

**Department Of Commerce**  
**U.S. Census Bureau**  
**OMB Information Collection Request**  
**Monthly Wholesale Trade Survey**  
**OMB Control Number 0607-0190**

**PART B. COLLECTION OF INFORMATION EMPLOYING STATISTICAL METHODS**

**1. Universe and Respondent Selection**

**Sample Revision:** A sample revision is the process used to re-design and re-select the samples for many of the Census Bureau's surveys of the retail, wholesale, and service industries. We do a sample revision approximately every 5-7 years. This process is performed to:

- ensure each sample is representative of its target population
- improve the efficiency of each sample
- incorporate updates to the industry classification structure
- update questions and instructions to obtain more accurate data
- redistribute burden for small and medium size businesses

The current wholesale sample was introduced in April 2018. The following sections describe the methodology of the current sample.

**Sampling Frame:** The sampling frame used for the MWTS consists of firms. The firms consist of one more establishments. We create these sampling units from data collected as part of the 2012 Economic Census and from establishment records contained in the Census Bureau's Business Register as of October 2015.

To create the sampling frame, we extract the records for all employer establishments located in the United States and classified in the Wholesale Trade sector as defined by the 2012 NAICS. For these establishments we extract sales, end-of-year inventories, payroll, employment, name and address information, wholesale type of operation code (TOC), as well as primary identifiers and associated Employer Identification Numbers (EINs). We use the TOC to distinguish between three different types of wholesale establishments: (1) merchant wholesale establishments, excluding manufacturers' sales branches and offices; (2) manufacturers' sales branches and offices; and (3) agents, brokers, and business electronic markets. To create the sampling units, we aggregate the establishment data for all wholesale establishments associated with the same firm identifier. In some cases, a multi-unit firm has establishments active in more than one wholesale TOC. In these situations, we create firm-level sampling units for each type of operation. 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 and firm information.

The sample for the Annual Wholesale Trade Survey (AWTS) consists of three separate samples – one for each wholesale TOC. The MWTS is a subsample of the selected AWTS cases that are classified as merchant wholesale establishments, excluding manufacturers' sales branches and offices.

**Stratification:** The sample for the MWTS uses a stratified, one-stage design with primary strata defined by industry. There are 56 primary strata for the merchant wholesale establishments, excluding manufacturer' sales branches and offices. We further stratify the sampling units within industry group by a measure of size (substratify) related to their annual sales. 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). Within each industry stratum, we determine a substratum boundary (or cutoff) that divides the certainty units from the noncertainty units. We base these cutoffs on a statistical analysis of data from the 2012 Economic Census. Accordingly, these values are on a 2012 sales basis. We also used this analysis to determine the number of size substrata for each industry stratum and to set preliminary sampling rates needed to achieve specified sampling variability constraints on sales estimates for different industry groups. The size substrata 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 sales or end-of-year inventories are greater than the corresponding certainty cutoff, we select that firm into the MWTS sample with certainty.

In the second step, we subject all firms not selected with certainty to sampling. To be eligible for the initial sampling, a firm had to have nonzero payroll in 2014. We stratify the firms according to their major industry and their estimated sales (on a 2012 basis). Within each noncertainty stratum, we select a simple random sample of firms without replacement.

**Sample Maintenance:** We update the sample to represent EINs issued since the initial sample selection. These new EINs, called births, are EINs, recently assigned by the Internal Revenue Service (IRS), that have an active payroll filing requirement on the IRS Business Master File. 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 Business Master File we refer to as “BMF active,” and EINs with an inactive payroll filing requirement as “BMF inactive.”

We sample EIN births 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, the Annual Wholesale Trade Survey, or the Annual Retail Trade Survey, and it must meet certain criteria regarding its quarterly payroll. In the first phase, we stratify births by broad industry groups and a measure of size based on quarterly payroll. We select and canvass a relatively large sample to obtain a more reliable measure of size, consisting of sales in two recent months and a new or more detailed industry classification code. We contact births by telephone if they have not returned their questionnaire within 30 days.

Using this more reliable information, in the second phase we subject the selected births from the first phase to probability proportional-to-size sampling with overall probabilities equivalent to those used in selecting the initial MWTS sample from the October 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, we add births to the sample approximately nine months after they begin operation.

In general, we will include any new establishments that a firm acquires—even if under new or different EINs—into sample with the same sampling status as the original firm.

Each quarter, we check against the current Business Register to determine if any EINs on the survey have become BMF inactive. Typically, we do not canvass BMF inactive EINs during the reference month. Likewise, if any EIN on the survey were BMF inactive in a previous reference month and is now BMF active on the current Business Register, we again include these EINs in the canvass. In both cases, we only tabulate data for that portion of the reference year that these EINs reported payroll to the IRS.

Because births are not represented in the monthly survey until they go through the two-phase selection procedure, an interim procedure is used to account for births during the period of time between the onset of activity and the time of birth selection. This interim procedure consists of imputing data for all EINs currently in the monthly survey that go out of business but are still on the IRS BMF.

Births are added to the monthly survey in February, May, August, and November of each year. At the same time, inactive EINs are removed from the survey. To minimize the effect of births and inactive EINs on the month-to-month change estimates, we phase in these changes by incrementally increasing the sampling weights of the births and decreasing the sampling weights of the inactive EINs in a similar fashion. In the first month, we tabulate the births at one-third their sampling weight and tabulate the inactive

EINs at two-thirds their sampling weight. In the second month, we tabulate the births at two-thirds their sampling weight and tabulate the inactive EINs at one-third their sampling weight. In the third month, we tabulate the births at their full sampling weight and the inactive EINs are dropped (sampling weight equal zero).

