Human Capital and Signaling

January 14, 2019

Basics of Human Capital

- What separates human capital from other forms of capital?
  - Human capital cannot be /textbfcollateralized, meaning that it is not a physical asset that can be seized by a lender if a loan is not paid back.
  - Human capital cannot be owned by anyone other than the individual and cannot be sold.
- Human capital includes more than just formal education (e.g. athletic or musical talent).
- Broadly it covers the skills, knowledge, and attributes of a worker that have value in the labor market.

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Human Capital Model

- Basic Costs
  - Direct costs (e.g. tuition, interest on student loans)
  - Foregone wages
- Basic Benefits
  - Increased wages (decreasing in age)
  - non-monetary life improvements

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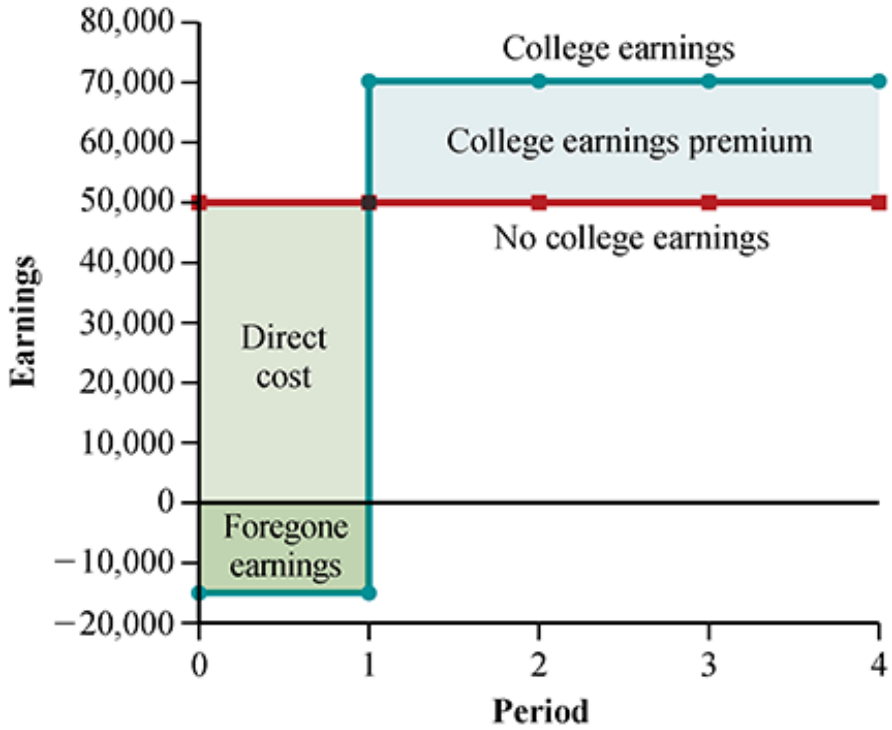

Figure 4.1

Regression Discontinuity Designs

- Along with RCTs, RDs have become the gold standard of education and social policy research
- When done correctly, they provide an internally valid estimate of a policy/practice/treatment, but there are external validity costs
- RDs rely on a decision rule where treatment is controlled by a person's (or some other unit) value on a forcing variable
  - Math score on a placement exam for remedial math
  - Income for post-secondary financial aid
  - SAT cutoffs for university admissions
- A comparison of individuals' outcomes just below/above the treatment cutoff will provide an unbiased treatment effect estimate
- RD comes in two flavors: Sharp and Fuzzy
  - Sharp=A setting where treatment is 100% dictated by your score on the forcing variable
  - Fuzzy=A setting where there's a jump in the likelihood of treatment at a threshold, but your forcing variable score does not perfectly determine treatment (e.g. non-compliance)

