedure. To be eligible for selection, a birth must either have no industry classification or be classified in an industry within the scope of the Service Annual Survey (SAS), the Annual Wholesale Trade Survey (AWTS), or the Annual Retail Trade Survey (ARTS), and it must meet certain criteria regarding its quarterly payroll. In the first phase, births are stratified by broad industry groups and a measure of size based on quarterly payroll. A relatively large sample is drawn and canvassed to obtain a more reliable measure of size, consisting of revenue in two recent months and a new or more detailed industry classification code. Births are contacted by telephone if they have not submitted their questionnaire within 30 days.

In the second phase, using this more reliable information, the selected births from the first phase are subjected to probability proportional-to-size sampling with overall probabilities equivalent to those used in drawing the initial SAS sample from the December 2015 Business Register. Because of the time it takes for a new employer firm to acquire an EIN from the IRS and because of the time needed to accomplish the two-phase birth-selection procedure, births are added to the sample approximately nine months after they begin operation.

Births that are selected in the quarterly birth selection procedure in August and November of the reference year are included in the initial mailing of the SAS letters in January of the following year due to the proximity of the birth sampling process to the annual publication. To represent all EIN births in the reference year, and to account for the time it takes to identify and select new EINs, births are added to the SAS sample that are selected in February and May of the year following the survey's reference year. A letter will be mailed to these births in June to supplement the initial survey mailing.

To be eligible for the sample canvass and tabulation, an EIN or firm selected in the noncertainty sampling operations must meet both of the following requirements:

- It must have an active payroll filing requirement on the IRS BMF.
- It must have been selected from the Business Register in either the initial sampling or during the quarterly birth-selection procedure.

Any new establishments that a firm acquires, even if under new or different EINs, may be added to the sample as part of the initial sampling unit's representation, i.e., with same initial sampling weight. For noncertainty firms, additional evaluation may be done in some instances to determine the feasibility of adding the new establishments by evaluating the effect of the new establishments on the industry estimates.

Each quarter, the current Business Register is checked to determine if any sampling units on the SAS have become BMF inactive. Typically, BMF inactive sampling units are not canvassed during the reference year. Likewise, if any in-scope part of a previously inactive sampling unit (that was inactive in a previous reference year) is now BMF active on the current Business Register, it will be included in the canvass. In this case, data will only be tabulated for the portion of the reference year that the active part(s) of the sampling unit reported payroll to the IRS.

Non-Response

Data are imputed using survey data and administrative data as input for unit non-response, item non-response, and for responses that fail computer or analyst edits.

b. Estimation Procedure

Totals are computed as the sum of weighted data (reported and imputed) for all selected sampling units that meet the sample canvass and tabulation criteria given above. The weight for a given sampling unit is the reciprocal of its probability of selection into the sample. The estimates are adjusted using the results of the most recent Economic Census. Variances are estimated using the method of random groups.

Benchmarking

There are two situations when benchmarking is performed for the SAS. Benchmarking is used when a new sample is introduced to link the new and prior samples and maintain the consistency of the time series. Also, published estimates from the SAS are benchmarked using the latest results from the Economic Census as they become available as described on <https://www.census.gov/services/sas/benchmark.html>.

3. Methods to Maximize Response

The initial letter (Attachment 8) is typically mailed one month after the data-year ends. The letter explains the necessity and use of the data, states the respondents' authentication code, and provides the website where the respondent can report online and access the current year worksheet(s) (Attachment 3). In an effort to promote electronic reporting, paper forms have been eliminated from the initial and follow-up mailings and respondents are instructed to provide data electronically.

A due date reminder is mailed approximately two weeks before the SAS survey is due. The SAS utilizes two follow-up mailings for delinquent cases. The first follow-up is sent approximately two months after the initial mailout. The second follow-up is sent approximately one month after the first follow-up. There is an option for a third follow-up mailing approximately three months after the second follow-up. Delinquent

cases are also followed up by telephone approximately two weeks after the second follow-up mailing.

Firms are given at least 30 business days to respond to the initial mailing and are given extension dates upon request. The Census Bureau also provides a telephone number for assistance with any questions or concerns about the survey. The unit response rates for the most recent completed surveys are:

<u>Year</u>	<u>Unit Response Rate</u>
2016	68.31%
2015	73.60%
2014	73.72%

Unit and dollar volume response rates are analyzed prior to each follow-up mailout and survey closeout to ensure they meet Census Bureau standards for being published. If response rates are too low and fail to meet publication requirements, additional follow-up with delinquent companies may be performed including certified mailout and/or worksheet mailout.

In an effort to improve response rates, the Census Bureau conducts a number of activities throughout each survey year. These activities are as follows:

- **Ongoing forms review:** Forms are reviewed to ensure clarity and consistency with industry trends. Burden is also analyzed and necessary changes are made to improve the impact on respondents' time. Beginning in survey year 2018, the number of expense questions will be reduced in non-Economic Census years to decrease respondent burden. Reducing the burden for SAS forms will help to increase response rates and will bring the SAS burden per respondent more in line with the ARTS and AWTS surveys.
- **Respondent reminders and follow-ups:** As previously mentioned, respondents will receive letters informing them that their survey still needs to be completed and where they can access it. Respondents will also receive an email reminder if they have already registered and started their survey, but have not completed it. A telephone follow-up is scheduled for all surveys with nonresponse. All delinquent cases will be called in the beginning, but as time progresses, cases will be targeted based on unit and total quality response goals.
- **Respondent customer service:** With the new Respondent Portal, respondents can communicate more easily with Census Bureau staff. From within the portal, they can send secure messages directly to analysts. The Census Bureau staff also provides assistance to respondents by walking them through forms if necessary, explaining specific items on forms, granting extensions, helping with access to forms and any technical issues, and taking responses to the survey over the phone if needed. Quality customer service helps to ensure respondents will continue to participate in the SAS survey.

- **Full-service account manager program:** This program establishes a single point of contact for each company from within the Economic Directorate to discuss and resolve issues. The goal of the full service account manager program is to collect timely and accurate response information, provide outstanding customer service, work with respondents and programs to resolve coherence issues, and create customized respondent reporting arrangements. This program is geared toward larger and more complex companies that participate in various Census Bureau surveys.
- **Trade association outreach:** Analysts develop relationships with various trade associations in their respective industries by establishing contact with a representative from within the trade association. This connection is established to develop a working relationship with someone within the association who uses Census Bureau data or should know about Census Bureau data products and how it could be beneficial to their association and its members. This connection allows for the possibility of Census Bureau data products and survey information to be promoted to members within the trade association.

4. Tests of Procedures or Methods

Procedures in every phase of the SAS are tested – from mailout and data capture to editing and publication.

5. Contacts for Statistical Aspects and Data Collection

Direct questions regarding the planning and implementation of this survey to Andrew Baer, U.S. Census Bureau, (301) 763-3183 or via email at Andrew.L.Baer@census.gov. Questions regarding survey methodology should be directed to Katrina Washington, U.S. Census Bureau, (301) 763-7212 or via email at Katrina.T.Washington@census.gov.

List of Attachments

1. Operating Expense Question by Variation
2. Survey Year 2018 Content Changes
3. Detailed Electronic Form Collection & Representative Survey Worksheets
4. Screen Shots from the Electronic Instrument
5. Reminder Email
6. Letter of support from the Bureau of Economic Analysis
7. Letter of support from the Centers for Medicare and Medicaid Services
8. Initial, Due Date Reminder, and Follow-up Letters
9. Total Respondent Burden Estimates