1) Contact Information

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2) Focus of study

- I am a fourth year PhD student and my graduate coursework focused in the following fields:

  i. Applied Micro: Topics in Economic Development (Prof. Supreet Kaur), Public Finance (Prof. Francoise Gerard), Labor Economics (Prof. Miikka Rokkanen), Topics in Health Economics (Prof. Douglas Almond), Economics of Education (Prof. Henry Levin), Industrial Development (Prof. Eric Verhoogen, audited in the third year)

  ii. Industrial Organization, Methods and Market Design: Industrial Organization I (Prof. Andrea Prat), Industrial Organization II (Prof. Kate Ho), Advanced Microeconometrics (Prof. Chris Conlon), Advanced Micro Theory: Market Design (Prof. Yeon Koo Che), Industrial Organization III (Prof. Adam Kapor, audited in the third year)

- I have participated in the following reading groups:

  – Market Design Reading Group (organized by Prof. Yeon Koo Che, Spring 2017).
  – Industrial Organization Reading Group (organized by Prof. Tobias Salz and Prof. Kate Ho).

- I presented in the following conferences and seminars outside Columbia:

  – 2017: Education Research Section Seminar (Princeton University), Research Opportunities for the Human Development in the Dominican Republic (J-PAL LAC).
  – 2016: Empirics and Methods in Economics Conference (Northwestern University), EconCon Economics Students Conference (Princeton University), Education Research Section Seminar (Princeton University).

- I have visited the following research institutions:

  1. Economics Department Princeton University (Industrial Relations Section).
     – Academic year 2016-2017: Visiting student, working with Professor Christopher Neilson
  2. Microsoft Research, New England
     – July 2017: Participated in the Microsoft Hackathon with the project: "Students' Futures at Risk: Improving Centralized School Assignment in Chile Using Machine Learning". The team was lead by Christopher Neilson, Greg Lewis and Vasilis Syrgkanis.
     – October 2017: Visited Microsoft Rearch for a week, to work with Christopher Neilson.

3) General Research Interests and Description of my Current Projects

My general research interests are related to understanding how education markets work, evaluating the effects of education policies and contributing to research based policy design.

I study market-oriented education systems in Latin America, in which there is substantial choice and an important participation of the private sector in education provision. In terms of methods, I use structural microeconomic models of demand and supply for education to understand how families and firms behave, combining administrative data from both the government and private companies, self-collected data using surveys, and experimental interventions. In most of my projects I partnership with the Government or private enterprises to exploit the underutilized administrative datasets that can be matched between each other and the unique opportunities that these entities have for interacting with individuals through their regular activities.

- *"Supply Side Responses to Parents Preferences for Peers: Considerations for Voucher Design"*

  This project is about understanding private school supply decisions as a response to parents' preferences for school characteristics. More specifically, I want to stress the idea that parents have strong preferences for peer characteristics (as recently pointed by Abdulkadiroglu et. al, 2017). I model schools as products with interactions or spillovers, for which the utility of the consumer depends -in part- on the attributes of other individuals that choose the same product. This feature has important implications for supply side decisions in terms of pricing and entry decisions. I plan to use a model of demand, supply and entry that incorporates these ideas that exploits rich dataset at the individual level that I have constructed working with the Government of Peru. Using matching algorithms, we have merge information from more than 6 different departments of the Government.

  Many challenges rise in the estimation of a model of this nature, additional to the classic price endogeneity problems in demand estimation, as peer characteristics are also endogenous. In order to overcome this problem, I use two innovative approaches in addition to the classic BLP instruments. First, I exploit experimental variation in the assignment of a scholarship program using regression discontinuity. I add this variation as an additional moment in my model that allows me to identify the parameters that explain the price sensitivity. In order to overcome the peers' endogeneity, I am using a combination of Bartik (1991) instrumental variables, that provide exogenous variation in the composition of families in the neighborhoods and shocks to preferences from public school that come from teach strikes and negotiations that are taken at the union level, that show substantial geographical variation. In addition, I exploit variation of a public-school teacher payment reform as a shock to private school costs.

  Using this model, I want to bring a new angle to the debate on voucher designs: how private schools' decision to open a new school in a specific location -along with the decision to provide education services with certain levels of quality and price- respond to the introduction of a voucher program and what are the implications for student sorting and for the distribution of achievement in education markets. I can use my small scale quasi experiment and the parameters of the model to simulate counterfactual policies in which a voucher is introduced into the system.

- *"Biased Beliefs and Search in Education Markets"* joint with Christopher Neilson

  In this project, we aim to understand how parents search for information about schools. We model school search as a process in which parents start with an information set that contains a school awareness set and beliefs about school attributes. From that starting point, parents search in order to build a consideration set and choose the best option among them. We are interested in search behavior and potentially biased beliefs about the distribution of school characteristics, as little is known about the relationship between these elements and their role in actual school choices. Our pilot surveys indicate that parents only know few schooling options and have incorrect beliefs about the joint distribution of price and quality in their local neighborhoods. Then, we suspect that the lack of knowledge about their options is due to low expected utility of searching rather than high search costs.

  This project has two main components. First, we will collect data on parents' beliefs, including the set of schools they are aware of and their beliefs about school attributes, along with questions about preferences for school attributes and potential search behavior. The objective is to distinguish between the different channels through which interventions affect the information set and search for schools (search costs vs. biased beliefs) providing some parents with interventions that correct beliefs about the distribution of characteristics and other with a full information disclosure treatment. As for the surveys, these treatments will be implemented using an app and with the help of social workers that are already vising families in social programs, with the objective of doing a second study in which we scale up this intervention using technology.

- *"The Dynamic Role of Information in Human Capital Investments"* joint with Magdalena Bennett (PhD Candidate, Columbia University)

  Information frictions have been widely studied in the context of labor economics, particularly regarding the decisions involving higher education. However, most research has studied these frictions as static, overlooking the dynamic component that might be embedded in the process. In this study, we will focus on both components, static and dynamic, analyzing not only the potential frictions in the discrete decision of college-degree choice, but also the dynamic decision in investment on the college admission preparation itself. By leveraging a randomized controlled trial for senior high school students in Chile attending a large college admission test preparation institution, we will be able to recover the key parameters of the decision model and their interaction. In our experimental design, we plan to exploit the weekly interactions with students in the college-prep course and the rich information on their daily activities registered by the firm to use A/B tests and learn about an optimal personalized treatment.

- *"The General Equilibrium Effects of Information Interventions"* joint with Christopher Neilson

- *"Cheating and Teachers Incentives: Testing for Different Mechanisms"*