Research Proposal of "The Effects of Education on Voting Behavior"

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Abstract

In this study, we investigate the effect of education on civic participation, measured with voter turn out. With the data set of National Longitudinal Survey of Youth (NLSY 97), we first provide primitive evidence of a positive correlation between education and political participation. We then follow the identification assumption in Tenn (2007) and estimate the causal effect of one extra year of education on individuals' propensity to vote.

1 Introduction

1.1 Motivation Economists often argue for government intervention in education for concerns of market failures, Dee (2004). One source of such failure is the positive externalities of education in changing peoples' political behavior, as it is often theorized that education not only equips citizens with the cognitive skills needed for effective political participation but also improves citizens' interest and involvement in political process, Milligan, Moretti, and Oreopoulos (2004). We would like to explore this second channel of externality by examining if education causes people to be more likely to vote. It is largely uncontested that education attainment is positively correlated with propensity to vote. However, various attempts in estimating the causal effect of education on voter turn out have yielded inconclusive results.

We would like to contribute to this literature by applying the identification assumptions in Tenn (2007) on NLSY 97, which provides improvement on several limitations of the Current Population Survey (CPS) data analyzed in the original paper.

1.2 Literature Review The identification of the causal effect of education is complicated by unobserved factors that co-determine voting behavior and education acquisition. Previous researches have tried circumventing this conundrum with either Instrumental variable or careful grouping of students to ensure random selection.

In an effort to construct randomly selected groups, Tenn (2007) compares individuals who are 1 year apart from each other in both ages and education attainment and limits the attention to the younger people who will attain another year of education the next year. We would like to revisit this identification strategy with NLSY 97 data.

We see two major advantages of NLSY 97 over the CPS data used in Tenn (2007). First is the the more granular education record. With CPS, Tenn has to make assumptions about years of education with the degree information, creating noise in his estimation. The extra granularity of education record also allows more room for our study. Second is NLSY's balanced panel, which allows us to track voting history of individuals over longer span. This would allow us to compare the same group of people over multiple elections.

2 Research Design

2.1 Data In the year of 1997, Bureau of Labor Statistics (BLS) selected a nationally representative sample of 9000 teenagers at the age $12-16$, and interviewed them regularly after 1997, collecting detailed demographic information of them and their family backgrounds. Most importantly, the data set contains information abut education attainments and political participation.

2.2 Econometric Model We first revisit classical studies on correlation between demographic variables and voter turn out with the NLSY 97 data set. We estimate logit models with our variable of interest and a rich set of controls, exploiting richness of our data.

$$\Pr_{it} = \Lambda(\lambda \text{Edu}_{i,t} + \beta' \text{Controls}_{i,t} + \text{Year FE} + \text{State FE})$$

$\Pr_{it}$ representations the probability that individual i participates in voting in year t. The parameter of interests is λ. It's sign encodes the direction of correlation between education and voting probabilities. We closely follow previous literature to control for income, gender, race, family backgrounds as well as year and state fixed effects.

We next investigate the causal effect of education, exploiting a quasi-experiment design, closely following the execution in Tenn (2007). We first divide individuals into different groups differing by 1 year in both age and education attainment. For the younger group, we further divide by if individuals who will gain another year of education the next year. For the older group, we create another group who are of the same age but attained 1 year less in education. We then run the following logit regression.

$$\Pr_{it} = \Lambda(\lambda_1 \text{Edu}_{i,t} + \lambda_2 \text{Age}_{i,t} + \lambda_3 \text{Student}_{i,t} + \alpha \text{Group FE} + \beta' \text{Controls}_{i,t})$$

The group fixed effect captures the selection bias in education attainment. The identification assumption is that the unobserved characteristics are independent of education attainment conditional on groups.

2.3 Research Plan The timeline is as follows:

- Week 1, $4.4-4.10$: data cleaning and grouping
- Week 2, $4.11-4.17$: modeling and reporting initial results; checking and comparing with references;
- Week 3, $4.18-4.24$: addressing possible problems occur in last week, and organizing the whole paper;
- Week 4, $4.25-4.30$: finalizing the results and the formal final project.

References

Thomas S Dee. Are there civic returns to education? *Journal of Public Economics*, 88(9-10): 1697–1720, 2004.

Kevin Milligan, Enrico Moretti, and Philip Oreopoulos. Does education improve citizenship? evidence from the united states and the united kingdom. *Journal of Public Economics*, 88(9-10): 1667–1695, 2004.

Steven Tenn. The effect of education on voter turnout. *Political Analysis*, 15(4):446–464, 2007. ISSN 10471987, 14764989. URL http://www.jstor.org/stable/25791906.