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Labor Market Outcomes Data and Major Choice: A Survey Experiment

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The Push for Labor Market Outcomes Data

- Mounting concerns about labor market outcomes of college graduates among policymakers and the public
- Initiatives such as WDQI make labor market data increasingly available
- Initiatives are making these data accessible, including the College Scorecard, State data initiatives, CollegeMeasures.org
- Focus on informing consumer choices, but little research on how to present labor market outcomes data and its effect on consumers

Debate about How to Present Labor Market Data

- Many questions about how to present these data; we focus on one specific issue
- Two views on how to display earnings data:
  - Average/Median – simple, provides sense of typical earnings
  - Range/Variation – more complex, shows range of possible earnings, reveals degree of uncertainty or risk
- Ultimately, data display should be informed by how students use and interpret data

Prior Research on Earnings Information

- Economics literature has a lot of evidence on the relationship between expected earnings and schooling decisions (Willis and Rosen 1979; Altonji et al. 2012)

- Also, theories of decision making under uncertainty and the role of risk; some research shows students prefer to avoid risk, especially low-SES students (Nielsen and Vissing-Jorgensen 2006; Attanasio and Kaumann 2011)

- Earnings information changes student expectations about earnings and influences educational decisions(Jensen 2010; Wiswall and Zafar 2013)

Hypotheses

Key Question: How do alternative displays of labor market outcomes information influence decision making?

We test two core hypotheses:

- Earnings information that includes variation leads to different choices compared to median earnings alone.
- Earnings information that includes variation leads to different earnings expectations compared to median earnings alone.

And, one additional hypothesis:

- Earnings information that includes variation will be more likely to lead to the selection of high variation majors for students with high academic achievement and the selection of low variation majors among students with low academic achievement.

Data and Experimental Design

Survey Details

- Used a vignette approach
- National survey of approximately 600 adults using Amazon's Mechanical Turk (Mturk) for the sample recruitment
- Sample characteristics: median age = 28, 47% with a college degree, 37% female
- On-line survey using Qualtrics, took approximately 6 minutes to complete on average
- Conducted in November 2013

The Experiment

- Treatment focused on presenting earnings for two majors with similar medians but different ranges: economics and math
  - Economics ("high risk") has a wider range of earnings than math ("low risk")

- Subjects randomly assigned to different conditions:
  - Academic achievement level of hypothetical student
  - Median alone or median and the range for the two majors

- Calculated earnings information based on New Jersey's higher education data linked with wage records data through the WDQI

The Vignette

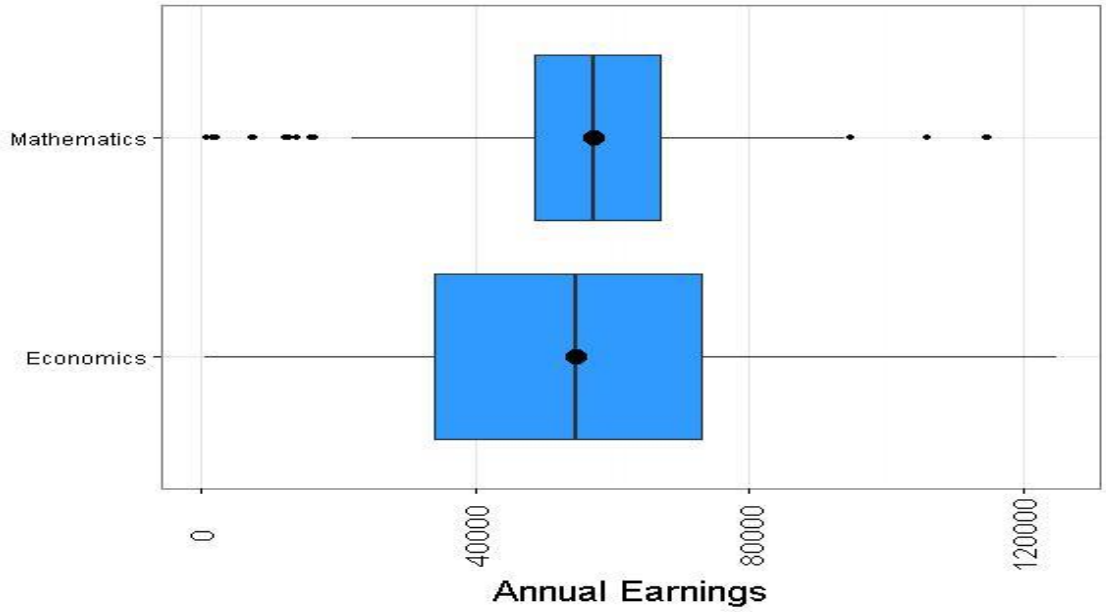
- Steve is a sophomore at a large public university and is trying to decide on a major. He is choosing between mathematics and economics. He has always [been a high achiever academically / struggled somewhat academically], and expects to perform equally well in each major. He will graduate with approximately $30,000 in student loans.

Median only Condition

Major Category	Average Earnings
Mathematics	$57,000
Economics	$55,000

Median and Variation Condition

Major Category	25% Make Less Than	Average Earnings	25% Make More Than
Mathematics	$49,000	$57,000	$67,000
Economics	$34,000	$55,000	$73,000



Survey Questions

- After viewing labor market outcomes data, respondents answer the following questions:
  - How much is Steve likely to earn in a given major on average?
  - How likely is Steve to earn above $70,000 per year (a high salary for college graduates)?
  - How likely is Steve to earn below $38,000 per year (a low salary for college graduates)?
  - Which major do they recommend that Steve pursue?

Findings

Recommendation of Major

	Percent Choosing Mathematics (Low risk major)		Estimated Effect
	Control (Median only)	Treatment (Median and variation)	
Overall	**82%**	**63%**	**-19%**
High Achievement	85%	60%	-25%
Low Achievement	80%	65%	-15%

Earnings Expectations

- Presenting the median and the variation versus the median only changed earning expectations
  - Respondents were more likely to expect a chance of higher earnings in the high risk major (economics) than in the low risk major (math)
  - Likewise, respondents were more likely to expect a chance of lower earnings in the high risk major (economics) than in the low risk major (math)
  - No difference in expectations of average earnings
- Earnings expectations are a mechanism for change in recommended major

Implications

- Information on variation in earnings is influential
- Respondents likely have varying risk preferences - information on variation is influential for some respondents and not others
- Initiatives ought to consider providing information on variation

Future Research

- Prior literature suggests information on variation is particularly important for low-SES students - more research is needed on this issue
- More research is needed on the effect of information on variation with student populations, as well as parents and counselors
- Research is needed to understand how students make sense of these data
- Research is needed on many other aspects of how to present labor market outcomes data

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