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Response Improvement

IMPROVING THE RESPONSE RATES FOR ECONOMIC SURVEYS

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The rates of response to the Bureau of the Census economic surveys, although higher than those achieved by many foreign countries and private organizations conducting similar types of surveys, have declined in recent years. Our surveys are relied upon by Government and the public for economic policy making, planning, and measurement. Because nonresponse adversely affects the validity of any survey data, the Census Bureau is committed to reversing the trend toward higher nonresponse. Therefore, current survey methods for improving response rates are being reviewed intensively; new strategies for improvement are being developed. We encourage comments, suggestions, and guidance from experts outside the Census Bureau to aid us in this effort. To aid you, this paper provides background information about nonresponse experience in some of the economic programs, steps we have taken to encourage response, and further steps under consideration.

Nonresponse--Current Status

The serious problem of nonresponse is common to all economic surveys. A considerable amount of time and resources are devoted to minimizing the contribution of nonresponse imputation to published data. The success of these efforts varies among all surveys, with mandatory reports, for the most part, substantially outperforming those on a voluntary basis. Other contributing factors to differing response rates are the availability of data items requested, the time frame for reporting, competing Census Bureau and other government agency requests, and cost of preparation. A complete study of the broad range of economic surveys and an analysis of the variables associated with each one is unnecessary to understand the problem. (As a part of the Census Bureau's formal Strategic Plan on improving response and studying differential quality standards, this overall analysis is underway.) Instead, I have chosen two examples to illustrate declining response rates--the Manufactures' Shipments, Inventories, and Orders (M3) survey and the Quarterly Financial Report (QFR) survey.

The Manufactures' Shipments, Inventories, and Orders (M3) survey is the most important single-monthly voluntary survey conducted in Industry Division. Responses to this survey are elicited from major divisions of companies rather than from establishments. The M3 is used for monitoring the manufacturing sector of the economy, both at the all manufacturing level and for specific industries. This survey is one of the Federal Government's principal economic indicator surveys in that it provides important economic indicators of changes or expected changes in the level of manufacturing. The data are used by several government agencies in analyzing economic conditions, forecasting future trends, and determining current economic policy, as well as to provide important components of the GNP estimates. They are also widely used by businesses and academia in production planning and market analysis.

This survey particularly has had problems maintaining reporting levels in recent years. The M3 panel consists basically of any companies willing to report, all of which are panel members of the Annual Survey of Manufactures (ASM). This survey has very little representation of medium or small-sized companies and therefore is used to make estimates based essentially on month-to-month changes reported by large companies. A special group of large companies have been categorized as "must" cases. These are cases where one or two reports make up a major portion of an estimate. This survey will not be published until data is reported or estimated for these companies. A problem unique to the M3 survey exists in that advance estimates for durable goods are published around the 20th of the following month, causing many respondents to be rushed to get their data together.

Voluntary responses to the M3 survey have declined significantly in recent years. In addition to reduced response rates, voluntary M3 survey responses have declined in the qualitative sense. Companies dropped from the survey panel because of chronic nonresponse have been disproportionately small and medium-sized companies, and these are no longer adequately represented in M3 survey estimates. Many large corporations do not report separate division-level data, and the absence of division detail limits data quality for several industry groups.

Evidence of serious data quality concerns are found at the two-digit industry group level when annual M3 survey totals are benchmarked to the mandatory Annual Survey of Manufactures. In recent years, the M3 annual totals for all manufacturing industries have been reasonably comparable to the annual benchmark totals; however, this concordance of results at the all-industries level obscures substantial offsetting revisions that are required at the 2-digit industry group level (including more than +14 percent in 1981 for rubber and plastic products, and +12 percent in 1980 for petroleum and coal products). Accurate M3 survey data at the industry-group level, as well as for all industries, are required to support effectively the primary M3 data users.

