

1SUPPORTING STATEMENT - PART B
U.S. Department of Commerce
U.S. Census Bureau
Manufacturers' Shipments, Inventories, and Orders Survey
Form (M-3(SD))
(OMB Control No. 0607-0008)

B. Collection of Information Employing Statistical Methods

1. Description of Universe

The universe for the M3 survey includes all manufacturing companies in the most recent economic census and companies or units of companies supplemented through M3 analyst research. There were approximately 256,000 companies in the Manufacturing Sector of the 2012 Economic Census, representing almost 291,000 establishments. The target sample for the M3 survey includes all companies with at least \$500 million in annual manufacturing shipments and a supplemental panel of all other manufacturing companies. In addition, the M3 staff stays apprised of recent company merger and acquisition activity, as well as company births and deaths, and they adjust the survey panel accordingly. There were approximately 1,205 manufacturing companies exceeding \$500 million of manufacturing shipments in the 2012 Economic Census. Of these large manufacturing companies, about 52 percent currently report shipments data in the M3 survey, and this increases to about 65 percent when also including companies for which shipments data are imputed. In an attempt to improve the coverage of the M3 survey panel, the M3 staff plans to research the large manufacturing companies for which shipments data are currently neither reported nor imputed in the M3 survey. Because of the voluntary nature of the M3 survey and the fact that a number of companies have a policy of not responding to voluntary surveys, some in-scope companies are not included in our panel. The actual panel consists of approximately 3,000 companies.

For this survey panel, we request large diversified companies to submit separate reports monthly for each division or "natural business unit" with significant manufacturing activity, and for which they maintain monthly data for their own financial and managerial purposes. These reports generally correspond to the statistical industry categories for which we prepare estimates in the survey. However, the divisional structure of some companies does not correspond closely to our industry categories, thus we request additional allocations of data for industries in which there is a significant amount of manufacturing activity. For example, a company may compile financial records for one business unit, which corresponds to a combination of two or more of our industry categories. In this situation, we ask the company to allocate the data from their single-business unit to our multiple industry categories. Because some companies have more than one

business unit, we request data for approximately 4,800 reporting units from approximately 3,000 companies. For homogeneous companies that consist of a single business unit, the company is the reporting unit. Despite extensive efforts to maximize response, we have maintained an average 72 percent return rate within a declining manufacturing universe. See the discussion under (B.3) Efforts to Maximize Responses for more details. The companies for which shipments data are currently reported or imputed in the M3 survey represent approximately 61 percent of the total value of shipments in the 2012 Economic Census, with approximately 54 percent of the total value of shipments represented by companies currently reporting shipments data in the M3 survey.

2. Sampling Methodology and Estimating Procedures

The panel for this survey consists of nearly all manufacturing companies with annual shipments of \$500 million or more and a small sample of companies with \$50 to \$499 million annual shipments that are willing to report on a voluntary basis. We review and supplement the large company stratum regularly with companies that are willing to report in the survey. The sample of smaller companies was introduced in 1978 and supplemented in 1993 for industries where smaller companies carry a greater influence on the data. In 2007, an augmentation of the M3 survey panel was conducted to improve the quality of the estimates. The M3 survey staff mailed surveys to an additional 380 companies in targeted industries to increase or maintain response and coverage rates; 244 responding companies were added to the M3 database through this targeted augmentation effort.

We develop the monthly estimates in the survey from beginning historical points for shipments, unfilled orders, and inventories, which are linked forward by monthly ratios of change of comparable sets of reporting companies. The new orders data are derived from the shipments and from the month-to-month difference in unfilled orders data. We benchmark the monthly shipments and inventory data to the Annual Survey of Manufactures (ASM) and the manufacturing sector of the Economic Census, as those data become available. The results of the most recent benchmark were released in May 2013. We benchmark the monthly unfilled orders data using adjusted estimates from the annual Manufacturers' Unfilled Orders Survey.

The benchmarking procedure is designed to minimize the revision to the month-to-month percent change. Since corrections of the aggregate data for a year are usually 2 percent or less, corrections to the monthly estimates are generally small and rarely cause significant changes to the trend in the monthly data.

We impute for companies that do not respond to the survey by applying the average percentage change for the industry to their prior period data. However, if

a company demonstrates historically unique monthly patterns in their data, we impute by using the trends of their previous data.

3. Efforts to Maximize Responses

As an ongoing portion of our analysts' work, all analysts contact delinquent companies by telephone to encourage response. We currently have a program in place that requires analysts to attract or retain at least five new or non-responding large companies per month to the survey. In order to maintain and enhance current response levels, staff mail out to an average of thirty new companies per month. Budget permitting, M3 has a company visitation program in which analysts visit companies that have been determined to be critical to the M3 survey.

Despite these efforts the survey faces several challenges in attracting and retaining respondents. The voluntary nature of the survey continues to be a problem as more and more companies are refusing to report on voluntary surveys like the M3. The high level of mergers and acquisitions over the past three years has also been a problem as currently reporting companies have been absorbed by companies that have chosen not to respond.

We believe we will have more success in obtaining new reporters than we have had in the past as we continue to provide easier choices of reporting methods and can demonstrate the ease of reporting using simplified data collection instruments. Currently, all new company additions to the survey are encouraged to report via Centurion internet-based collection instrument. See the discussion under (A.3) Use of Information Technology for more information on these reporting methods.

4. Tests of Procedures or Methods

The results of the methods for developing shipments, inventory, and unfilled orders data are regularly verifiable when benchmark data become available from the ASM, Economic Census, and the Manufacturers' Unfilled Orders Survey. We recently completed an evaluation of the M3 survey as required by the Statistical Policy Directive on Compilation, Release, and Evaluation of Principal Federal Economic Indicators. This evaluation was submitted to the OMB in December 2011.

5. Contacts for Statistical Aspects and Data Collection

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Appendices

- A. Form
- B. Transmittal Letters
- C. Advance Report on Durable Goods
- D. Manufacturers' Shipments, Inventories, and Orders Report
- E. Instruction Manual