IB9ND-15 Causal Inference

26/27

Department
Warwick Business School
Level
Taught Postgraduate Level
Module leader
Giuliana Battisti
Credit value
15
Module duration
10 weeks
Assessment
100% coursework
Study location
University of Warwick main campus, Coventry

Description

Introductory description

This module aims to provide doctoral students with an understanding of, and skills in applying, quantitative methods for causal inference and policy evaluation.

Module aims

i) Understand how to draw inference about the causal effect of a policy using observational data and experiments.
ii) The ability to select and apply appropriate identification strategies and estimators according to the research question and type of data available

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

1. Measuring Treatment Effects and randomised controlled experiments.
2. Local Average Treatment Effects and Instrumental Variables
3. Differences in differences and Panel Data regressions.
4. Regression Discontinuity Designs: Sharp and Fuzzy designs.

5. Synthetic Controls.
6. Propensity Score Matching
7. Coarsened Exact Matching
8. Quantile treatment effects
9. Structural Equation Modelling (multivariate analysis).
10. Presentation of the Empirical Project

Learning outcomes

By the end of the module, students should be able to:

- Have an in-depth understanding of assumptions underlying causal analyses with experimental and observational data.
- Have an in-depth knowledge of the presented methods to draw causal inferences

Indicative reading list

Reading lists can be found in Talis

Interdisciplinary

Elements of Economics, Statistics, Management, and Political Science.

Subject specific skills

Design an identification strategy adequate to the empirical research question and data at hand.
Implement the identification strategy using the adequate estimator and statistical software.
Evaluate empirical results achieved by applying causal inference methods.
An in-depth understanding of assumptions underlying causal analyses with experimental and observational data.
An in-depth knowledge of the presented methods to draw causal inferences.

Transferable skills

Problem solving abilities
Communication skills.
Analytical skills.
Confidence as user of statistical software.

Study

Study time

Type	Required
Lectures	10 sessions of 3 hours (38%)
Private study	48 hours (62%)
Total	78 hours

Private study description

Self study and reflective learning.

Costs

No further costs have been identified for this module.

Assessment

You do not need to pass all assessment components to pass the module.

Assessment group A

	Weighting	Study time	Eligible for self-certification
Assessment component			
Individual assignment	90%	65 hours	Yes (extension)
Reassessment component is the same			
Assessment component			
Individual presentation	10%	7 hours	Yes (extension)
Reassessment component is the same			

Feedback on assessment

Written feedback from module leader.

Availability

There is currently no information about the courses for which this module is core or optional.