The QFR also is one of the Federal Government's principal economic indicators. The survey provides the most current and comprehensive quarterly data on business financial conditions of U.S. corporations, by two-digit industry group and asset size. Data are presented in estimated statements of income and retained earnings, balance sheets,

and related financial and operating ratios for manufacturing, mining, and trade corporations. The data are used by the Commerce Department as important components in determining corporate profits, taxes, and dividends for the quarterly estimates of gross national product and national income. Other government agencies, congressional committees, trade associations, banks, and academia use QFR as a primary source of financial data.

Response by the 14,000 companies included in the survey panel is mandatory under Title 13. Similarly, when the program was conducted at the Federal Trade Commission (transfer to the Census Bureau was made in December 1982) response was mandatory under the Federal Trade Commission Act. Even with this authority, reports have been difficult to obtain from small and medium-size firms. The unavailability of data and personnel to satisfy the QFR data request are their usual excuses for nonfiling. Larger firms that have difficulty reporting complain about QFR's unconventional consolidation rules and 25 day reporting requirement. Nevertheless, response rates (calculated as the percent of the active companies mailed to that filed acceptable reports) for the manufacturing and mining divisions are in the low to mid 80-percent range; wholesale trade rates are somewhat lower and retail trade rates are at or near 70 percent. To put this in perspective, since 1982 the overall survey response rate has fallen almost 8.5 percent, which represents an increase in noncompliance by about 1200 companies. Response rates for small and medium asset size companies in wholesale and retail trade have fallen by more than 11 percent in less than three years, and by 10 percent in manufacturing over the same period.

While the increase in the nonresponse rate is primarily attributable to small and medium-size company delinquency, the quality of data submitted by large companies has worsened. Critical rules of consolidation, adopted to facilitate gross national product and national income estimates, are not adhered to by a growing number of large corporations. Also, the larger corporations have been less cooperative in correcting deficiencies discovered in the review and edit process.

To summarize, in both surveys, declines in small and medium-size company response have lead to inadequate representation of the activities of this vital segment of the economy. Lack of adherence to rules for reporting undermines the accuracy of the data sets. Improper consolidation in QFR reports and aggregation at higher than the division level in M3 reports lead to incorrect totals at the two-digit industry group level. Data at this level are the most widely used in both the public and private sectors.

Steps Taken to Encourage Response

At the Census Bureau, a wide variety of techniques are used to help prevent nonresponse or to increase response rates. Most of these are used for all or nearly all the economic surveys with the main difference being the amount of resources allocated to each survey or the specifics of the technique.

1. Work with respondents and data users--In-depth analyses of the need and reportabililty of data items on each form are performed. Consultations both in and outside the Government help determine the justification for the collection of data items chosen. Trade associations' and respondents' advice is sought on the classification of product and material details and the feasibility of reporting special items or modified questions.

2. Questionnaire design--The layout and design of the questionnaires are considered for ease of respondent reporting. Data items are grouped in convenient sequences with brief and clearly-stated instructions for the respondent. In some cases, questionnaires are tailored for a single industry or small group of industries so different forms of the questionnaire exist for the same survey. Another questionnaire design technique is to use short forms that require small firms to answer only the most important items.

3. Sample design--Samples are selected such that smaller firms and establishments are rotated out of panels at varying intervals. If more than one subsample is drawn from a primary panel, attempts are made to not include the same smaller firms in more than one subsample.

4. Administrative records--Whenever possible, to save the very small firms from having to fill out a survey form, a few data items are taken from tax and social security records. This helps keep response rates higher because the very small firms are poor respondents, and it is not cost effective to use very many resources to get these companies to report.

5. Mandatory authority--The Census Bureau has mandatory authority for all surveys conducted annually or less frequently. Reporting is required for only a few surveys conducted monthly or quarterly. Also, mandatory authority cannot be used for surveys we conduct but which are sponsored by another agency or by a trade association. Whether a survey is mandatory or voluntary is clearly stated in the instructions and any correspondence.

6. Confidentiality of data--All survey forms and any correspondence clearly state that the data being collected can be seen only by sworn Census Bureau agents and used only for statistical purposes. We believe our record of not disclosing the data for any one respondent is very important and guard it carefully.

