

Are Some Degrees Worth More Than Others? Evidence from College Admission Cutoffs in Chile

Justine S. Hastings, Christopher Neilson, and Seth Zimmerman

The issue. The gap in earnings between those with and without a college education has increased substantially over the past few decades. In response, many governments in OECD countries expanded student loan programs in an effort to provide greater access to higher education. These efforts resulted in double-digit growth in college enrollment, but they also resulted in widespread student protests over burdensome loan debt that seems too high relative to meager earnings gains. What do we know about returns to college education? Does earning a college degree always leave you better off? Or does the return to a degree depend on the student, the institution or the degree? Is the purpose of a college degree merely to separate individuals by ability, or is value added so that all individuals can gain from a college education?

Investigation. In “Are Some Degrees Worth More Than Others? Evidence from College Admission Cutoffs in Chile,” Hastings, Neilson, and Zimmerman answer these questions in the context of the Chilean higher-education system – one of the OECD systems that experienced international-headline-grabbing student protests after having aggressively expanded higher education access.

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To answer these questions the authors worked with the Chilean government to link twenty-six cohorts of administrative data – from 1985 through 2011 – tracking students from high school, to college and into the labor force. This scale of data collection and linkage is a first – and necessary for measuring long-run impacts of different degrees.

To get beyond correlation, and estimate causal impacts of college degrees, the authors exploit unique features of the Chilean education system. In Chile, as in many European and Asian countries, students apply to a career (major) and a university

simultaneously (e.g. Civil Engineering at the University of Chile). They submit up to eight choices to a centralized, score-based admission system. Students are ranked by their scores, and are admitted to their most preferred choice for which their score was high enough to earn admission. This system creates thousands of regression discontinuities – a big change in admissions caused by very small change in test scores right around an unpredictable cutoff. Economists use such sharp changes to generate exogenous variation in school admissions. They are helpful for causal identification because students just on either side of the cutoff are essentially the same – some just got lucky or unlucky enough to get an extra point on their exam and make it over the cutoff score.

Importantly, means that a student could just miss being admitted to an Art program, and instead be admitted to a Technology program. A student could just be admitted to a Health degree instead of an Education degree. In addition, someone might just miss a top-tier degree and only gain admission to a less selective program.

The authors exploit this tremendous variation to identify the impact of a college education along key dimensions. They examine returns by field of study, degree selectivity, core curriculum course focus, and by socioeconomic background of the student.

Findings. Several important findings emerge. First, only selective degrees appear to have large, positive earnings gains. Positive overall gains from college admissions are caused mostly by very large gains among the most selective tier of degrees. Unfortunately, student loan expansion drove enrollment mostly in less-selective degrees. For these degrees, it is not clear the earnings returns justify the cost.

Second, there are large, persistent differences in returns across fields of study. Science majors, Health Majors, Law and Social Science majors have the largest returns, while Education, Arts and Humanities do not. In fact, returns to admission to some of these

degrees may even be slightly negative. Just missing admission to one of these programs and gaining admission to a science-based program has a substantial positive impact on lifetime earnings. However, even within fields, these gains are concentrated among selective degrees. Where you enroll matters as much as what you study.

The authors next investigate if there's any indication that curriculum focus may matter. U.S. policy makers have suggested that vocationally-focused universities may do more to increase earnings outside of the top-selectivity tier. The authors link core-curriculum requirements by institution and major, classifying degrees into core-curriculum (with emphasis on general math, language, and science) and vocational degrees. They find no evidence that vocationally-focused programs have higher returns among either lower-or higher-selectivity degrees. Only core-curriculum, selective degrees result in positive gains. This may be that students learn key logic and communication skills that are helpful in many jobs, allowing them more flexibility to adjust to labor market changes over time.

Finally, the authors examine if returns to selective degrees accrue to students from all socioeconomic backgrounds. This is an important question as some

argue that low-income students may lack the soft-skills to fully capitalize on selective higher education. The authors find no evidence to support this. Rather, estimates indicate that if anything low-income students may benefit more from a selective degree – evidence in support of policies to encourage low-income students to reach for top programs.

Policy Problems. These results suggest that not all degrees and colleges are equal – encouraging enrollment in any college and any degree can lead to students with debt larger than their wage gains can handle. They also suggest that schools and students may not be fully informed about persistent returns. Schools should be expanding in fields and contracting in others, and students should be shifting their choices to take advantage of large disparities in earnings.

Simple Solutions. The government can provide a public good by publishing earnings statistics by institution and field of study. Solving market failures like information frictions is a clear positive role for government. Furthermore, linking loans to expected earnings gains can provide correct incentives for institutions to add-value to enrollees, to provide information to students, and to boost overall efficiency in the higher-education market.

Take away points

- ▶ Only selective degrees in health, technology, science, law and social-science offer significant positive returns relative to no college admission; arts, humanities and education result in zero to negative earnings gains.
- ▶ For selective degrees, socioeconomic background does not matter – students from both low and high income backgrounds gain equally.
- ▶ Students may base college choices on systematically biased and uninformed beliefs – policymakers can improve these beliefs by providing accurate centralized ranking and earnings data

the fine print

technical information

Data

Administrative data for twenty-six cohorts of college-bound students in Chile from high-school to college to labor market, compiled in coordination with the Chilean government

Methods

Regression discontinuity designs to estimate causal impact of admissions on long-run labor market earnings as a function of student and career characteristics.