

IMPACT EVALUATION

SYLLABUS AND READING LIST

Introduction

One of the most important questions, for a business or for government, is whether a project (e.g. a road, a new factory, a loan) or a policy (e.g. requiring passengers to wear seatbelts) should be undertaken. The formal balancing of financial or social gains and losses is tackled in cost-benefit analysis. But before a cost-benefit analysis is possible, one has to measure the impact of the innovation. This is not a trivial task, and a number of techniques have been developed that try to quantify the effects of projects and policies.

Goal

The goal of this course is to provide participants – future policy analysts, project managers, and researchers – with the tools required for evaluating the impact of a project, program or policy.

Course Objectives

This is a course about impact evaluation. It discusses the methods that can be used to measure the impact of a project, program or policy on the well-being of individuals and households. The course then addresses the ways in which the results of impact evaluations may be put to use – to improve the design of projects and programs, as an input into cost-benefit analysis, and as a basis for policy decisions.

By the end of this course participants will be able to

1. Describe the purposes of impact evaluation.
2. Explain why impact evaluation requires the construction of a counterfactual and why this is difficult to do.
3. Summarize the steps required in an experimental design, and assess the applicability of this method of impact evaluation.
4. For each of the main types of quasi-experimental design – matching comparisons, double differences, instrumental variables, and reflexive comparisons – summarize the steps needed to apply them, and the data requirements, and evaluate their applicability and usefulness.
5. Use Stata statistical software to construct datasets and compute measures of impact evaluation using household data.
6. Describe the methodological approaches and main findings of several of the most important impact evaluations that have been undertaken in the areas of health, education, income support, and credit.
7. Explain how the results of impact evaluations may be interpreted and then used to inform policy.

The course provides the necessary methodological foundations, but emphasizes the practical application of the techniques to cases and exercises from around the world, including in less-developed countries. Given the importance of learning by doing, participants are required to do regular substantial exercises, many of them using Stata.

Anyone who is not already familiar with the Stata statistical software is encouraged work though Appendix 2 of Jonathan Haughton and Shahid Khandker, *Handbook on Poverty and Inequality* (World Bank 2009), which is available on line (via http://mail.beaconhill.org/~j_haughton). This appendix has a tutorial format and is designed to bring one up to speed with Stata quickly.

Course Format and Expectations

The course will take place ... The full syllabus is set out below.

Participants are expected to attend the lectures, complete the exercises, master the key readings, and make a short presentation (using PowerPoint) on a topic related to impact evaluation. For instance, the presentation could set out a proposal for an impact evaluation; summarize an existing study; show some preliminary results from an impact evaluation; or discuss methodological or other issues.

Topics and Reading List

1. Impact Evaluation Basics: what, why, when; data needs. Cases: PROGRESA in Mexico; school building in Indonesia; unemployment benefits in the US.

Edward M. Gramlich, *A Guide to Benefit-Cost Analysis*, 2nd edition. Waveland Press. 1997.

Haughton, Jonathan. 2007. Impact Evaluation. To appear in Dominique Haughton and Jonathan Haughton, *Analytical Techniques for Living Standards Survey Data*, Springer.
[A concise and relatively formal treatment.]

Baker, Judy. 2000. *Evaluating the Impact of Development Projects on Poverty: A Handbook for Practitioners*, World Bank, Washington DC.
[An excellent summary of impact evaluation with very useful short case studies.]

Barros, Rodrigo. 2008. "Wealthier but not much Healthier: Effects of a Health Insurance Program for the Poor in Mexico." Unpublished.

Duflo, Esther. 2001. Schooling and Labor Market Consequences of School Construction in Indonesia: Evidence from an Unusual Policy Experiment. *American Economic Review*, 795-813.

Khandker, Shahidur R., Gayatri B. Koolwal, and Hussain A. Samad. 2010. *Handbook on Impact Evaluation: Quantitative Methods and Practices*, World Bank, Washington DC.

Ravallion, Martin. 2001. The Mystery of the Vanishing Benefits: An Introduction to Impact Evaluation. *The World Bank Economic Review*, 15(1): 115-140.
[A witty and accessible, but not simplistic, introduction to the key issues of impact evaluation.]

Ravallion, Martin. 2005. Evaluating Anti-Poverty Programs. To appear in T. Paul Schultz and John Strauss (eds.), *Handbook of Development Economics*, vol. 4, North Holland, Amsterdam.
[A concise and more formal treatment than Ravallion (2001)]

Ravallion, Martin. 2008. Evaluation in the Practice of Development. Development Research Group, World Bank. Unpublished.

Schultz, T. Paul. 2001. School Subsidies for the Poor: Evaluating the Mexican PROGRESA Poverty Program. Yale University Economic Growth Center, Discussion Paper No. 834.

World Bank Institute. 2007. *Manual on Poverty Analysis*. Most recent version available at http://mail.beaconhill.org/~j_haughton.
[Chapter 13, Poverty Monitoring and Evaluation provides a straightforward short overview.]

2. Experimental Design (Randomization). Social experimentation. Cases: Flipcharts in Kenya, School Vouchers in Colombia.

Anthony Boardman, David Greenberg, Aidan Vining and David Weimer, *Cost-Benefit Analysis: Concepts and Practice*, 3rd edition, Prentice Hall, 2005, chapter 11. [BGVW]

Jerry Hausman and David Wise (eds.), *Social Experimentation*, Univ. of Chicago Press, 1985. Introduction, chapter 5, "Technical Problems in Social Experimentation: Cost versus Ease of Analysis" and chapter 6 "Toward Evaluating the Cost-Effectiveness of Medical and Social Experiments".