7. Prior information--A variety of information is provided to respondents either before or at the time the survey is mailed. Frequently, brochures are mailed explaining the survey and its importance. In some surveys, early mailings of a copy of the questionnaires are used for selected large companies as well as companies that have reported late in prior years. This makes them aware of any record-keeping practices they need to change as well as any scheduling of staff time needed to complete the questionnaire. Companies are also asked to furnish the name of a primary contact.

8. Due dates for response and use of estimates--Every attempt is made to allow as much time as possible for the response. While due dates are included on the forms, an extension of time is allowed within the constraints of deadlines. When actual data are not available, reasonable estimates are acceptable.

9. Follow-up activities--Measures taken to solicit response from delinquent firms and establishments following mailout are performed on a scheduled basis and are equally as exhaustive as the preventive measures taken prior to mailout. Like the preventive measures, there is a limit to their success. Due dates are specified on all surveys, and survey participants not responding within the specified number of days are sent a series of follow-up letters requesting a reply. The tone of each letter is slightly stronger with subsequent mailings. Nonrespondent firms and establishments receive different letters depending on their size, with stronger efforts extended toward collecting data from the large companies. The tone of the letters also varies according to the status of the survey. For partial nonrespondents, certain important items being blank on a returned form automatically elicit a follow-up letter that repeats that part of the questionnaire. A telephone follow-up is the last effort made to collect the data. Efforts are again aimed primarily at the larger firms and establishments.

10. Company visits--The Census Bureau staff visits large, chronic nonrespondents to convince them to become regular reporters. This is an expensive follow-up technique and is only undertaken for companies vital to the reliability of published statistics.

These general techniques certainly have merit, but their effectiveness, measured both in terms of cost and improved response

rates, is insufficient. Our experience in using these techniques in the QFR and M3 surveys supports our concern and begs for new approaches.

The M3 survey response rates and coverage have declined despite concerted Census Bureau efforts to followup with nonrespondents. Follow-up telephone calls, a costly and time-consuming effort, for the M3 survey have increased from less than 100 per month in the early 1970's to more than 400 in 1985. In 1979-80, Census Bureau officials visited 52 large nonrespondent companies to encourage M3 survey participation. In 1980-82, more than $300,000 was spent in special additional efforts to improve the M3 survey responses.

The QFR experience in applying these techniques is similar. Nonresponse follow-up phone calls also have increased at an alarming rate, from 3,000 per quarter in 1982 to about 4,000 per quarter in 1985. Correspondence was rewritten to dampen the threatening tone of letters sent to small companies in the hope that an appeal for cooperation would increase response. A short form version of the standard questionaire was adopted for small company reporting. Although no formal evaluation of this short form's effect on response rates was done, the QFR staff concur with an Industry Division study that yielded no conclusive evidence that short forms reduced nonresponse even though reporting burden was reduced. Notwithstanding this continuing commitment to improvement of response, M3 and QFR survey responses have declined and the surveys' data quality, particularly for selected industry and size groups, are diminished. Clearly, new strategies must be formulated.

Improving Response--New Strategies

The Census Bureau is approaching the nonresponse problem from three directions. Two of these efforts are included in the Census Bureau's formal strategic plan and are considered long range strategies. Also under consideration is the legal pursuit of chronic nonrespondents to mandatory reports.

The Census Bureau policy addressing nonresponse to reports required by law has consistently been one of nonlegal enforcement. It has been the prevailing opinion that legal enforcement would create an adversarial relationship with the reporting community; a position at odds with the cooperative spirit that the Census Bureau painstakingly has fostered. Also, by taking a hard-line stance on noncompliance with mandatory reports, the Census Bureau may put at risk voluntary surveys. The serious nature of these reservations must be measured against some compelling statistics associated with the transfer of the QFR program from the Federal Trade Commission.

