SEBASTIÁN OTERO

sotero@stanford.edu
http://www.stanford.edu/~sotero
Department of Economics
Stanford University
579 Jane Stanford Way
Stanford, CA 94305-6072
(650) 445-1887

EDUCATION

Ph.D. in Economics, Stanford University,
Expected Completion: June 2022
DISSERTATION: "*Essays on Education in Developing Countries*"
M.A. in Economics, Pontificia Universidad Católica de Chile, 2013
B.A. in Economics, Pontificia Universidad Católica de Chile, 2012

DISSERTATION COMMITTEE

Prof. Pascaline Dupas (co-primary)
Department of Economics
Stanford University
pdupas@stanford.edu

Prof. Liran Einav (co-primary)
Department of Economics
Stanford University
leinav@stanford.edu

Prof. Matthew Gentzkow
Department of Economics
Stanford University
gentzkow@stanford.edu

Prof. Paulo Somaini
Graduate School of Business
Stanford University
soma@stanford.edu

RESEARCH AND TEACHING FIELDS

Primary field: Development Economics and Industrial Organization
Secondary fields: Labor Economics

TEACHING EXPERIENCE

2018-20 *Teaching Assistant at Stanford University*
Media Markets and Social Good for Prof. Matthew Gentzkow
The Modern Firm in Theory and Practice for Prof. Nicholas Bloom
Seniors Honor Seminar for Prof. Marcelo Clerici-Arias
Juniors Honor Seminar (×2) for Prof. Marcelo Clerici-Arias

2008-13 *Teaching Assistant at Pontificia Universidad Católica de Chile*
Graduate: Political Economy, Econometric Theory (×2), Microeconomics (for MBA) (×3), Quantitative Methods for Business (for MBA)
Undergraduate: Introduction to Economics, Accounting, Introduction to Microeconomics, Introduction to Macroeconomics, Microeconomics (×2), Macroeconomics, Econometrics

PAST POSITIONS

2016-17 Research Assistant for Prof. Nicholas Bloom, Stanford University
2015-19 Research Assistant for Prof. Christopher Neilson, Princeton University
2013-15 Research Assistant at JPAL-LAC

PUBLICATIONS

OTERO, SEBASTIÁN, AND T. RAU [2017], "The Effects of Drinking and Driving Laws on Car Crashes, Injuries, and Deaths: Evidence from Chile", *Accident Analysis & Prevention,* (106), 262-275

RESEARCH PAPERS

Affirmative Action in Centralized College Admission Systems: Evidence from Brazil ***(Job Market Paper)***
with Nano Barahona and Cauê Dobbin

This paper empirically studies the distributional consequences of affirmative action in the context of a centralized college admission system. We examine the effects of a large-scale program in Brazil that mandated all federal public institutions to reserve half their seats for public high school students, prioritizing those from socioeconomically and racially marginalized groups. After the policy was put in place, the representation of public high school students of color in the most selective federal degrees increased by 73%. We exploit degree admission cutoffs to estimate the effects of increasing affirmative action by one reserved seat on the quality of the degree attended four years later. Our estimates indicate that the gains for benefited students are 1.6 times the costs experienced by displaced students. To study the effects of larger changes in affirmative action, we estimate a joint model of school choice and potential outcomes. We identify the parameters of the model using exogenous variation in test scores—arising from random assignment to graders of varying strictness—that changes the availability of degrees for otherwise identical individuals. We find that the policy creates impacts on college attendance and persistence that imply overall income gains of 1.16% for the average targeted student, and losses of 0.93% for the average non-targeted student. Overall, the policy prompted a negligible increase in predicted income of 0.1% across all students in the population. Taken together, we find that the affirmative action policy had important distributional consequences, which resulted in almost one-to-one transfers from the non-targeted to the targeted group. These results indicate that introducing affirmative action can increase equity without affecting the overall efficiency of the education system.

Equilibrium Effects of Food Labeling Policies ***(R&R at Econometrica)***
with Nano Barahona, Cristóbal Otero, and Joshua Kim

We study a regulation in Chile that mandates warning labels on products whose sugar or calorie concentration exceeds certain thresholds. We document an overall decrease in sugar and calorie intake of 7-9%. To reveal mechanisms, we focus on breakfast cereal. On the demand side, consumers substitute from labeled to unlabeled products, a pattern that is mostly driven by products which consumers mistakenly believed to be healthy. On the supply side, we find substantial reformulation of products and bunching at the thresholds. We develop and estimate an equilibrium model of demand for food and firms' pricing and nutritional choices. We find that food labels increase consumer welfare by 3.8% of total expenditure, and that these effects are enhanced by firms' responses. We then use the model to study alternative policy designs. Under optimal policy thresholds, food labels and sugar taxes generate similar gains in consumer welfare but food labels benefit the poor relatively more.

