

Survey and Sample Design in Applied Economics

AAE 777

Fall 2018

Dept. of Agricultural & Applied Economics
University of Wisconsin-Madison

Instructors:

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Class Meetings: 9:30-10:45 (MW) B30 Taylor Hall; starts September 26 (on Sept 26, the first lecture is in Taylor Hall 103; it is in B30 after that).

Office Hours: Beardmore: MW, 12-1, otherwise by appointment
Provencher: TBA
Klein: TBA

Course Objectives

The primary goal of this course is to provide students with an understanding of the generation and use of survey data. It is a sequence of two modules, though we have strived to integrate the material to make the modules seamless.

The first module discusses what surveys are, what types of decisions must be made to carry one out, and how survey design choices affect total survey error. By the end of this module, students will have the skills to conduct their own survey project, from identifying their target population and selecting a sample to meet their research goals, to designing and administering the survey instrument.

The second module focuses on the use of econometric modeling and welfare analysis of discrete choice models, which are often applied to data from survey choice experiments (so-called “stated preference surveys”). Such experiments are used to forecast the adoption of new technologies and the market for new products (“What would be the demand for energy efficient appliance X? Who is

most likely to adopt this technology?”), to forecast the effect of a new policy or program (“If we reduced the incentive for participation in program Y, what would be the effect on enrollment?”); and to estimate the demand for changes in the provision of nonmarket goods and services, usually with a focus on the welfare effects of such changes (“What would be the social net benefit of improvement in the water quality of Lake Mendota?”)

We assume familiarity with elementary statistical concepts and formulas at the level covered in AAE 770. Theory and methods to be developed include:

- Identification of target populations
- Sample design: random, stratified, & cluster sampling
- Power analysis
- Implementing surveys: survey modes and pretesting
- Issues in survey implementation: “bad” random samples, non-response bias, attrition, etc.
- Experimental choice in survey design
- Econometric modeling of choice experiments

Course Material on the Web

Course material such as the syllabus, lecture slides, homework assignments and solutions, reading materials, and solutions to exams will be available at Learn@UW.

Grading

Grading is based on two exams—one for each module—lecture participation, and assignments. Exams will cover material presented in class, assigned readings, and homework assignments. Each exam counts for 25% of your grade, the homework assignments (three assignments in the first module, three assignments in the second module) count for 40%, and classroom participation counts for 10%. Additional information about your grade for participation and homework is provided below. In summary, the grading is the following:

- 5 points for participation in lecture, first module
- 4 points for assignment #1, first module
- 8 points for assignment #2, first module
- 8 points for assignment #3, first module
- 25 points for exam, first module

- 5 points for participation in lecture, second module
- 7 points for assignment #1, second module
- 7 points for assignment #2, second module
- 6 points for assignment #3, second module
- 25 points for exam, second module
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- 100 points total

Exam dates (exams are in class): **November 5, December 12**

Schedule

Module: Lectures	Dates	Topic	Reading	Assignment Due Dates
1: 1-2	Sept 26, Oct 1	Survey Error	Fowler Chapter 1, Groves Chapter 2	
1: 3-4	Oct 3, Oct 8	Sample design	Groves Chapter 3	
1: 5-6	Oct 15, Oct 17	Sample size and power analysis	Groves Chapter 4, Bloom (2006)	Assignment #1:1 due October 15
1: 7-8	Oct 22, Oct 24	Survey Modes	Fowler Chapter 5	Assignment #1:2 due October 22
1: 9-10	Oct 29, Oct 31	Designing questions and pretesting	Krosnick and Presser (2010)	
1: 11	Nov 5	Exam, Module 1		Assignment #1:3 due Nov 5
2: 1-3	Nov 7, Nov 12, Nov 14	Econometric models of binary choices	Wooldridge, sections 7.5, 17.1	
2: 4-5	Nov 19, Nov 21	Discrete choice models with >2 alternatives		Assignment #2:1 due Nov 21
2: 6-7	Nov 26, Nov 28	Welfare analysis in choice models		Assignment #2:2 due Nov 30
2: 8-10	Dec 3, Dec 5, Dec 10	Stated preference surveys	Champ Chapter 5 through section 2.8 Kling, Phaneuf, and Zhao Champ Chapter 6, sections 1-7 (sections 4-5 lightly) Various surveys posted to course website	Assignment #2:3 due December 10
2: 11	Dec 12	Exam, Module 2		

Texts

The course will involve readings from texts, the peer-reviewed academic literature and the “grey literature”. Textbooks relevant to the course include:

Champ, Patricia A., Kevin J. Boyle, and Thomas C. Brown. *A Primer on Nonmarket Valuation*. Kluwer Academic Publishers, 2003.

Fowler, F, 2014. *Survey Research Methods*, 5/e. SAGE.

Groves, R; Fowler, F; Couper, M; Lepkowski, J; Singer, E; Tourangeau, R, 2009. *Survey Methodology*, 2/e. Wiley.

Wooldridge, J.M. 2013 *Introductory Econometrics: A Modern Approach*. South-Western Cengage Learning. 881p.