

MY457/MY557

Causal Inference for Experimental and Observational Studies

Week 4: Matching

Paper: Aggarwal, A. (2010). Impact evaluation of India's 'Yeshasvini' community-based health insurance programme. *Health Economics*, 19(S1), 5-35.

The Reviewer-2-Exercise – Questions:

1. General

- a) Why can we not measure the impact of the program by comparing the health/economic outcomes between insured and uninsured individuals? What are the specific methodological concerns?
- b) Why do the authors use a matching approach given the fact that they already have a randomly selected sample?
- c) What are the reasons why the authors use matching instead of an experiment?

2. Research Design

- a) Why do the authors have three treatment groups and two control groups?
- b) How do the authors validate the(se) identifying assumption(s)?
- c) Should the authors use “number of hospital visits in 2005” as a covariate to predict the propensity scores?
- d) Evaluate the internal and external validity of the paper.

If we have time:

3. Heterogeneity analysis, placebo tests and robustness checks

- a) How do the authors test for heterogeneity in effect size? If so, along which dimensions? Which further dimensions would you test?
- b) Which robustness checks are conducted? Which additional ones would you recommend?
- c) Which placebo tests are conducted? Which additional ones would you recommend?

The Grant-Application Exercise

Imagine you are a researcher and want to study if health care insurance impact the health and economic outcomes of individuals. The committee of the research fund evaluates your project from a 'value for money' perspective, meaning they want a very credible research design that answers the question with the lowest financial requirements.

Within your group, describe a research design that aims to address the paper's methodological shortcomings, and provide reasons why the research design you are using (RTC and/or matching) is superior. Discuss how you aim to achieve high internal and external validity, and which tests you want to conduct to assess internal validity.

After 30 minutes, each group presents their design idea and we will then discuss them together in class.