CONCLUSION

- Methods
- Internal and external validity
- SUTVA
- General conclusion

Methods

- The course: presentation of a range of recent methods for evaluating a causal effect in economics
  - Experimental methods
    - Controlled experiments
  - Non-experimental methods
    - Estimators under unconfoundness
    - Differences-in-differences (DD)
    - Internal validity (IV)
    - Regression discontinuity design (RDD)

Methods

- Specificities of empirical evaluation methods
  - Importance of identification hypotheses (especially treatment assignment)
  - Attention to support conditions, specifications, etc.
  - Limitation of binary treatment (even if attempts to extend it)
  - Difficulty in exporting results obtained in other contexts → strong internal validity, but what external validity?

Internal and external validity

- **Internal validity**
  - Check the data used confirm the identifying assumptions
  - However: identification relies on untestable assumptions (e.g. Matching → CIA)
  - At best, indirect tests (e.g. placebo groups)
  - Ultimately choice of method depends on type and quality of data available

Internal and external validity

- **External validity**
  - Even if the measurement is “correct”, can we extrapolate from the results?
  - The effects are estimated at a **given period** on a **specific population …**

SUTVA

- **Implicit assumption in all that has been presented**
  - SUTVA
  - An individual's outcome does not depend solely on the treatment received
  - No interactions, a person's potential outcomes not being dependent on whether other are treated or not
  - However, externalities, substitution effect or general equilibrium effects may have impacts …
    - … even in a controlled experiment

SUTVA

- **Fast developing field of research**
  - Internalizing externalities
    - One solution is to position ourselves at a level of observations at which we internalize effects if we have reason to think they act only at an intermediate level
  - Performing “inference under interference”
  - Modelling peer effects:
    - A subject of study in itself
  - Structural approaches: general equilibrium modelling → dependence on assumptions

General conclusion

- **Three objectives for evaluating public policy**
  - Evaluating the impact of a policy *ex post facto*
  - Evaluating the impact of the policy in a different setting
  - Predicting the effect of a new policy
- The methods presented are suitable for the first point
- Structural methods are more suitable for points 2 and 3 but they rely on strong assumptions about agents' behaviour and functional form

General conclusion

- **Evaluating in practice**
  - Controlled experiment: “ideal”
  - Choice among various methods: depends essentially on available data
  - Important to remember that identification relies on untestable assumptions: only indirect tests can be performed
  - Sometimes it is simply impossible to make an evaluation
  - To be thorough about the effectiveness of a policy, cost/benefit analysis is important