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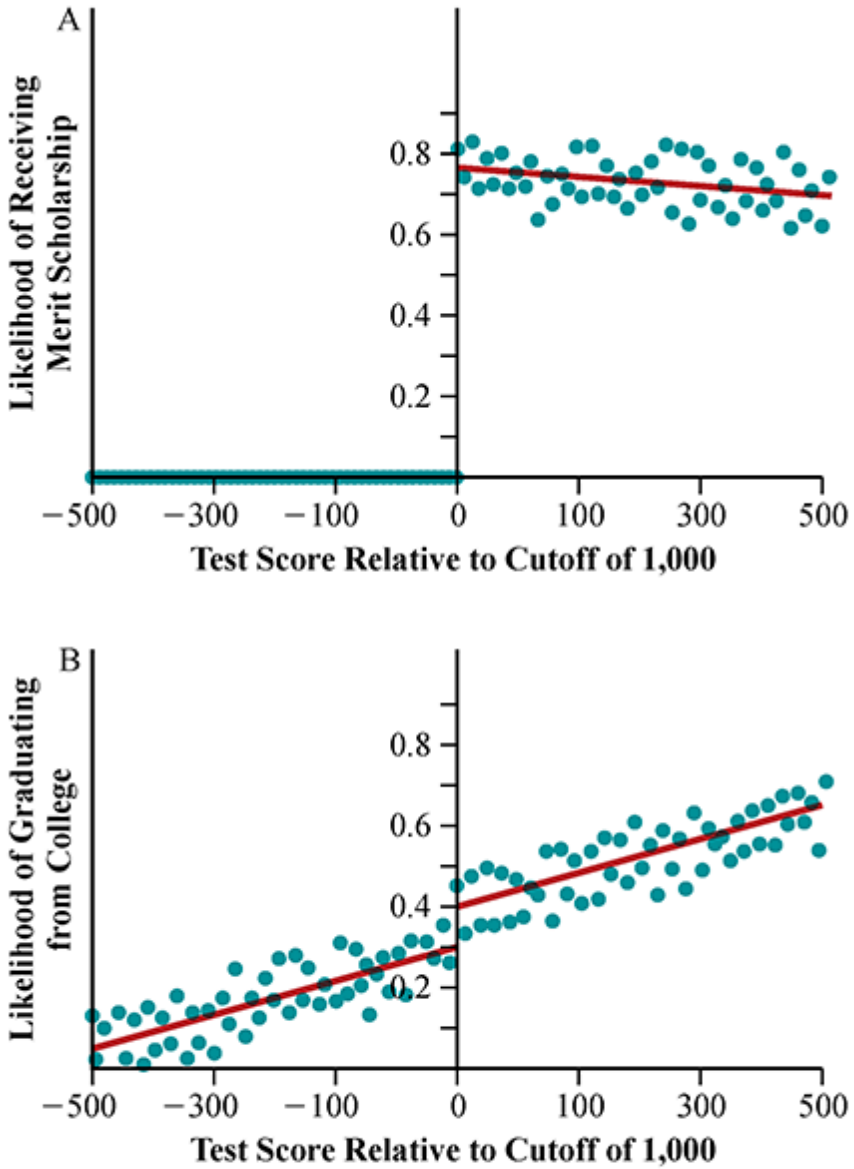

