

OMB Guidance and Standards for Statistical Surveys

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Background

- OMB is charged to develop and oversee the implementation of Government-wide policies, principles, standards and guidelines concerning
 - statistical collection procedures and methods
 - statistical data classifications
 - statistical information presentation and dissemination
 - timely release of statistical data

44 USC 3504(e)



OMB Guidance and Standards

- Questions and Answers When Designing Surveys for Information Collections
 - Issued in January 2006
- Standards and Guidelines for Statistical Surveys
 - Issued in final in September 2006
- Both available at www.whitehouse.gov/omb/
 - Go to *Statistical Programs and Standards*



OMB Q&A Guidance

- Audience: all Federal agencies conducting and sponsoring collections of information that use statistical methods (broadly defined)
- Assumes little knowledge of clearance process, survey methodology, and statistics
- 81 Q&A's



Q&A Development Process

- Revision and update of FASQs
 - Solicited additional issues from OMB desk officers
- Reviewed by the Federal Committee on Statistical Methodology (FCSM) and the Interagency Council on Statistical Policy
- Circulated for Agency Comments
- External Peer Review



Standards for Statistical Surveys

- Revision and Update of Statistical Policy Directives 1 and 2, Standards for Statistical Surveys and Publication of Statistics
 - last updated in 1974
 - all surveys were paper & pencil
 - references to punch cards



Standards Development Process

- Interagency team formed as subcommittee of the FCSM
 - Charged with reviewing and making recommendations to OMB on updates and revisions to standards
 - Solicited representatives from all ICSP agencies
- Subcommittee reviewed current standards as well as standards at statistical agencies
 - also some other National Statistical Institutes



Standards Development Process

- Draft Subcommittee recommendations were reviewed by FCSM
- Then reviewed by ICSP agencies
- Proposed standards submitted to OMB
- OMB issued Federal Register Notice
 - 60-day public comment period
- OMB reviewed and addressed the public comments



Standards and Guidelines for Statistical Surveys

- 20 Standards
- Supplemented with Guidelines or Best Practices
 - help agencies interpret and fulfill the goals of the Standard



Response Rates and Nonresponse Bias

- Why are response rates important?
- How should response rates be calculated?
- What are acceptable response rates for different kinds of collections?
- How can agencies examine potential nonresponse bias?
- What response rate issues are involved with using samples derived from pre-existing multipurpose panels, such as Internet or consumer panels?



Why are response rates important?

- Common data quality and field performance indicator
- Nonresponse can occur for a number of reasons with different implications
 - refusals
 - noncontacts
- Response rates are a useful indicator for the risk of nonresponse bias



What are acceptable response rates for different kinds of collections?

- Surveys collecting “influential information” (see Information Quality Guidelines) should achieve high response rates
- Agencies need to consider how they will use the data and how the methods chosen will achieve acceptable response rates and data quality



What are acceptable response rates?

In their Information Collection Requests, Agencies need to:

- Provide expected response rates and
 - Description of how response rate determined
 - Description of steps to maximize the response rate
- If expected response rate is less than 80%
 - include plans to evaluate potential nonresponse bias



Standards for Statistical Surveys

Standard 1.3 Survey Response Rates

- Agencies must design the survey to achieve the highest practical rates of response, commensurate with the importance of survey uses, respondent burden, and data collection costs, to ensure that survey results are representative of the target population so that they can be used with confidence to inform decisions. Nonresponse bias analyses must be conducted when unit or item response rates suggest the potential for bias to occur.



Survey Response Rates Guidelines

- **Guideline 1.3.3:** Prior to data collection, identify expected unit response rates at each stage of data collection, based on content, use, mode, and type of survey.
- **Guideline 1.3.4:** Plan for a nonresponse bias analysis if the expected unit response rate is below 80 percent.
- **Guideline 1.3.5:** Plan for a nonresponse bias analysis if the expected item response rate is below 70 percent for any items used in a report.



Standards for Statistical Surveys

Standard 3.2 Nonresponse Analysis and Response Rate Calculation

- Agencies must appropriately measure, adjust for, report, and analyze unit and item nonresponse to assess their effects on data quality and to inform users. Response rates must be computed using standard formulas to measure the proportion of the eligible sample that is represented by the responding units in each study, as an indicator of potential nonresponse bias.



How can agencies examine potential nonresponse bias?

- Nonresponse bias analyses can include:
 - Response rates by different subgroups
 - Comparing nonrespondents and respondents on frame variables
 - Comparing initial refusers with initial respondents
- Subsample nonrespondents for more extensive follow-up efforts
 - Use information to estimate characteristics of nonrespondents



Nonresponse Analysis

- **Guideline 3.2.9:** Given a survey with an overall unit response rate of less than 80 percent using unit response rates as defined above, conduct an analysis of nonresponse bias with an assessment of whether the data are missing completely at random.



Nonresponse Analysis

- For a sample mean, an estimate of the bias of the sample respondent mean is given by:

$$B(\bar{y}_r) = \bar{y}_r - \bar{y}_t = \left(\frac{n_{nr}}{n} \right) (\bar{y}_r - \bar{y}_{nr})$$

Where:

- \bar{y}_t = the mean based on all sample cases;
- \bar{y}_r = the mean based only on respondent cases;
- \bar{y}_{nr} = the mean based only on the nonrespondent cases;
- n = the number of cases in the sample;
- n_{nr} = the number of nonrespondent cases.



Nonresponse Analysis

- For a multistage (or wave) survey, focus the nonresponse bias analysis on each stage, with particular attention to the “problem” stages.
- A variety of methods can be used to examine nonresponse bias, for example, make comparisons between respondents and nonrespondents across subgroups using available sample frame variables.
- Comparison of the respondents to known characteristics of the population from an external source can provide an indication of possible bias, especially if the characteristics in question are related to the survey’s key variables.



Response Rate Issues with Panels

- Similar to a multistage survey
 - Several stages of agreement and participation by respondents over some period of time before they are panel “members”
 - Response rates need to take into account all stages
 - Attrition before their “term” is over may also introduce potential bias
- Agencies need to provide appropriate response rates and plans for nonresponse bias analysis



Implementation of Standards

- Application of standards requires judgment balancing use of the information and resources
- Agencies need to provide sufficient information in their Information Collection Requests to OMB to demonstrate whether they are meeting the standards.
 - uses of the information will be considered
 - agency should provide reasons why a standards could not be met and actions taken to address potential issues