**Estimation procedures:** Estimates of monthly sales and end-of-month inventories are derived from data collected in the MWTS. Each month, firms in the MWTS sample are asked to report their sales and inventories data for the month just ending. Monthly 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. The weight for a given sampling unit is the reciprocal of its probability of selection into the MWTS sample.

The monthly totals are then benchmarked to the latest totals from the Annual Wholesale Trade Survey (AWTS).

Monthly total estimates for broad industry groups (e.g., 2-, 3-, and 4-digit NAICS levels) are computed by summing the benchmarked monthly totals for the appropriate detailed industries comprising the broader industry group.

Period-to-period (e.g., month-to-month) change estimates are computed using the benchmarked monthly totals.

Variances are estimated using the method of random groups.

**Seasonal adjustment:** Estimates are adjusted for seasonal variation and holiday and trading-day effects where appropriate using the X-11 filter-based adjustment procedure available in the Census Bureau's X-13ARIMA-SEATS (AutoRegressive Integrated Moving Average – Signal Extraction in ARIMA Time Series) program. Seasonal adjustment models are reviewed on an annual basis.

## 2. Procedures for Collecting Information

The sample is a probability sample selected from merchant wholesale employers (NAICS sector 42), excluding MSBOs, contained in the Census Bureau's Business Register, which covers all employers who make social security payments for their employees under the Federal Insurance Contributions Act.

There are approximately 4,200 merchant wholesale firms included in the survey. Of this number, about 1,700 are large firms and were selected with certainty (100 percent chance of selection). The remaining 2,500 respondents are small and medium-sized firms and were selected with noncertainty.

Data for the MWTS are obtained at the 6-digit NAICS level with all intermediate and summary tables obtained by summation. Tabulations will include estimates on sales, inventories, and inventories-to-sales ratios. Data for the MWTS are published at the 2-, 3-, and 4-digit NAICS level and one 5-digit level for NAICS 42343, computer and computer peripheral equipment and software merchant wholesalers.

Statistical analysis of the monthly data will be based on comparison of the monthly data to:

- (1) historic monthly survey results;
- (2) the results of the Annual Wholesale Trade Survey;
- (3) the results of the most recent Economic Census; and
- (4) published trade, business, and media reports.

Comparisons of the monthly estimates to current and prior year annual and monthly estimates are produced by the use of data edits that identify firms exceeding predetermined tolerance cutoffs. The tolerance cutoffs specify acceptable dollar level and percent differences between the annual data, the previous annual estimates, and monthly data. Data analysis also includes research of inventories-to-sales ratios. Also, an analysis is made at the detailed NAICS level to determine if data reported for each subsector appear acceptable.

The preliminary average response (in terms of dollar volume) to this voluntary survey was about 64 percent for sales and 64 percent for inventories for the first six months of 2019. The 2019 average response (in terms of units) to this voluntary survey was about 62 percent for the first six months. It should be noted that the average responses above include two months with delayed data collection and processing due to the impacts of the lapse in federal funding.

### **3. Methods to Maximize Response**

Contacts have the option to receive an e-mail or fax notification of when the reporting period opens online or they can receive a mailed form. The MWTS is mailed to businesses the last business day of each calendar month, while the facsimile and e-mail are sent out a couple business days later. Responses can be provided via mail, facsimile, telephone, or Internet.

The National Processing Center in Jeffersonville, Indiana, performs a fax reminder (Attachment 8) and/or telephone follow-up for all firms that have not responded by a certain date. The telephone follow-up is also used if firms have not completely filled out the form or have reported questionable data that may be unacceptable for the wholesale sales and inventories estimates. Firms that refuse to respond to the survey are called to convey the importance of their participation.

A fax machine connected to an "800" telephone line permits fax reporting to our collection facility on a 24-hour basis. The Census Bureau also has an "800" toll-free telephone number in both Washington, D.C. and Jeffersonville, Indiana, to permit respondents to call in data or ask questions without extra expense. A Frequently Asked Questions section on our website also provides respondents a simple way to obtain answers to their questions. Respondents can also report online through the "Centurion" system, which allows respondents to report 24 hours a day, 7 days a week, at their convenience.

Due to the increased use of online reporting and decreased reporting through facsimile, we will be working on phasing out the use of outgoing facsimiles to companies in the upcoming months. There will be no change to incoming fax reporting and respondents will continue to have the option to report via fax to our collection facility.

To help maximize response, we conducted specialized efforts with companies reluctant to participate in the survey. With the introduction of our latest sample, we re-mailed surveys to companies that declined to participate on the prior sample in hopes of obtaining their response on the current sample.

#### **4. Testing of Procedures or Methods**

We continuously edit the reported data and monitor procedures for collecting monthly wholesale sales and inventories data in an effort to reduce reporting burden and improve data quality.

#### **5. Contacts for Statistical Aspects and Data Collection**

Direct questions regarding statistical aspects and data collection to Aidan Smith, Chief of the Current Wholesale Branch, Service Sector Statistics Division, U.S. Census Bureau, (301) 763-2972.

### **Attachments**

- 1. Copy of MWTS-L1**
- 2. Copy of SM4217-A**
- 3. Copy of SM4217-E**
- 4. Copy of Centurion Letter MWTS-F1**
- 5. Centurion Login Screen**
- 6. BEA Support Letter**
- 7. Burden Statement Screen**

- 8. Copy of Fax Reminder MWTS-F2**
- 9. Initial E-mail**
- 10. E-mail Reminder**
- 11. Annual Letters**