

Knowledge Acquisition

Guiding Principles

1. Society receives disproportionate returns from educators transferring information to students.
2. Return on investment of education can be calibrated by comparing the cost of an education at a specific institution following a specific program to the expected income resulting from it.
3. Alignment of price and quality to the consumption of the product suggests that loans should be housed at the institutional level.
4. Higher-education institutional access to and terms on government funding should be tied to its students' economic outcomes.
5. Consumption costs for education are assigned at the moment of consumption but factored into the future.

Policy Conception

1. Post-secondary education is the vehicle for information that will be used to deliver a product/service for which the market will have an eventual demand.

Research Outline

1. High school
 - a. Contemplation of options
 - i. <https://nces.ed.gov/datapoints/2019015.asp>
 1. How do parents and students view their education trajectories?
 2. How do high school students decide to pursue a course of study or career during and shortly after high school?
 - ii. https://nces.ed.gov/programs/coe/indicator_coi.asp
 1. What percentage of high school students graduate on time?
 2. Of those who don't, how many achieve their GED or high-school equivalency?
 - iii. <https://nces.ed.gov/pubs2018/2018088.pdf>
 1. What determines students' choices related to post-secondary education options?
 2. Who influences their education and career options the most?
 - iv. <https://research.stlouisfed.org/publications/page1-econ/2017/01/03/education-income-and-wealth/>
 1. What are the relationships among education, lifetime income, and wealth?

- b. Resources and information
 - i. FAFSA
 - 1. <https://fafsa.ed.gov/help/fftoc02b.htm>
 - a. What is FAFSA, and how is it used?
 - 2. <https://studentaid.gov/resources>
 - a. What types of grants, loans, and work-study programs are available through FAFSA?
 - ii. School counselors
 - 1. <https://www.schoolcounselor.org/asca/media/asca/ASCAU/College-Admissions-Specialist/ImprovingCollegeAccess.pdf>
 - a. How do school counselors at high schools guide students in deciding whether and where to enroll in higher education and how to pay for it?
 - iii. Higher Education Costs
 - 1. <https://nces.ed.gov/pubs2019/2019473.pdf>
 - a. What do students pay to attend each stratum and category of higher education institution?
 - b. How do students in each group pay for their education?
- 2. Decision to enter higher education (community college - university)
 - a. https://nces.ed.gov/programs/coe/indicator_cpa.asp
 - i. What percentage of high school students enrolled in college by the next fall following their graduation?
 - b. https://nces.ed.gov/programs/coe/indicator_cpb.asp
 - 1. What percentage of 18- to 24-year-olds enroll in college?
 - c. https://nces.ed.gov/programs/coe/indicator_csb.asp
 - 1. What does the distribution of the student population look like based on age and institution type?
 - d. <https://www.valuepenguin.com/student-loans/average-cost-of-college>
 - 1. What are the average costs associated with attending college by channel?
 - e. <https://www.bls.gov/careeroutlook/2018/data-on-display/education-pays.htm>
 - 1. What are average incomes at each level of education?
 - f. <https://www.nefe.org/images/research/diverging-paths-youth-debt/Debt-by-Degree-Executive-Summary.pdf>
 - 1. What amount of student and other debt is expected for graduates at each level of education?
- 3. Trade/vocational schools and apprenticeships
 - a. <https://www.theatlantic.com/education/archive/2019/03/choosing-trade-school-over-college/584275/>