The Equilibrium Effects of Public Provision: Evidence from a Public School Expansion Policy
with Michael Dinerstein and Christopher Neilson

In markets with private options, the optimal level of public provision may require balancing a tradeoff between reducing private options' market power with the possibility of crowding out potentially high-quality products. These considerations are particularly relevant in many developing countries' education systems where state capacity is increasing but low levels of past public provision mean many private schools already exist. We study the equilibrium effects of public provision in the context of a large expansion of public schools in the Dominican Republic. Over a five-year period, the government aimed to increase the number of public school classrooms by 78%. Using an event study framework, we estimate the effect of a new public school on neighborhood outcomes and competing private schools, where we instrument for how quickly the public school construction project finished with the characteristics of the contractor randomly assigned to build the project. We find that a new public school increased public sector enrollment significantly. As public enrollment increased, a large number of private schools closed while the surviving schools lowered prices and increased school quality. To study how the level of public provision affects the overall level of quality in the market, we specify and estimate an empirical model of demand (students choosing schools) and supply (schools choosing whether to enter, stay open and what price to charge). We use the model estimates to calculate the level of public provision that maximizes learning. Due to equilibrium competitive effects, we find that the optimal level is non-monotonic in the quality of the increased public schooling.

The Equilibrium Effects of Subsidized Student Loans
with Cauê Dobbin and Nano Barahona

We investigate the equilibrium effects of subsidized student loans on tuition costs, enrollment, and student welfare. Two opposing forces make the impact on tuition theoretically ambiguous. First, students with loans become less price-sensitive because they do not bear the total tuition cost, causing tuition to rise (direct effect). Second, loan programs tend to increase the market share of more price-sensitive students, reducing tuition (composition effect). We develop a model of the supply and demand for higher education and estimate it leveraging a large change in the availability of student loans in Brazil. We find that Brazil's current loan program raises prices by 1.2% and enrollment by 11% relative to a counterfactual without loans. In contrast, we show that an alternative policy that gives loans only to low-income students raises prices by just 0.3% and enrollment by 16%. Most of the difference in enrollment between the two policies are due to price changes coming from a stronger composition effect in the alternative policy.

Skin in the Game: College's Financial Incentives and Student Outcomes
with Nano Barahona, Caue Dobbin, Hanson Ho, and Constantine Yannelis

This paper studies how schools respond to financial incentives. Governments can penalize institutions with high dropout or loan default rates, and these institutions can respond by increasing quality or changing the selection of students. We build an equilibrium model to illustrate the trade-off faced by policymakers. We study the predictions of the model using a 2017 reform in Brazil, which made schools pay a fee for students receiving federal student loans that dropped out or defaulted. Consistent with the predictions of the model, we find that schools more reliant on government aid reduced dropout rates, primarily by increasing quality.

The Effects of Large Group Meetings on the Spread of COVID-19: The Case of Trump Rallies
with B. Douglas Bernheim, Nina Buchmann and Zach Freitas-Groff

We investigate the effects of large group meetings on the spread of COVID-19 by studying the impact of eighteen Trump campaign rallies. To capture the effects of subsequent contagion within the pertinent communities, our analysis encompasses up to ten post-rally weeks for each event. Our method is based on a collection of regression models, one for each event, that capture the relationships between post-event outcomes and pre-event characteristics, including demographics and the trajectory of COVID-19 cases, in similar counties. We explore a total of 24 procedures for identifying sets of matched counties. For the vast majority of these variants, our estimate of the average treatment effect across the eighteen events implies that they increased subsequent confirmed cases of COVID-19 by more than 250 per 100,000 residents. Extrapolating this figure to the entire sample, we conclude that these eighteen rallies ultimately resulted in more than 30,000 incremental confirmed cases of COVID-19. Applying county-specific post-event death rates, we conclude that the rallies likely led to more than 700 deaths (not necessarily among attendees).

RESEARCH IN PROGRESS

The Effect of Online Education on Market Structure and Educational Outcomes
with Nano Barahona, Cauê Dobbin, and Joaquín Fuenzalida

We investigate the costs and benefits of expanding access to online higher education. The net effect of increasing the availability of online degrees on student outcomes is ambiguous and depends on two key objects. First, it depends on whether the demand for online education comes from students substituting away from in-person degrees, or from students who otherwise would not study. Second, it depends on how the value-added of online degrees compares to that of in-person degrees. We analyze this issue in the context of the Brazilian higher education market, where the market share of online degrees increased from 21% to 51% between 2015 and 2019. Our setting is compelling for two reasons. First, federal regulation mandates that specific majors, such as Law, cannot be offered online. We find that, since 2015, in-person enrollment decreased in majors that allow online education, while remaining stable in purely in-person majors. This pattern suggests that a substantial share of the students enrolling in online education would otherwise enroll in in-person degrees. Second, the Brazilian government offers grants to help students pay for tuition costs. These grants are allocated based on standardized test scores, and there are different cutoffs for online and in-person education. Exploring these discontinuities as a natural experiment that nudges students into one type of education or the other, allows us to estimate the value-added of each degree type.