Figure 3.4
Lovenheim/Turner, *Economics of Education*, 1e,
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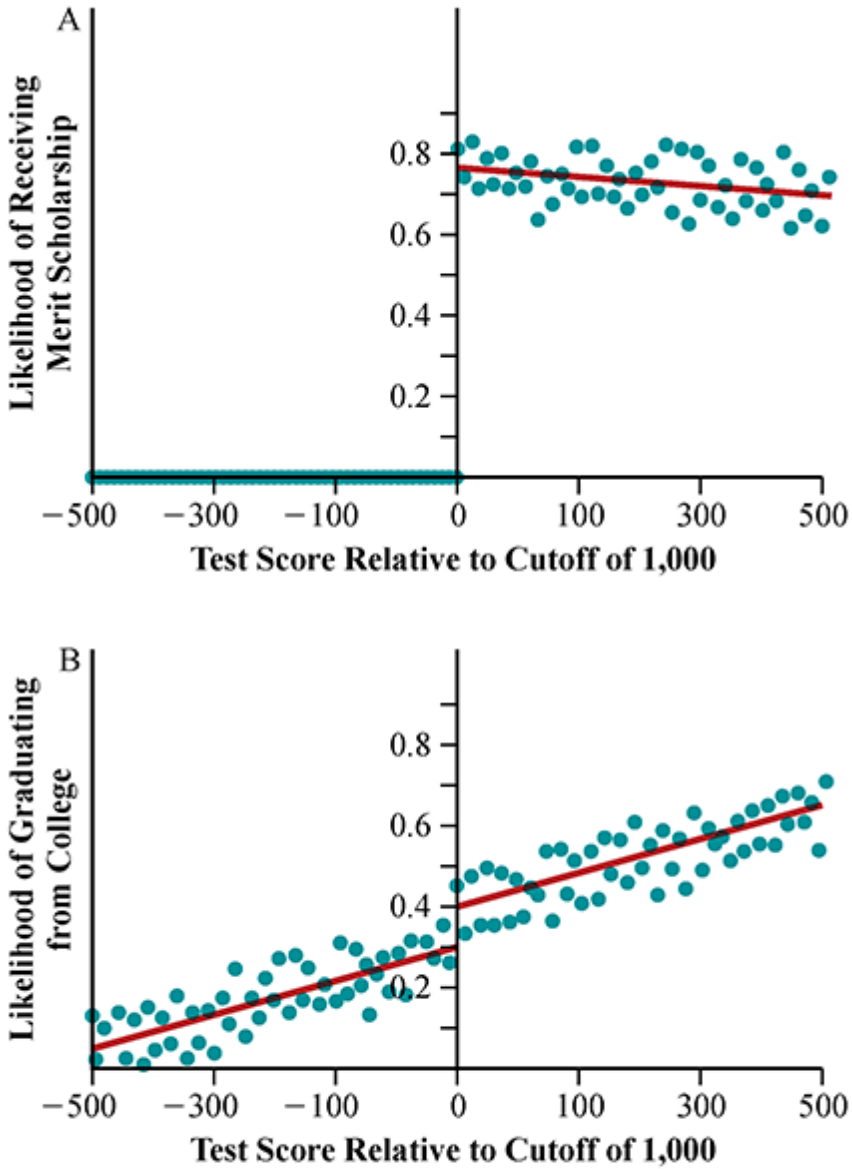
- In Figure A, we see there is a 75 percentage point difference in the likelihood of winning a merit scholarship at a test score cutoff (fuzzy cutoff)
- We can use this fuzzy cutoff to estimate the effect of merit aid on graduating college



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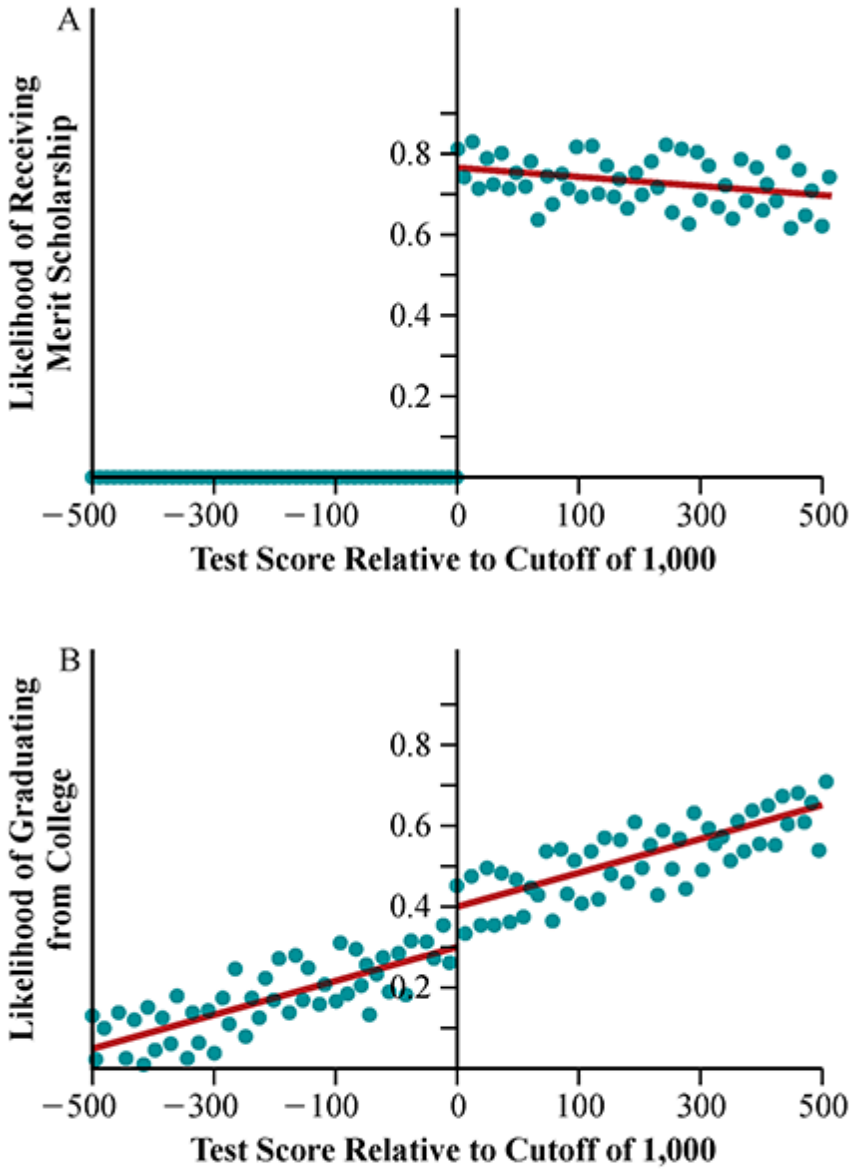

