

**Comment on "Experimental Analysis of
Neighborhood Effects"
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Motivation

Objectives:

- Estimate the effect of [public housing policies](#).
- Measure the impact of [de-concentration of poverty](#) on various economic & non economic outcomes

Tools: [Controlled experiment](#) in which there are two treatment groups:

- the first treatment group is given a traditional voucher to help moving out.
- an experimental treatment group is given a voucher to help moving out to a low-poverty neighborhood.

Message:

- the [target rate](#) is reasonably high. 50% of the second treatment group decide to take up the experimental voucher and move out to a low poverty neighborhood.
- the [empirical evidence](#) on the "virtuous" effect on outcomes is mixed: mental health for girls, ...

How to learn about neighborhood effects?

Various difficulties summarized as **selection issues** or the **reflection problem** as in Manski (1995).

Define the outcome, y_i , for household i living in neighborhood a as:

$$y_i = x_i\gamma + \beta z_a + \varepsilon_a + u_i,$$

where x_i are controls and u_i is unobserved household heterogeneity and:

- z_a is the neighborhood variable of interest (i.e. its poverty rate).
- ε_a are other observed or unobserved characteristics of neighborhood a .

The **parameter of interest** is β .

Exogenous variation of z_a in survey data? Doubtful because:

- **self-selection** of households into neighborhoods because of constraints and preferences (ε_a, u_i) .
- **correlation** to other neighborhood characteristics, ε_a .

Social Experiments

Ideal experiment: One that would change z_a into z'_a without affecting any other characteristics i.e. an **intervention**.

In the present case, it is quite implausible.

Controlled experiment: A more feasible task is to mimic an intervention by changing z_a into z'_a in a group of treatment by **randomization**. It is creating exogenous variation in z_a .

Randomization is an **instrumental variable** because it is assumed that it affects outcomes only through the impact of the variable of interest.

Causality diagram:

$$R \rightarrow z_a \rightarrow y.$$

Limitations

Controlled experiments answer a single policy question in the direction of the randomization (i.e. changing z_a into z'_a , Heckman & Vytlacil, 2007).

Randomization raises the same issues than IV estimation in the case where the treatment effect is heterogenous. Usually, effects of the treatment on the treated are identified.

The parameter of interest should be defined well in advance and the experiment should be tailored to this need.

Imperfect control: Randomization does not affect the variable of interest z_a only. It can affect other variables and transform ε_a into ε'_a . What is the parameter which is being measured?

Imperfect compliance: self-selection often affect the randomization decision of the experimenters. Only 50% of households moved in this experiment and selection on unobservables is hard to detect.

General equilibrium: is it possible to to scale up such an experimental policy?

Results

In which sense a surprising result (a different response for mental health for girls and for boys) can be accommodated for by the limitations seen above?

[Cost-benefit analysis](#): was it worth implementing the policy?

Do the households anticipate the costs and the benefits? Is the [decision to move](#) related to the demographics of the household?

Consequences for [future experiments](#) about neighborhood effects.