

Neighborhood effects

- Very common in sociology but unfortunately (or perhaps fortunately for you!) often quite problematic identification strategies.

Lyons et al. (2013) ASR

- Want to estimate the causal effects of neighborhood immigration and violence and see whether this effect differs in areas with better political opportunities for immigrants.
- They also argue that the second difference is causal.

Analytic strategy

- They use cross sectional data and therefore they should worry that e.g. selection of migrants (or outselection of non-migrants) into areas depending on the level of violence or something else (e.g. house prices!) may determine both.

Analytic strategy

- 1) They control for foreign population 10 years prior in some models. (The effects will then be identified by changes, which may be equally endogenous!)
- 2) They use the prior share as in instrument for current share.
- What are the two criteria for this?

Argument

- "... given that prior immigration was measured a decade prior to our measures of violence, it is a predetermined variable that is exogenous by construction. "
- What do you think?
- Cf. Parents education: Also predetermined.
- I will not even start on their variation in political opportunities for immigrants...

Another example

- Harding (2003). AJS.
- The *effects* of neighborhood poverty on dropping out and teenage pregnancy.
- Use propensity score matching: Individuals identical on observables but who live in different type of areas.
- Key question of course: *Why* do they live in different areas? If they are identical, why do they not live within the same body?
- The argument has to be taken on faith and should depend on what is controlled for. (e.g. Parental ability, drug use, and even labor force participation not controlled for).

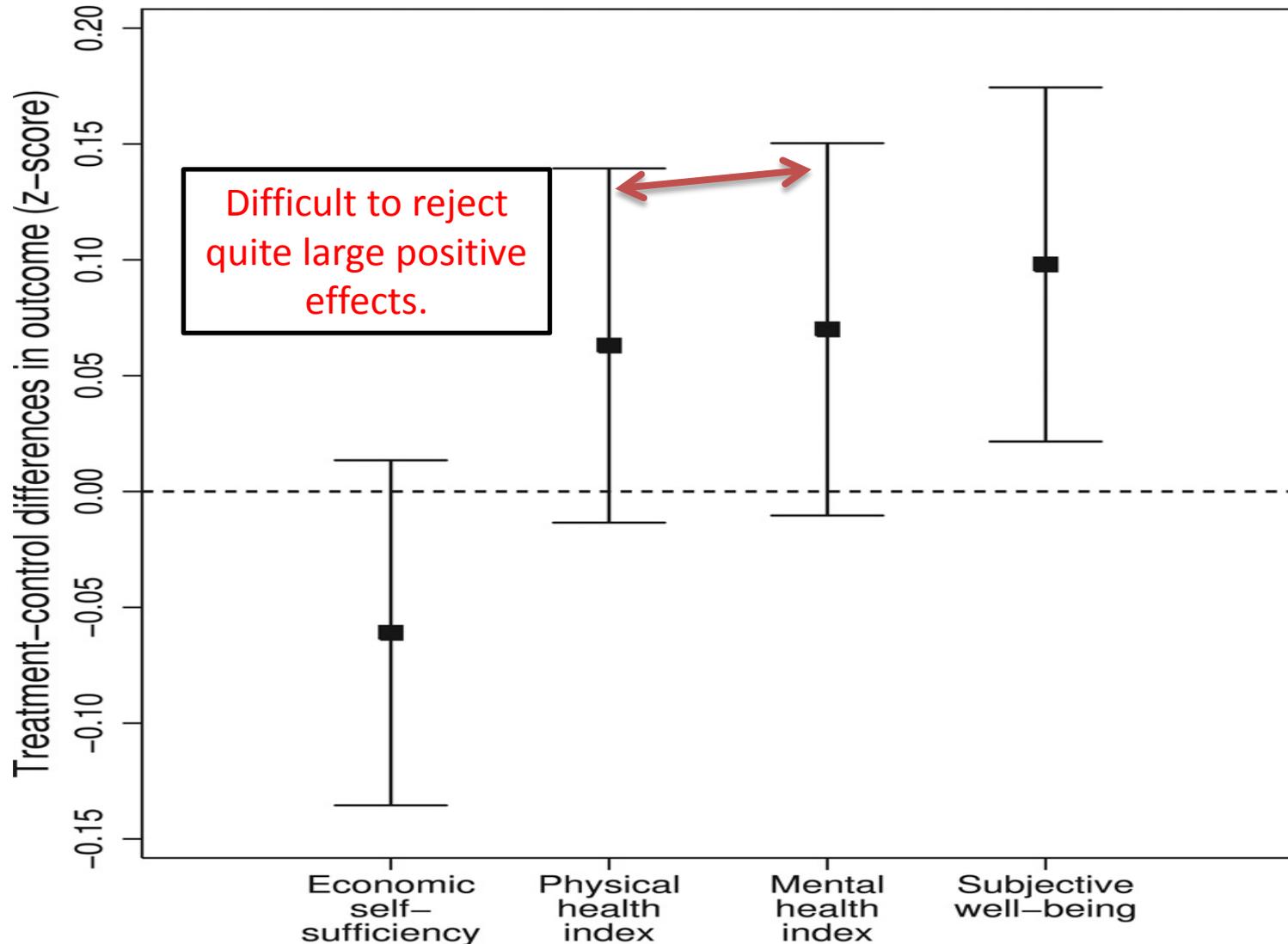
How should it be done?

