THE CONSTRUCTION OF A DATABASE TO MEASURE INEQUALITY IN ACCESSIBILITY TO HIGHER EDUCATION IN CHILE

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The OECD (2009) indicates that the results obtained by the university selection test in Chile mark a difference of access in three ways:

1. **Problems of inequality in accessibility**
   - Students from public education cannot access student supports programs.
   - The students from public education can not choose a career.
   - Students with the best scores can choose their career usually come from private education.

2. **The students of public education average scores are around 470**
   - Students from public education get scores under 475.

3. **475 is the minimum score accepted in a university**
   - The minimum to apply for a state loan or scholarship is 475.

**In 2016 the enrollment of students in public education was 1,319,651 while enrollment in private education was 2,231,186.**
1.- Introduction

• Education is key to understand the long-term evolution of economic and social growth (M Beine, Docquier, & Rapoport, 2001; Lucas, 1988; Meschi & Scervini, 2014).


• Evidence of the role of education in economic growth at a regional level: Rodríguez-Pose, & Tselios, 2009; Rodríguez-Pose & Tselios, 2012; Tselios, 2014.
1.-Introduction (ii)

- Evidence of education as a driving force for improving citizenship and political participation: Milligan, Moretti & Oreopoulos, 2004; Dee, 2004; Moretti, 2004; Kam & Palmer, 2008; Berinsky & Lenz, 2011.

- Evidence of education as a driving force for reducing crime: Lochner & Moretti, 2004; Machin, Marie & Vujić, 2011.
2.- Historical situation of the Higher Education System in Chile

• By Decree No. 2 of 1981, the military government decided to fragment the public universities granting the regional branches an own legal personality. From this moment on, there is complete freedom in the higher education sector.

• In 1986, the traditional old universities and the new ones (created from the regional branches) were grouped into a Council of 25 Chancellors of Chilean Universities CRUCH (Cruz-Coke M, 2004).

• Another two public universities were created in 2015: the University of O'Higgins and the University of Aysen, in the regions of the same name, which has started their activity in the present year (2017).
2.- Historical situation of the admission test for the Chilean universities (1965 – 2016)

- Total: 8 traditional universities (2 public + 6 private)
- Fragmentation of traditional universities and creation of private non-traditional
- Creation of CRUCH (25 traditional universities)
- Access of the non-traditional private universities.
- Use of PSU score in 2 consecutive admission processes
- Access of the two public universities created and one non-traditional private
2.1.- Problems of the admission test for the Chilean universities

- Aptitude tests were declared to be unfair since scores reflected the cultural capital of the students’ families (Brunner, 2002).

- The new achievement tests implemented in 2003 was presented as a venue to increase the opportunities of access for students coming from a low socioeconomic status, as well as to simultaneously improve the quality of secondary education (Bravo et al., 2000; Ministerio de Educación, 2000).

- This new achievement system was also criticized for its uneven implementation and lack of transparency in the correction process (Koljatic & Silva, 2011).

- Koljatic & Silva (2013) estimate a model to assess the impact of the change in the test performance using data from seven cohorts of test-takers. Finally, they could not find evidence of the superiority of the new test.
Universities that participate in the process of admission in 2017

- 18 Public Traditional Universities
- 9 Private non Traditional Universities
- 9 Private Traditional Universities
3.- Construction of database for Chilean higher education

The compiled database is obtained from the information and results of the postulation process for students’ access to the traditional Chilean universities. This process consists of five stages which leads to different databases, each of these bringing different type of information:

1. **Inscription**: students’ socio-economic information.
2. **Examination time**: students’ performance.
3. **Delivery of results**: decision about students’ postulation of universities and careers.
4. **Applications to the universities**: students’ choices about universities and careers.
5. **Resolution of applications**: assignation of students to universities and careers.
Bases PSU

A Educational Units

B Subscribers: socioeconomic data and directions

C Background and scores

D Postulations

E Effective postulations to the university ...

F Website scores

G Applications for the website

Data created during the postulation process
The variables classification

**Socioeconomics variables**

- General information of the registered in the PSU
  - Data of the center where the PSU is performed

- Socioeconomic Variables

- Personal data of the PSU Enrollees
  - Demographics
  - Work data

- Data of the Family Group of the registered in the PSU
  - Family group education
  - Work and family income
The variables classification

Variables of scores and secondary schools

Academic and PSU results

Academic background
- Typology of colleges of origin

Scores of those enrolled in the PSU and PAA
- Mandatory tests
- Specific tests
- Scores assigned by type of school and qualification obtained in secondary education
The variables classification

Variables of applications to universities and results

- Applications
  - Preferences
    - Careers
    - Scores
  - Results
    - Acceptances
    - Rejections
4.- Contents and initial analysis: Creation of new variables from the original database

- **Acceptance**: if students were accepted in any of their applications to universities (dummy variable).

- **Acceptance ranking**: position of each career choices in a ranking from 1 to 10, which is the total number of career choices that students are allowed to apply.

- **Ranking**: the ranking position in the career list in which students are finally accepted. It is a continuous variable which depends on the available places, waiting list and the career demand.

- **Region dummy**: variable that indicates if the student is accepted in a program at a particular region.

- **Metropolitan dummy**: variable that indicates whether the student is accepted in a particular region program.

- **Career code**: code of the career where the student was accepted.

- **Smart code**: it standardizes the career codes assigned to the different universities and includes information on the location of the campus and the study knowledge area.

- **Distances**: variables measuring distances between the student and universities.
5.- Some stylized Facts
5.- Some stylized Facts (ii)

Promedio ponderado por año del puntaje obtenido en la PSU por Región
5.- Some stylized Facts (iii)

Promedio ponderado por año del puntaje obtenido en la PSU por Región, según los Ingresos familiares
5.- Some stylized Facts (iv)
Potential applications

- University admission problems
- University choice
- Spatial accessibility
- Public policy evaluation
- Evaluations of private versus public school system
- Identification of segregation problems in interest groups
- Pseudo panels