Angrist, Joshua et al. 2002. Vouchers for Private Schooling in Colombia: Evidence from a Randomized Natural Experiment. *American Economic Review*, 1535-1558.

Glewwe, Paul et al. 2000. Retrospective vs. Prospective Analyses of School Inputs : The Case of Flip Charts in Kenya. NBER Working Paper 8018, Cambridge MA.

Kremer, Michael. Undated. Randomized Evaluations of Educational Programs in Developing Countries: Some Lessons. Harvard University, Cambridge MA.

Alderman, Harold, Daniel Gilligan, and Kim Lehrer. 2008. "The Impact of Alternative Food for Education Programs on School Participation and Education Attainment in Northern Uganda". World Bank, unpublished.

Bruhn, Miriam, and David McKenzie. 2008. "In Pursuit of Balance: Randomization in Practice in Development Field Experiments," World Bank, unpublished.

3. Quasi-Experimental Techniques: Propensity score matching; double differences. Cases: Trabajar in Argentina, Piso Firme in Mexico.

BGVW, chapter 12.

Cattaneo, Mastias et al. 2007. Housing, Health and Happiness. World Bank Policy Research Working Paper 4214, Washington DC.

Jalan, Jyotsna and Martin Ravallion. 1999. Income Gains to the Poor from Workfare: Estimates for Argentina's Trabajar Program. Policy Research Working Paper 2149, World Bank, Washington DC.

Abou-Ali, Hala, Hesham El-Azony, Heba El-Laithy, Jonathan Haughton, and Shahidur Khandker. July 2009. Evaluating the Impact of Egyptian Social Fund for Development Programs. World Bank, unpublished.

Akbulut-Yuksel, Mevlude. 2008. "The Long-Run Effects of Warfare and Destruction on Children: Evidence from World War II Germany." University of Houston, unpublished.

4. Instrumental variables; estimation with panel data. Cases: Thailand Village Fund.

Boonperm, Jirawan, Jonathan Haughton and Shahidur Khandker. 2007. Does the Village Fund Matter in Thailand? Unpublished, Bangkok, Washington DC and Boston MA.

5. Benefits Measurement: Hedonic and Travel Cost methods

BGVW, chapter 13

6. Benefits Measurement: Contingent Valuation. Case: Cape Wind

BGVW, chapter 14.

OECD, *Project and Policy Appraisal: Integrating Economics and Environment*, chapters 7 (Stated Preferences), 8 (Surrogate Markets), 9 (Damage Functions), 10 (Transferring Benefit Estimates).

Jonathan Haughton, Douglas Giuffre, John Barrett and David Tuerck. *An Economic Analysis of a Wind Farm in Nantucket Sound*. Beacon Hill Institute, Boston. Submitted to Army Corps of Engineers, May 2004.

Jonathan Haughton, Michael Head, Sarah Glassman, and David Tuerck. Optimal Subsidies for Wind Power: An Application to the Cape Wind Project. PowerPoint presentation at Society for Cost Benefit Analysis, Washington DC, October 2009.

7. Current Debates on the Methodology of Impact Evaluation

The spring 2010 issue of the *Journal of Economic Perspectives* has several articles on the role of experiments in empirical economics. These are all accessible, and worth at least skimming. Here are some of the most useful:

Joshua Angrist and Jörn-Steffen Pischke. "The Credibility Revolution in Empirical Economics: How Better Research Design Is Taking the Con out of Econometrics."

Edward Leamer. "Tantalus on the Road to Asymptopia."

Christopher Sims. "But Economics Is Not an Experimental Science."

James Stock. "The Other Transformation in Econometric Practice: Robust Tools for Inference."

Syllabus

Date	Activity	Reading
TBA	Lecture: Introduction to Impact Evaluation: what it is, why and when to do it. Data needs. Relating the results to poverty. Creating an evaluation plan. Computer exercises: Basic analysis of the Thailand village fund Exercises with Bangladeshi data	WBI Poverty Manual, chapter 13 Haughton (2007) Baker (including Boxes 2.1 and 3.5; Tables 2.1 and 2.2). Ravallion (2001; 2005) World Bank Notes (2007)
TBA	Lecture: Experimental design (randomization) and when it is useful. Testing significance. Panel data and its strengths and weaknesses. Spillover effects. Regression. Case 1: Flipcharts in Kenya Case 2: School vouchers in Colombia Case 3: PROGRESA in Mexico Case 4: School building in Indonesia Computer exercises: Constructing panel data for Thailand. Measuring the impact when randomization can be assumed.	Glewwe et al. (2000); Kremer Angrist et al. Schultz Duflo (2001)
TBA	Lecture: Quasi-experimental techniques: propensity score matching; direct matching;	Baker, Box 3.1, Box 3.3

	double differences. Selection bias. Case 1: Trabajar in Argentina Case 2: Piso Firme in Mexico Computer exercises: Propensity score matching on cross sectional data using Thai data.	Jalan and Ravallion (1999) Cattaneo et al. (2007)
TBA	Lecture: Instrumental variables. Estimation with panel data. Non-experimental methods. Case: The Thailand Village Fund (including comparison with the Grameen Bank) Computer exercises: IV estimation with panel data using Thai data.	Haughton & Khandker (2007)
TBA	Implementation: operational issues; threats to validity. Using the results: cost-benefit analysis; replication; presentation; political issues. Case 1: Group lending in the Philippines Case 2: Health support for the poor in Vietnam	Giné and Karlan (2006) Wagstaff (2007)
TBA	Benefits Measurement: Hedonic pricing, and Travel Cost	
TBA	Benefits Measurement: Contingent Valuation Case: Offshore wind power in Massachusetts, USA.	Haughton et al. 2004, 2009
TBA	Participant presentations	