- Ludwig et al. (2012)
- Evaluate long term effects of Moving to Opportunity (MTO).
- MTO used a random lottery to offer people to move from very poor to less poor areas.
- Use ITT and IV estimates.

Sampson (2012) replies

- Important to know what we are measuring.
- 1) Effects of moving for people who have already been exposed to the worst areas...
- 2) ...that moved to other quite poor areas.

In addition, there are power issues



Best examples

- Chetty and Hendren (2015)
- To what extent are children's opportunities for economic mobility shaped by the neighborhoods in which they grow up?
- Despite extensive research, the answer to this question remains debated.

Problem

- There is substantial variation across areas in children's expected earnings, even conditional on their parents' income.
- One possibility is that neighborhoods have causal effects on economic mobility.
- Another possibility is that the observed geographic variation is due to systematic differences in the types of people living in each area.

Chetty and Hendren (2015)

- Study the long run effects of neighborhoods on children's outcomes using more than five million families who move across counties in the U.S and exploiting differences in their children's ages when they move.
- Better neighborhood = where children of permanent residents (non-movers) at their income percentile have higher earnings in adulthood.

Findings

- Children whose parents move to a better neighborhood earn more themselves.
- Symmetrically, those who move to worse neighborhoods have lower earnings as adults.
- Importantly, the changes in earnings are proportional to the fraction of childhood spent in the new area.

Causal effect?

- The critical id. ass. is that children whose parents move to a better (or worse) area at a young age have comparable potential outcomes to children whose parents move when they are older.
- Violated if, e.g., parents who move to a better area when their children are young invest more in their children. In addition, moving may itself be correlated with other factors – such as a higher-paying job or a change in marital status – that directly affect children in proportion to exposure time.

3 strategies

- They use three approaches to account for such selection and omitted variable biases:
- controlling for observable factors & family f.e.
- isolating moves triggered by exogenous events,
- and exploit heterogeneity in place effects across subgroups.

Family f.e.

- Controls for factors that are fixed within the family (e.g., parent education).
- This approach identifies exposure effects from comparisons between siblings, effectively asking whether the difference in outcomes between two siblings in a family that moves is proportional to the size of the age gap between them.
- Adding time variant stuff (e.g. income) yields the same results.

Shocks

- They identify moves that occur as part of large outflows from ZIP codes, which are typically caused by natural disasters or local plant closures.
- Same results.

Heterogeneity

- Cohorts: the outcomes of children who move to a new area converge to the outcomes of permanent residents of the destination in their own birth cohort but not those of surrounding birth cohorts.
- “It would be unlikely that sorting or omitted variables would produce such a sharp cohort-specific pattern”

Heterogeneity

- Also analyze effects according to distribution and gender.
- E.g. ” We find that when a family with both a daughter and a son moves to an area that is particularly good for boys, their son’s outcomes improve in proportion to exposure time to the destination much more than their daughter’s outcomes.
- Once again, if our findings were driven by sorting or omitted variables, one would not expect to find stark differences in impacts by gender unless families’ unobservable investments in their children are differentially correlated with where they move.”

Chetty et al. (2015)

- Prior analyses of the MTO experiment have focused primarily on the effects of neighborhoods on adults and older youth and have not explicitly tested for exposure effects among children.
- They show that the MTO data exhibit the same exposure time patterns as those documented on the previous slides. In particular, they find large effects for children who moved to better neighborhoods at young ages but not those who moved at older ages.

Multiple testing

- ” one may be concerned that our results – which essentially explore heterogeneity in a new dimension, by child’s age at move – are an artifact of multiple hypothesis testing.”
- They adjust for this and:

Multiple testing

- “In addition, recall that we returned to the MTO data with a pre-specified hypothesis that we would find larger impacts for younger children, based on the quasi-experimental evidence in Chetty and Hendren (2015). The fact that the experimental results closely match the quasi-experimental evidence makes it less likely that these results are spuriously generated by multiple hypothesis testing.”