European Conference on Quality in Official Statistics

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Training course

INTRODUCTION TO SURVEY QUALITY

Instructor

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Objectives

1. Provide an overview of the basic principles and concepts of survey measurement quality with particular emphasis on sampling and nonsampling error.
2. Develop the background for the continued study of survey measurement quality through readings in the literature on survey methodology.
3. Identify issues related to the improvement of survey measurement quality that are encountered in survey work and provide a basic foundation for resolving them.

Course Design

The target audience for the course is persons who perform tasks associated with surveys and may work with survey data but are not necessarily trained survey researchers. These are survey project directors, data collection managers, survey specialists, statisticians, data processors, interviewers, and other operations personnel who would benefit from a better understanding of the concepts of survey data quality, including: sampling error and confidence intervals, validity, reliability, mean square error, cost-error tradeoffs in survey design, nonresponse error, frame error, measurement error, specification error, data processing error, methods for evaluating survey data, and how to reduce these errors by the best use of survey resources.

The course is not designed to provide an in-depth study of any one topic, but rather to provide an introduction to the field of survey measurement quality. It includes reviews of well-established as well as recently developed principles and concepts in the field, and examines important issues that are still unresolved today and which are being actively pursued in the current survey methods literature.

The course will span a range of topics dealing with the quality of data collected through the survey process. Total survey error, as measured by the mean square error and its component parts, is the primary criterion for assessing the quality of the survey data. The course begins with a discussion of total survey error and its relationship to survey costs and provides a number of measures of measurement quality that will be used throughout the course. Then the major sources of survey

error are discussed. In particular, we examine a) the origins of each error source (i.e., its root causes), b) the most successful methods that have been proposed for reducing the errors emanating from these error sources, and c) methods that are most often used in practice for evaluating the effects of the source on total survey error.

Course Text and Materials

Biemer, P. and Lyberg, L. (2003). Introduction to Survey Quality, John Wiley & Sons, Inc., NY

Program:

Introduction

The Survey Process and Data Quality

- Overview of the Survey Process
- Data Quality and Total Survey Error
- Decomposing Nonsampling Error into Its Component Parts
- Mean Squared Error
- An Illustration of the Concepts

Nonresponse Error

- Unit Nonresponse Error
- Calculating Response Rates
- Reducing Nonresponse Bias

The Measurement Process and Its Implications for Questionnaire Design

- The Components of Measurement Error
- Errors Arising from the Design of the Questionnaire
- Understanding the Response Process
- Errors Due to Interviewers and Interviewing

Data Processing Errors: An Overview

- Overview of Data Processing Steps
- The Nature of Data Processing Error
- Data Capture Errors, Post-Data Capture Editing and Coding

Practical Survey Design for Minimizing Total Survey Error

- The Balance Between Survey Cost, Survey Error, and Other Quality Features
- Planning a Survey for Optimal Quality
- Documenting Survey Quality
- Organizational Issues Related to Survey Quality