The Federal Trade Commission, which also collected QFR on a mandatory

basis, recognized that the sensitivity and timeliness of the data required had the potential for creating a persistent nonresponse problem. Therefore, they chose to legally pursue noncomplying companies. The Department of Justice played an active role in this process and fines in excess of $400,000 were collected by court order or settlement. (Incidentally, additional funding for the survey was not the motive for bringing these cases; all fines collected were deposited in the United States Treasury.) Through this process, companies became aware of the importance placed by the government on this program and were reluctant to withhold the information. Congress also understood the need for exercising mandatory authority to ensure high rates of response and acted accordingly when the program was transferred by passing legislation to place the program under Title 13's mandatory umbrella.

Immediately following the transfer, survey response rates fell and continued to fall, especially in wholesale and retail trade. Phone calls placed by the QFR management staff to delinquent filers that previously responded indicated that these companies were well aware that there were no consequences for not complying with Census Bureau surveys. Furthermore, companies that filed less than acceptable reports expressed disdain for the QFR staff requests for revised or missing data. This was disheartening to a professional staff that was accustomed to referring to legal counsel companies that took this position.

Enforcement of mandatory reporting is not a panacea. There are time consuming documentation requirements for support of legal actions. The Census Bureau would have the difficult task of coordinating activities between itself and the Department of Commerce as well as the Department of Justice. And, of course, the public relations concerns expressed earlier must be factored in as well. The prior experience of QFR management in documenting and facilitating prosecution should prove helpful. Also, the precedence for legal enforcement established at the Federal Trade Commission for the QFR program would ease this change in Census Bureau policy. However, no enforcement activity is planned until the Census Bureau's executive staff discuss this contemplated action with influential business representatives. The objective of these meetings is to brief these groups on the nonresponse problem, the importance of higher response rates to the reliability of critical data series, and the options for improving these rates absent some self correction by the business community. These meetings will be held in the near future.

The two long-term strategies are aimed at gaining a better understanding of the underlying causes for nonresponse as well as establishing a consistent measure not only of rates but of the effect of nonresponse on data quality. While there is little doubt that

mandatory surveys elicit higher response rates than voluntary surveys, and that enforcement will enhance response rates of mandatory reports, and that nonresponse denegrates survey data, there is certainly doubt associated with the establishment of realistic response rate goals. Many survey managers willingly cite falling response rates as cause for concern, but find it difficult to pinpoint the precise level of acceptable nonresponse. This is a critical shortcoming, not only in assessing data reliability, but also in allocating resources. In this time of austere budgets, we can ill afford to allocate time and staff to a problem that is supported solely by assumptions. Therefore, a framework must be established that provides consistent measures of nonresponse to allow for comparison between surveys as well as program specific definitions of acceptable nonresponse levels.

The strategic plan goal to increase response rates includes action programs that will uniformly quantify trends, target surveys for improvement, identify contributing factors, set measurable goals, and lead to a cost-effective plan that will be implemented and assessed. These actions are to begin now and conclude in mid 1989. The setting of measurable response goals dovetails with the other strategic plan goal of developing differential quality standards.

Of course, the setting of differential quality standards is broader than the nonresponse issue. However, the establishment of quality threshholds for surveys will help us answer the question of how good is good enough. And who better to pose that question to than our users. Perhaps the end use of many Census Bureau data series dictates response levels much higher or lower than are currently achieved. Perhaps the accuracy of a specific line item within a report is so critical to economic policy makers that the cost of enforcement of mandatory reports is clearly warranted. Most importantly, the program managers within the Census Bureau will have more information about the quality they are to achieve than just a notion of what is acceptable.

Summary

Nonresponse adversely affects the validity of Census Bureau economic surveys and current trends show that nonresponse is increasing. We are committed to reverse this trend through the use of aggressive and informed action programs aimed at increasing response. We also understand that the full scope of possible efforts to reduce nonresponse may not be brought forth by our efforts. It is for that reason that we are encouraging exchanges of information with major business organizations, user groups, advisory committees, and survey nonrespondents.