

The (Causal) Impact of Education on Employment and Wages

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The State of the Art

- Researchers have learnt quite a lot in the past 10 years on...
- ...methodologies that allows them to ask the following questions:
 - Is (increased) education causing (increased) wages ?
 - Is (increased) education causing (increased) employment opportunities ?
 - Is (increased) education causing a better outcome that itself causes increased wages or employment opportunities ?
- ...and facts on these exact questions.

Some elements on methods

- When looking at a correlation, one must ask:
 - Is it (continuous) training that causes a good wage or Is it a good wage that causes training ?

(Reverse causality)

- Is there something that may explain both variables in the correlation ? Is it Harvard education that causes this great job in this profitable firm **or** is it those wealthy parents who helped their kid enter Harvard *and* helped him find this nice job ?

(Unobserved Heterogeneity)

- New techniques were developed to address this issue

Education causes wages ?

- Average returns is estimated around 6-7% per additional year of education (close to OLS).
- These “best” estimates are based on twins studies...
- ...confirmed by other approaches (Angrist and Krueger, quarter of birth instrument).
- There is a small “ability” bias (i.e. one needs to eliminate the fact that ability causes education *and* causes wages, see before **unobserved heterogeneity**)
- Returns appear to be higher for some groups: returns seem to decline with the education-level

On all this, see Card (1999), Handbook of Labor Economics, North-Holland

Education causes education ?

- Parents with higher education levels have children with higher education levels.

However,

- Is it because parental education actually changes the outcomes of children ?
- or because more able individuals also have more able children ?
- Black et al. find virtually no causal relationship between parents' education and children's education (except for mothers and sons) using Norwegian data based on the progressive implementation of an educational reform

Does education cause X or Y ?

- Black, Devereux, and Salvanes (2007) find that, in Norway **and** in the United States, increased education causes less teenage childbearing
- Locner and Moretti (2001) find that increased high-school graduation causes reduced crime (using changes in school attendance laws)

Furthermore,

- Chevalier and Feinstein (2006) find that education improves mental health, in particular it protects from depression.
- The effect appears to be stronger for mid-level of qualifications, women and those at greater risk of mental illness.

However,

- Feinstein and Duckworth (2006) find that mother's education causes better child development *but* McCrary and Royer (2005) do not find an impact on infant health or fertility

When do educative investments matter ?

- Cognitive and non-cognitive skills formed early in the life cycle matter most in explaining gaps in schooling and other dimensions of economic success
- Most of the gaps in college attendance are determined by early family factors
- High return of early (or very early) interventions
- Little return from later remedial or compensatory interventions (improvement of school quality, job training,...).

This is a summary of the views expressed by Carneiro and Heckman (2003).

On the workplace training side (at an older age), Bassanini et al. (2005), Iza wp, concur with Carneiro-Heckman