**Impact evaluation methods**

**Instructor:**

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**Introduction**

Public resources are limited, and decisions regarding how to use these scarce resources must be informed by an understanding of how well programs and policies produce their desired outcomes. However, measuring causal effects can be a challenge. This course is designed to provide an overview of the quantitative tools available to evaluate the causal effects of programs and policies.

The course enables participants to conceptualize an impact evaluation, building the results’ chain and the pathways of change, to understand the different methodologies for conducting impact evaluation and to choose the most appropriate output and outcome indicators and methodology given the set of circumstances. Students will be introduced to the quantitative techniques of impact evaluation and learn about their weaknesses and strengths and appropriateness to real life evaluation scenarios, familiarizing with the evaluation literature through case studies in various domains, including health, education, social protection, agriculture, rural development among others. Finally, the course allows to get hands on experience with impact evaluation exercises done using the econometric software Stata.

On completion of the course, students will:

1. Understand the reasoning behind and the rationale of major impact evaluation techniques.
2. Understand published empirical research on policy evaluation and critically assess the validity of causal claims in quantitative research.
3. Assess the appropriate technique in order to rigorously evaluate the impact of an intervention.
4. Conduct empirical research using modern econometric techniques and a statistical software for policy evaluation.

Overall, at the end of the course, a student should have developed the skills needed to conceive, organize, conduct and present empirical research.

**Duration:**

21h (≈ 16 Front + 5 Stata)

**Course structure:**

1. What is impact evaluation:
* Monitoring vs. evaluation
* Prospective versus retrospective evaluation
* Complementary approaches
1. Impact Evaluation Design:
* Theory of change
* Selection of indicators
* Power calculations
1. Causal inference and the counterfactual:
* Causal inference
* Estimating the counterfactual
1. Randomized selection models:
* Randomized assignment of the treatment
* Estimating impact under randomized treatment
1. Non-experimental:
* Difference-in-Difference
* Matching techniques
* Regression Discontinuity Design
1. Externality Effects:
* Local Economy Impact and general equilibrium effects
* Cost-benefit analysis/Cost-effectiveness analysis
1. STATA exercises:
* Introduction: Stata for M&E
* Empirical applications of impact evaluation using Stata: randomized assignment of the treatment, Difference-in-Difference, Propensity Score Matching, Regression Discontinuity Design

**Materials:**

* **Chapter 1 to 8** Gertler, P., Martinez, S., Premand, P., Rawlings, L.B.; Vermeersch, C.M.J. (2016).Impact Evaluation in Practice, Second Edition. Washington. https://openknowledge.worldbank.org/handle/10986/25030 License: CC BY 3.0 IGO
* **Chapter 2 and 3**: World Bank Handbook: Impact Evaluation. Quantitative Methods and practices. https://openknowledge.worldbank.org/bitstream/handle/10986/2693/520990PUB0EPI1101Official0Use0Only1.pdf

