

The Effect of Municipal Water Filtration on Children's School Enrollment and Employment in American Cities, 1880–1920

What is the question?

Numerous studies show that access to clean water reduces child mortality, and improved child health (improved water quality) whether to affect the consequences for schooling and child labor. The fact that improved child health has a positive correlation to enrollment, on the other hand, that may lead more children to be child labor. This paper was collected data in American cities from 1880 to 1920.

Why should we care about this?

We care about in the same case (Developing country without completed medication) what should child choose between schooling and working, and which one is right.

What is the author's answer?

This paper finds that improved water quality will related positively to the enrolling and decreased the amount of child labor. The author particularly conducted the research about 14-15 years old child and the result is significant.

How did the author get there?

Using the regression model, the author assumed that the local feature (e.g gender, race.....) and quality of water are IV, and the enrolling rate is dependent variable(y). The author collected 4 times year-data and focused on the data of 10-15 year-old child.

Notation

Y_{ict} : either the school enrollment dummy or employment dummy for individual i who lives in city c in year t .

$F_{ilterct}$: an indicator variable =1, if city c adopted water filtration in year t

d_a : a dummy that = 1, if the individual is age a .

γ_{ca} : city-age fixed effects(city dummies time age dummies)

λ_{ta} : year-age fixed effect(year dummies time age dummies)

x_{ict} : demographic characteristics (household head illiteracy, gender, and race dummies)

$\rho_{c \cdot t}$: city-specific linear time trends

ϵ_{ict} : error term.