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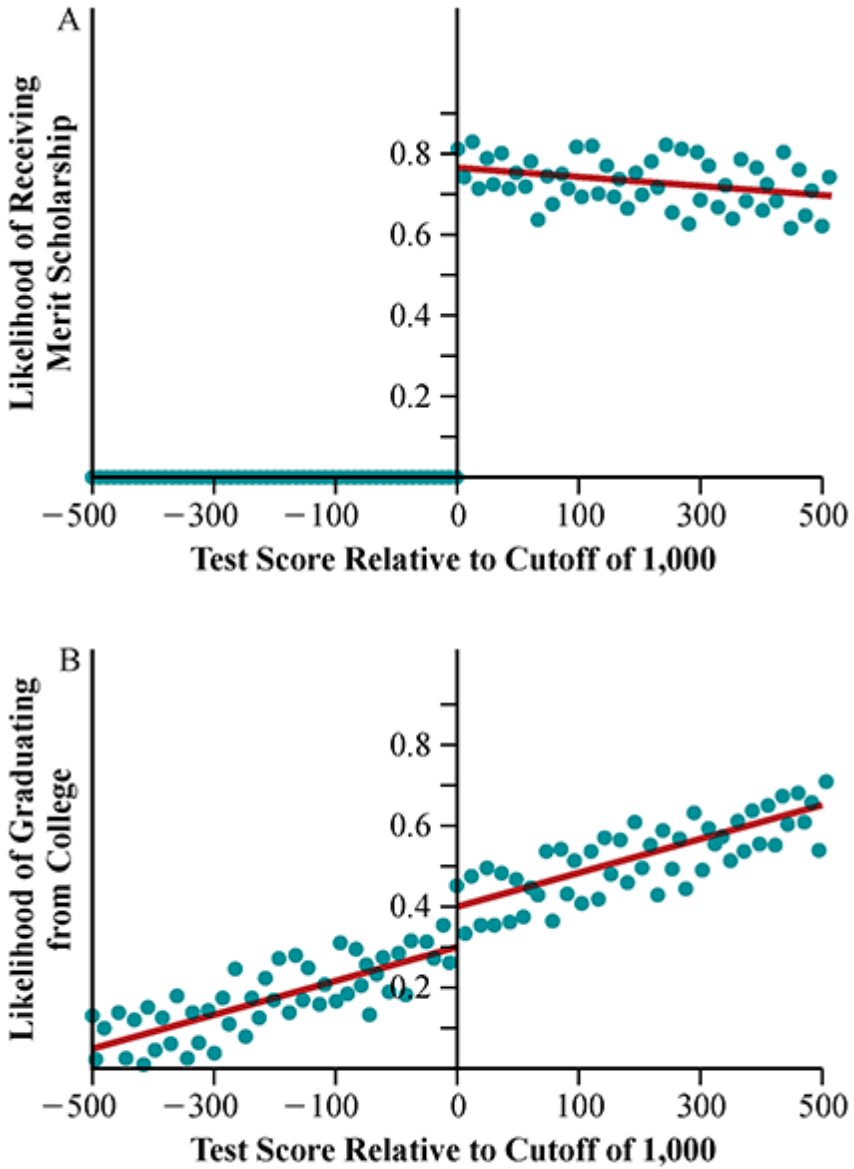
- In a fuzzy framework, we divide the difference in outcomes at the threshold (10 percentage point increase in graduating from college (or .1)) by the difference in the likelihood of treatment (75 percentage points (or .75))
- Here we find a 13.3 percentage point increase in the likelihood of graduating from college due to merit based financial aid



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