

MA Labor Economics – Problem Set 2 (Due Saturday April 29th)

Omry Yoresh – ID: 20588769-8

Part 1:

1. Indicate whether the following statements are True/False/Uncertain and explain why. The explanation is the key part of your answer.

- i. “Assuming diminishing returns to schooling, the cross-sectional relationship between log wages and schooling should be concave.”

True. If we assume diminishing returns to schooling, and schooling not being correlated with the size of the return, it's reasonable to believe that the relationship between log wages and schooling will be concave. If we change the absence of a correlation between education and the size of the return to a positive or negative correlation, we should anticipate a convex relationship between log wages and education.

- ii. "In a pure signaling model, education provides no social benefit."

False. Education levels provide a signal to employers regarding the capabilities of potential employees, which in turn improves the efficiency with which workers are allocated.

Part 2:

1. How does Oreopoulos estimate the returns to schooling?

Oreopoulos estimates the return to schooling using a regression discontinuity design that accounts for changes in the United Kingdom's minimum age to leave school. In England, the reform was from the age of 14 to 15 in 1947, and in Northern Ireland, it was from the age of 14 to 15 in 1957. Because the reform increased most students' schooling years by one year, the comparison in the paper estimates the return to one more year of schooling, specifically for kids at the age of 14 to 15.

2. What are the advantages and limitations of his research design?

This research design has some advantages, particularly in the context of the United Kingdom's reform. The reform impacted a substantial percentage of the population, and the proportion of 14-year-old dropouts decreased as a result. This suggests that the estimation is closer to the ATE estimation rather than a tiny section of the population being influenced in research using an IV and identifying a LATE estimation. Although this reform influenced over half of the population,

it appears that those who participated had a lower baseline level of education, and the return may vary across different grades in school.

However, the external validity is called into question. Since the program was implemented in 1947, the labor market and education systems have changed dramatically, and such projections are no longer applicable for current policy (although it might be relevant in an historical context, which might be important).

3. What does he find in the UK?

According to the study's findings, the annual gain in wages from a year of schooling in this specific reform is between 10% and 14%. Furthermore, the article discovers that compulsory schooling has a good impact on those same individuals' health and employment.

4. What do we learn from the comparisons with the US and Canada?

The paper compares the United Kingdom's result, where a substantial number of students were affected by the policy change, to the results in the United States and Canada, where identical policies affected far fewer students. Thus, Oreopoulos contends that the comparison can give evidence of whether the LATE surpasses the ATE, as many academics have proposed as an explanation for why IV estimates of return to education frequently exceed OLS estimates.

Because the estimations produced for Britain are of comparable scale to those found for Canada and the United States, Oreopoulos contends that the ATE and LATE are comparable.

5. Given the large returns, why were so many British students dropping out before the reform?

Oreopoulos provides various reasons for why children dropped out of school at age 14 prior to the reform, despite the high returns. The first possible reason is that those who drop out of school are unable to delay receiving money in order to raise it due to credit constraints. The second reason being is the negative attitudes toward education after 14 years of schooling. The third reason suggested in the paper is that dropouts may be risk averse and therefore unwilling to accept the chance that continuing their education will boost their future earnings. Lastly, it might be that dropouts heavily discount the future and would rather have lower earnings right now than higher earnings in the long run.

6. What do Devereux and Hart find? Why do their results differ from Oreopoulos's? What are the implications for your answer to question 5?

Devereux and Hart find a substantially lower return to education, of about 3% on average with no evidence of any positive return for women and a return for men of 4-7%. They explain that their results vary from Oreopoulos because they used the NESPD in contrast to the GHS which is used by Oreopoulos. Moreover, they used an RD approach which smoothly controlled for cohort and thus their estimates are more precise.

Considering the results of this study, it seems that the answer to the last question might as well be that the British students dropped out because the returns were very low/ non-existent.