

SUPPORTING STATEMENT
U.S. Department of Commerce
U.S. Census Bureau
Monthly Wholesale Trade Survey
OMB Control No. 0607-0190

PART B. COLLECTION OF INFORMATION EMPLOYING STATISTICAL METHODS

1. Universe and Respondent Selection

Sampling Frame: The sampling frame used for the MWTS has two types of sampling units: Employer Identification Numbers (EINs) and large, multiple-establishment firms. Both sampling units represent clusters of one or more establishments owned or controlled by the same firm. The information used to create these sampling units was extracted from data collected as part of the 2002 Economic Census and from establishment records contained in the Census Bureau's Business Register as updated to December 2004.

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 2002 NAICS. For these establishments we extract sales, payroll, employment, name and address information, wholesale type of operation code, as well as primary identifiers and, for establishments owned by multi-unit firms, associated EINs. We use the type of operation code to distinguish between different types of wholesale establishments. To create the sampling units for multi-unit firms, we aggregate the economic data of the establishments owned by these firms to an EIN level by tabulating the establishment data for all wholesale establishments associated with the same EIN. Similarly, we aggregate the data to a multi-unit firm level by tabulating the establishment data for all wholesale establishments associated with the same alpha number. In some cases, a multi-unit firm has establishments active in more than one wholesale type of operation (merchant wholesalers excluding MSBOs and agents and brokers). In these situations, separate EIN level and firm level sampling units are created for each type of operation. No aggregation is necessary to put single-unit establishment information on an EIN basis or a firm basis. Thus, the sampling units created for single-unit firms simultaneously represent establishment, EIN, and firm information.

Stratification: The primary stratification of the sampling frame is by industry group based on the detail required for publication. 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 2002 Economic Census. Accordingly, these values are on a 2002 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: The first step in the sample selection is to identify firms selected with certainty. If a firm's annual sales or end-of-year inventories were greater than the corresponding certainty cutoff, that firm was selected into the MWTS sample with certainty.

All firms not selected with certainty were subjected to sampling on an EIN basis. If a firm had more than one EIN, we treated each of its EINs as a separate sampling unit. To be eligible for the initial sampling, an EIN had to have nonzero payroll in 2003. The EINs were stratified according to their major industry and their estimated sales (on a 2002 basis). Within each noncertainty stratum, a simple random sample of EINs was selected without replacement.

Sample Maintenance: Periodically, we update the sample to represent new EINs appearing on the Business Register. These new EINs, called births, are EINs recently assigned by the IRS on the latest available IRS mailing list for FICA taxpayers and assigned an industry classification (if possible) by the Social Security Administration.

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 MWTS, and it must meet certain criteria regarding its number of paid employees or 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 selected using equal probability systematic sampling. The selected births are canvassed to obtain a more reliable measure of size, consisting of sales in two recent months, company affiliation information, and a new or more detailed industry classification code. Births that have not returned their questionnaire after 30 days are contacted by telephone.

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 MWTS sample from the December 2004 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 samples approximately nine months after they begin operation.

If a firm was selected with certainty and had more than one establishment at the time of sampling, any new establishments that the firm acquires, even if under new or different EINs, are included in the sample with certainty. However, if a single-unit firm was selected with certainty, only future establishments associated with that firm's originally-selected EIN are included in the sample with certainty; any new EINs that might later be associated with that firm are subjected to sampling through the quarterly birth-selection procedure. Single-unit EINs selected into the sample with certainty are not dropped from canvass and tabulation if they are no longer on the IRS mailing list. Rather, the firm that used the EIN is contacted, and if a successor EIN is found, it is added to the survey. For both inactive and reactivated EINs, data are tabulated for only the 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 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 mailing list.

Births are added to the monthly survey in February, May, August, and November of each year. At the same time, deaths are removed from the survey. To minimize the effect of births and deaths 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 deaths in a similar fashion. In the first month, we tabulate the births at one-third their sampling weight and tabulate the deaths at two-thirds their sampling weight. In the second month, we tabulate the births at two-thirds their sampling weight and tabulate the deaths at one-third their sampling weight. In the third month, we tabulate the births at their full sampling weight and the deaths 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 inventory 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 given below. 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 AWTS. Period-to-period (e.g., month-to-month) change estimates are computed using the benchmarked monthly totals. To be eligible for the sample canvass and tabulation, an EIN selected in the noncertainty sampling operations must meet both of the following requirements:

- It must be on the latest available IRS mailing list for FICA taxpayers from the previous quarter.
- It must have been selected from the Business Register in either the initial sampling or during the quarterly birth-selection procedure.

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. Variances are estimated using the method of random groups.

Seasonal adjustment: Estimates are adjusted for seasonal variation and trading-day differences using the Census Bureau's X-12 ARIMA program.

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 FICA.

There are approximately 4,500 merchant wholesale firms included in the survey. Of this number, about 1,800 are large firms and were selected with certainty (100 percent chance of selection). The remaining 2,700 respondents are smaller 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/sales ratios. Data for the MWTS are published for four-digit and selected five-digit NAICS levels and total summary levels.

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

- (1) annual survey estimates;
- (2) prior year monthly and annual survey results;
- (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 wholesale data. Data analysis also includes research of inventory-to-sales ratios. Also, an analysis is made at the detailed NAICS level to determine if data reported for each subsector appear acceptable.

In terms of dollar volume, these estimates have a high BEA priority because of their timeliness. The 2007 average response (in terms of dollar volume) to this voluntary survey was about 77 percent for sales and 75 percent for inventories. The 2007 average response (in terms of units) to this voluntary survey was about 79 percent for sales and 69 percent for inventories.

3. **Methods to Maximize Response**

The NPC in Jeffersonville, Indiana, performs a telephone follow-up for all firms that have not responded by a certain date and for those firms that have not completely filled out the form or have reported questionable data that may be unacceptable for the wholesale sales and inventory 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.

4. **Testing of Procedures**

We continuously edit the reported data and monitor procedures for collecting monthly wholesale sales and inventory data in an effort to reduce reporting burden and improve data quality. Budget permitting, we plan to conduct future content evaluation surveys to measure nonsampling error and ways to reduce reporting burden.

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

Direct questions regarding the sample design and statistical methodology used for this survey to Ruth Detlefsen, Assistant Division Chief for Research and Methodology, Service Sector Statistics Division, U.S. Census Bureau , (301) 763-5171.

Direct questions regarding the planning and implementation for this survey to John Miller, Chief of the Current Wholesale Branch, Service Sector Statistics Division, U.S. Census Bureau, (301) 763-2758.

Attachments

- 1 **BEA Support Letter**
- 2 **Copy of SM-42(06)**
- 3 **Copy of MWTS-L1**