**Suggested Readings**

* Angelucci, M.; & De Giorgi, G. 2009. Indirect Effects of an Aid Program: How Do Cash Transfers Affect Ineligibles’ Consumption? *American Economic Review* 99 (1): 486–508. <https://doi.org/10.1257/aer.99.1.486>
* Angrist, J.; & Pischke, J. 2009. *Mostly Harmless Econometrics. An Empiricist’s Companion*. Princeton University Press.
* Ashenfelter, O.; & Krueger, A. 1994. Estimates of the economic return to schooling from a new sample of twins. *The American Economic Review* 84(5): 1157-1173. <https://www.jstor.org/stable/2117766>
* Banerjee, A.; Duflo, E.; Goldberg, N.; Karlan, D.; Osei, R.; Pariente, W.; Shapiro, J.; Thuysbaert, B.; & Udry, C. 2015. A Multifaceted Program Causes Lasting Progress for the Very Poor: Evidence from Six Countries. *Science* 348 (6236): 1260799–1260799. <https://doi.org/10.1126/science.1260799>.
* Belfield, C.; Nores, M.; Barnett, S.; & Schweinhart, L. 2006. The High/Scope Perry Preschool Program: Cost-Benefit Analysis Using Data from the Age-40 Followup. *The Journal of Human Resources* 41(1): 162-190. <https://www.jstor.org/stable/40057261>
* Bossuroy, T.; Goldstein, M.; Karimou, B.; Karlan, D.; Kazianga, H.; Parienté, W.; Premand, P. et al. 2022. Tackling Psychosocial and Capital Constraints to Alleviate Poverty. *Nature* 605 (7909): 291–97. <https://doi.org/10.1038/s41586-022-04647-8>.
* Daidone, S.; Kagin, J.; Pace, N.; Prifti, E.; & Taylor, J.E. 2023. Evaluating Spillovers and Cost-Effectiveness of Complementary Agricultural and Social Protection Interventions: Evidence from Lesotho. *Journal of Development Effectiveness* 15 (1): 124–44. <https://doi.org/10.1080/19439342.2022.2162562>.
* Egger, D.; Haushofer, J.; Miguel, E.; Niehaus, P.; & Walker, M. 2022. General Equilibrium Effects of Cash Transfers: Experimental Evidence from Kenya. *Econometrica* 90(6): 2603-2643. <https://doi.org/10.3982/ECTA17945>
* Gertler, P. J.; Martinez, S.; Premand, P.; Rawlings, L.; & Vermeersch, C.M.J. 2016. *Impact Evaluation in Practice*, *second edition*. Washington, DC: Inter-American Development Bank and World Bank. doi:10.1596/978-1-4648-0779-4
* Handa, S.; Natali, L.; Seidenfeld, D.; Tembo, G.; Davis, B. 2018. Can Unconditional Cash Transfers Raise Long-Term Living Standards? Evidence from Zambia. *Journal of Development Economics* 133 (July): 42–65. <https://doi.org/10.1016/j.jdeveco.2018.01.008>.
* Handa, S.; Otchere, F.; Sirma, P. 2022. More Evidence on the Impact of Government Social Protection in Sub‐Saharan Africa: Ghana, Malawi, and Zimbabwe. *Development Policy Review* 40 (3). <https://doi.org/10.1111/dpr.12576>.
* Hawley, W.A.; Phillips-Howard, P.A.; ter Kuile, F.O.; Terlouw, D.J.; Vulule, J.M.; Ombok, M.; Nahlen, B.L.; Gimnig, J.E.; Kariuki, S.K.; Kolczak, M.S.; Hightower, A.W. 2003. Community-wide effects of permethrin-treated bed nets on child mortality and malaria morbidity in western Kenya. *The American Journal of Tropical Medicine and Hygiene*. 68(4 Suppl): 121-7.
* Heinrich, C.; Knowles, M. 2020. A fine predicament: Conditioning, compliance and consequences in a labeled cash transfer program. *World Development* 129: 104876. <https://doi.org/10.1016/j.worlddev.2020.104876>.
* Khandker, S. R.; Koolwal, G.B.; & Samad, H.A. 2010. *Handbook on impact evaluation: quantitative methods and practices*. Washington, DC: The International Bank for Reconstruction and Development / The World Bank. doi: 10.1596/978-0-8213-8028-4
* Mcwayizeni Mostert, C. & Vall Castello, J. 2020. Long run educational and spillover effects of unconditional cash transfers: Evidence from South Africa. *Economics & Human Biology* 36: 100817. <https://doi.org/10.1016/j.ehb.2019.100817>
* Miguel, E., and Kremer, M. 2004. Worms: Identifying Impacts on Education and Health in the Presence of Treatment Externalities. *Econometrica, 72(1), 159-217.*
* Rosenbaum, P., and D. Rubin (1983): The Central Role of the Propensity Score in Observational Studies for Causal Effects. *Biometrika, 70(1), 41-55.*
* Taylor, J. E.; & Filipski, M. 2014. *Beyond Experiments in Development Economics: Local Economy-Wide Impact Evaluation*. Oxford: Oxford University Press.
* Taylor, J. E.; Thome, K.; & Filipski, M. 2016. “Local Economy-Wide Impact Evaluation of Social Cash Transfer Programmes.” In *From Evidence to Action. The Story of Cash Transfers and Impact Evaluation in Sub-Saharan Africa*, 94–114. FAO and UNICEF.