- i. How does the net income earning potential for students of trade/vocational school compare to that of college students at different types of institutions?
 - b. <https://files.eric.ed.gov/fulltext/ED572260.pdf>
 - i. How do students learn skills that will be valued by the labor market?
 - ii. What can businesses do to attract, train, and retain skilled employees?
 - iii. What are the returns on investment to employers, employees, labor unions, and other stakeholders in apprenticeship programs?
 - iv. How can secondary and higher education institutions collaborate with the private sector to better match information and training with in-demand skills and employers who need them?
 - c. http://hanushek.stanford.edu/sites/default/files/publications/Hanushek%20BSchwerdt%20Woessmann%20Zhang%202017%20JHR%2052%281%29_o.pdf
 - i. What are the short and long-term tradeoffs to trade/vocational education versus general, traditional education?
 - ii. How can education systems and labor markets optimize information delivery to produce the highest outcomes for students and the overall economy?
 - iii. What relationships present themselves between course of study, lifetime income, employment stability, and length of career?
4. Military service path to education
 - a. https://nvest.studentveterans.org/wp-content/uploads/2017/03/NVEST-Report_FINAL.pdf
 - i. How efficient are the funds disbursed by the GI Bill relative to alternate forms of funding higher education?
 - ii. How do the programs and institutions vary from those sought by traditional students in cost and earning potential?
 - iii. What level of debt do military veterans incur during their higher education career?
5. Non-traditional, non-military path to education
 - a. <https://nces.ed.gov/pubs2015/2015025.pdf>
 - i. What defines the higher education experience of nontraditional students?
 - ii. How is their use of institutions and financing different from traditional or military service path students?
 - iii. How do average earnings compare with student debt, especially when accounting for completion rates and length of study?
6. Advanced/graduate education
 - a. https://www.urban.org/sites/default/files/publication/86981/who_goes_to_graduate_school_and_who_succeeds_1.pdf
 - i. What quantity of undergraduates eventually seeks a graduate education?
 - ii. How does the institution, cost, and success makeup differ from other strata of education?
 - iii. How does income relate to student debt levels?

7. Direct-to-student resources

a. Federal student loans

- i. <https://www.fool.com/the-ascent/research/student-loan-debt-statistics/>
 1. What is the amount, status, breakdown, and distribution of student loan debt across states, loan types, and demographics?
- ii. https://www.brookings.edu/wp-content/uploads/2016/06/economist_perspective_student_loans_dynarski.pdf
 1. What has caused increased borrowing over time?
 2. How are the costs of higher education and student debt allocated?
 3. How is borrowing related to education access, attainment, and future income?
 4. How can financing accommodate short-term income shocks and tie balance repayment to earnings?
 5. What data are needed to map society's returns to higher education financing and design optimal credit/grant facilities?
- iii. <https://www.pewresearch.org/fact-tank/2019/08/13/facts-about-student-loans/>
 1. How are level of education and student loan balances correlated?
 2. How do college graduates perceive the effect of higher education expenses and financing on their current financial stability and future earning potential?

b. Private student loans

- i. <https://studentaid.gov/understand-aid/types/loans/federal-vs-private>
 1. What are the key differences between federal and private student loans?
- ii. https://ticas.org/wp-content/uploads/2019/08/pl_facts_trends.pdf
 1. Why do borrowers use private student loans instead of other resources?
 2. What types of institutions and programs of study lead to the most private loan borrowing?

c. Public grants

i. Pell grants

1. https://research.upjohn.org/cgi/viewcontent.cgi?article=1298&context=up_workingpapers
 - a. What are the effects of Pell (and other) grants on higher education enrollment, educational attainment, course of study, institutional selection, and future income?
 - b. What are the net costs and benefits to students, federal tax revenues, and private industry?
 - c. How does state investment in higher education mimic and support federal funding?

- ii. ACG and SMART grants
 - 1. <https://www2.ed.gov/programs/smart/index.html>
 - a. What programs exist to reinforce need-based funding sources with merit-based contributions to encourage high-performing students to continue their education and focus on in-demand fields of study?

- d. Scholarships and merit-based aid
 - i. <http://repec.iza.org/dp6801.pdf>
 - 1. Does merit-based aid contribute to educational attainment or college attendance?
 - ii. <https://www.nber.org/papers/w18530.pdf>
 - 1. How does merit-based aid affect in-state college attendance, migration, and higher-education participation?
 - 2. Can states use merit-based aid to retain and attract high-skill workers?
 - 3. If higher-attaining students remain in state for higher education, are other students adversely impacted?

