

Does compulsory school attendance affect schooling and earnings?

Frank Alvarado

Jeffry Bedia

Fernanda Martel

Andrea Romero

Causal Inference and Machine Learning

UP

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Research Question and Hypothesis

- Research Question: *Does compulsory schooling laws, which mandate the minimum age at which students can drop out of school, have a causal effect on the amount of schooling individuals receive and their earnings in adulthood?*
- Main Hypothesis: Compulsory school attendance laws increase educational attainment and, consequently, lead to higher earnings in the labor market

Data Description

- **Description of Data:**

1. Longitudinal data for demographics, U.S. Population Censuses of 1960, 1970, and 1980 for education and labor outcomes.

2. Results focus on men born between 1920-1949.

Quarter of birth - School districts typically require a student to have turned aged 6 by January 1 of the year in which he enters school.

- **Unit of Observation:** Individuals

- **Experiment or Quasi-experiment:** Quasi-experimental

- **Instrument:** Quarter of birth of the individual

- **Controls:** Race, SMSA, Married, Age-Squared

Main Results

- **Result 1:** Compulsory schooling laws leads to higher levels of educational attainment.
- **Result 2:** Higher levels of educational attainment resulting from increased compulsory schooling laws correspond to higher earnings in adulthood: the monetary return to an additional year of schooling for those who are compelled to attend school by compulsory schooling laws is about 7.5 percent.
- **Result 3:** Men born in the first quarter of the year tend to have slightly less schooling than those born later in the year, due to the interaction between school entry requirements and compulsory schooling laws.
- **Result 4:** Effects are consistent across different cohorts, and so are the estimates from IV and OLS.

Proposed Improvements/extension

- Proposed Method: **Double Machine Learning (DML)**

Justification for Chosen Method

- Why this method fits:
 - 1.Improved robustness:** DML effectively manages high-dimensional data, allowing more control variables without overfitting, thus producing more reliable estimates.
 - 2. Improved efficiency:** DML could lead to more efficient estimates (smaller standard errors) compared to traditional methods, especially when there are many potential control variables.
- Hypothesis when using Causal Machine Learning Method: Same hypothesis - Compulsory schooling laws increase the amount of education individuals receive and this leads to higher earnings later in life.