Demand Shocks and Firm Dynamics: Evidence from Government Procurement Lotteries
with Marvin Cardoza, Michael Dinerstein, and Christopher Neilson

We study the effects of a large and randomly assigned demand shock on small firms and prospective entrepreneurs. We take advantage of a unique public procurement setting in the Dominican Republic (DR) where construction projects are assigned via lottery to guard against corruption. In 2012 the government began a large school construction initiative, assigning over 1,800 projects--with an average budget exceeding a million dollars--via lottery to engineers ranging from prospective entrepreneurs to established firms. Unlike other procurement processes, our setting stands out in several ways: (1) projects were assigned via lottery so the demand shock spans the full support of firm size and productivity; (2) lottery participants were mostly young firms or skilled, but inexperienced, prospective entrepreneurs yet to even run a firm; (3) demand shocks were large, exceeding average firm revenues prior to the lotteries; and (4) entrepreneurs rarely won multiple lotteries. Using detailed administrative data on firm and individual taxes, employer-employee matched earnings, and firm-to-firm transactions, we leverage this setting to study how randomized demand shocks affect entrepreneurs relative to established firms. We find large and persistent positive causal effects from winning the lottery on contractor revenues, labor costs, firm-to-firm transaction amounts, and profits. We also find that firm assets and firm registration increase in response to winning a lottery. These effects persist beyond the period of the government contract.

SCHOLARSHIPS, HONORS AND AWARDS

2021	B.F. Haley and E.S. Shaw Fellowship for Economics, SIEPR, Stanford
2018-21	Graduate Student Fellowship, Stanford King Center
2021	Dissertation Fellow, Institute for Research in the Social Sciences, Stanford
2020	Outstanding Teaching Assistant, Stanford University
2020	Spencer Dissertation Fellowship, National Academy of Education
2018	George P. Shultz Scholar Fellowship, SIEPR, Stanford
2013	Maximum Distinction for Thesis, M.A. in Economics, PUC Chile
2013	Academic Excellence Award, M.A. in Economics, PUC Chile
2013	Raúl Iver Oxley Prize (highest GPA), B.A. in Economics, PUC Chile
2012	Academic Excellence Scholarship for Master Studies, Conycit, Government of Chile
2012	Top 100 young Chilean leaders, “El Mercurio” Newspaper, Chile
2007	30 emerging young leaders, “Capital” Magazine, Chile
2006	Academic Excellence Award, B.A. in Economics, PUC Chile

GRANTS

2021	Stanford University, SIEPR Program in Regulatory Policy (PI) - $3,800
2020	Stanford University, King Center on Global Poverty & Development (PI) - $5,000
2020	Stanford University, King Center on Global Poverty & Development (Co-PI) - $10,000
2020	J-PAL, Post Primary Education (Co-PI) - $50,000
2020	Stanford University, Institute for Research in the Social Sciences (PI), $1,500
2020	Stanford University, Diversity Dissertation Research Opportunity (PI), $4,900
2019	Stanford University, George P. Shultz Scholar Fund (PI), $8,000
2018	Stanford University, George P. Shultz Scholar Fund (PI), $6,900
2017	Stanford University, King Center on Global Poverty & Development (Co-PI) - $11,386
2018	Harvard University, Weiss Fund for Research in Development Economics (PI), $5,600
2018	Stanford University, Graduate Research Opportunity (PI) - $5,000
2018	J-PAL, Post Primary Education (Co-PI) - $250,000
2018	Microsoft, Microsoft Research Azure Sponsorship (Co-PI) - $40,000
2017	Stanford University, Stanford Center for Computational Social Science (Co-PI) - $2,654
2017	Stanford University, Stanford Center on Philanthropy & Civil Society (Co-PI) - $2,480
2017	Stanford University, King Center on Global Poverty & Development (PI) - $17,000
2016	Stanford University, SCID Graduate Student Fellowship (Co-PI) - $4,728
2016	Stanford University, SCID Graduate Student Fellowship (Co-PI) - $5,213
2016	J-PAL, Post Primary Education (Co-PI) - $50,000
2016	Stanford University, Stanford Center on Global Poverty & Development (PI) - $6,002

PROFESSIONAL ACTIVITIES

Referee for *American Economic Journal: Economic Policy*, *American Economic Review (×2)*, *Economic Development and Cultural Change*, *Journal of Development Economics*.

Seminar presenter at *National Academy of Education, WEAI, Comparative and International Education Society Annual Meeting*, *Econometric Society*, *LACEA, NEUDC, SECHI*