- e. Family contribution
 - i. Parent resources (529 plan)
 - 1. <https://www.pewtrusts.org/en/research-and-analysis/articles/2018/10/08/use-of-529-plans-rising-along-with-revenue-impact>
 - a. How has 529 plan use evolved over time?
 - b. How do plans benefit parents and students?
 - c. What state and federal revenue losses occur resulting from plan use?
 - 2. <https://www.brookings.edu/research/the-costs-opportunities-and-limitations-of-the-expansion-of-529-education-savings-accounts/>
 - a. Who experiences the benefits of 529 plans?
 - ii. Student/family responsibility
 - 1. https://etd.ohiolink.edu!/etd.send_file?accession=osu1461286210&disposition=inline
 - a. How do families think about higher education expense planning?
 - b. How dependent is educational attainment on familial education expense support?
 - c. What factors determine family education savings behaviors?
 - 2. <https://www.marketwatch.com/story/more-parents-are-refusing-to-pay-for-their-kids-college-2018-08-23-7881750>
 - a. How much are families contributing to their children's higher education?
 - b. How have higher education funding practices changed?
 - c. How much do students save for their own education expenses?

3. [https://ifap.ed.gov/efcformulaguide/attachments/1920EFCFormul
aGuide.pdf](https://ifap.ed.gov/efcformulaguide/attachments/1920EFCFormul
aGuide.pdf)
 - a. How does the federal government determine expected family contribution for student aid purposes?

8. Institutional resources

- a. State and federal funding
 - i. [https://www.pewtrusts.org/en/research-and-analysis/issue-
briefs/2019/10/two-decades-of-change-in-federal-and-state-higher-
education-funding](https://www.pewtrusts.org/en/research-and-analysis/issue-
briefs/2019/10/two-decades-of-change-in-federal-and-state-higher-
education-funding)
 1. How do funding sources and uses compare between federal and state expenditures?
 2. What mix of funding do different states and student groups employ?
 - ii. <https://publicpolicy.wharton.upenn.edu/live/files/145-a>
 1. What are the expected higher education demand profiles in the labor markets of states?
 2. How have budget pressures strained state resources tied to higher education?
 3. Where have increasing tuition costs and relative reductions in state investment been felt?
 - iii. [https://www.cbpp.org/research/state-budget-and-tax/unkept-promises-
state-cuts-to-higher-education-threaten-access-and](https://www.cbpp.org/research/state-budget-and-tax/unkept-promises-
state-cuts-to-higher-education-threaten-access-and)
 1. How have state budgets responded to higher education after the 2008 recession?
 2. What has driven the rising tuition costs at public universities?
 3. What consequences are felt by prospective students, graduates, and families from limited state funding?

9. Athletic department resources

- a. [https://pdfs.semanticscholar.org/8a43/e36a9255e687a2e3b39a6361b88089
661947.pdf](https://pdfs.semanticscholar.org/8a43/e36a9255e687a2e3b39a6361b88089
661947.pdf)
 - i. How are university athletic departments funded?
 - ii. How reliant are they on government and student revenue/transfer sources?
 - iii. How do revenue-generating athletic departments add value or resources to their universities?
- b. [https://www.air.org/sites/default/files/downloads/report/Academic-
Spending-vs-Athletic-Spending.pdf](https://www.air.org/sites/default/files/downloads/report/Academic-
Spending-vs-Athletic-Spending.pdf)
 - i. How have spending on athletics and academics increased in recent years?
 - ii. Do athletic departments satisfy their own expense requirements and/or contribute to their universities more than they receive in subsidies or student fees?
 - iii. What non-financial and indirect benefits do universities receive from student athletics?

10. Institutional cost drivers

- a. <https://nces.ed.gov/fastfacts/display.asp?id=75>
 - i. Where do institutions spend money, and how does this change based on institution category?
- b. <https://www.insidehighered.com/news/2018/12/04/new-research-provides-detailed-data-better-explaining-college-teaching-costs>
 - i. How and why do instructional costs differ across fields of study?