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Research Fields

Labor Economics, Development Economics, Search and matching, Applied Econometrics.

Job Market paper

Wage posting and multidimensional skills mismatch. This paper gives a new answer to an old question in labor economics, *"Who matches with whom?"*, by introducing a setting where firms and workers are different in many dimensions and we allow workers to be over and under qualified for the jobs they end up occupying. I present a random search model with two side multidimensional heterogeneity in which firms choose and post a wage with commitment i.e. maintaining the posted wage, independent of the productivity of the new worker. Posted wages determine the set of acceptable jobs for each worker and a unique *applicants pool* for each firm. The composition of these sets varies in size and composition across workers and firms. The optimal posted wage level takes into consideration the requirements of each firm and the characteristics of the applicants pool. In equilibrium, sorting is assortative but mismatches can occur across all skills dimensions. Using French data on workers observed skills and matches, I calculate structural parameters associated with the model for France. I find that the disutility of non cognitive skills is higher when mismatched, while employers value more highly good matches on cognitive skills. I also find that the number of dimensions plays an important role, since it is another source for frictions.

Education

- **Ph.D** (**Economics**), Paris School of Economics and Turin University (cotutelle), Paris, France, 2015-2018 and 2019-2021. Advisors: David Margolis (*Main)* and Francesco Devicienti.

- **Master 2 - Research** (**Empirical and theoretical Economics**), Paris School of Economics, Paris, France. 2014-2015. Advisor: David Margolis.

- **Master** (**Erasmus Mundus Master in Quantitative Economics**), University of Venice Ca'Foscari and Paris I - Pantheon Sorbonne. Venice and Paris 2013 -2015.

- **Postgraduate Diploma** (**Applied Mathematics**), Universidad Sergio Arboleda, Bogotá, Colombia, 2013-2014

- **Bachelor** (**Economics**), Univerisdad del Rosario, Bogotá, Colombia, 2006-2011

Academic Experience

- **Ph.D. Researcher**, Paris School of Economics and Turin University (cotutelle), Paris, 2015 - 2021. Skills mismatch in labor market.
- **Doctoral Researcher**, CNRS, Paris, Sept. 2019 - Sept 2020. The meanings of downsizing (link).
- **Research Assistant**, Colombian Atlas of economic complexity - CID Harvard, January 2015 - December 2015. (Project description).

Professional Experience

- **Advisor**, Ministry of Labor, Colombia. March 2012 - December 2014.
- **Operations manager LATAM**, InUnison (formerly PureSCM). 2010 -2012.
- **Consultant**

  - Ingenia and Inter-American Development Bank. March 2019- December 2019.

  - Bancoldex. September 2017 – August 2018. Colombia.

  - CEQ Institute. February 2018 - August 2018.

  - LACEA and Inter-American Development Bank. March 2017 – December 2017.

– Colombian Ministry of Labor, October 2016 – December 2016
  – International Organization for Migrations. September 2015 – February 2016
  – International Organization for Migrations. August 2012 – March 2013

Teaching Experience

• **External advisor**, Master thesis in Economics for Jonathan Sarango. Master in Economics - Universidad del Rosario (Colombia).
• **Chargé TD**, Université Paris 1 Panthéon-Sorbonne - Statistics L1, Microeconomics L2, Econometrics M1. Fall 2020. Econometrics L3 Spring 2021.
• **Tutorial**, Paris School of Economics - Advanced Microeconometrics - 2nd year Master. Fall 2019. Dedicated Website. With professor David Margolis.
• **Lecturer (professeur vacataire)** , Science Po (Le Havre) - Statistics 2nd year undergraduate (2 groups - sole responsibility). Spring 2018.
• **Lecturer (professeur vacataire)** , Science Po (Le Havre) - Mathematics for Social Science 1st year undergraduate (2 groups - sole responsibility). Fall 2017.
• **Teacher Assistant**, Universidad del Rosario (Colombia). Microeconomics (undergraduate) and Calculus I (undergraduate) 2008-2010.

Technical Skills

• **Programming skills**
  Data analysis: R, Julia, Python, STATA/MATA
  Database management: SQL
  Document preparation: Markdown, Jupyter, LaTeX
  Miscellaneous: Git/GitHub, Web Scraping, text Mining,reporting with Shiny, REST API.

Work in progress

• **Margolis D., Montana, J.**, Matching heterogeneous skills demand and supply under limited rationality.
• **Montana, J.**, Wage posting and multidimensional skills mismatch.
• **Margolis D., Montana, J.**,, Selective displacement and workforce restructuring during a mass layoff.
• **Bertheau, A., Montana, J.**, The Recruitment Process.
• **Montana, J., Cardenas, J.**, Short term effects of COVID-19 in labor income inequality. The case of Colombia. *(In spanish)*.

Publications

• **In spanish:**

  – Which Workers are Most Exposed to Covid -19 and Social Distancing Effects in a Dual Labour Market? (joint with Bosworth and Cardenas). *Revista de Economía del Rosario Vol 24. No. 2*.
  – La problemática del análisis laboral de demanda en Colombia. (Joint with Cardenas and Guataqui) *Perfil de Coyuntura Económica, (24), pp 71-107*.
  – Metodología para el análisis de demanda laboral utilizando datos de internet: El caso Colombiano. (Joint with Cardenas and Guataqui) *Revista de Economía del Rosario Vol 18. No. 1*.

• **Web:**

  – **Cardenas, J., Lora, E., Montana, J.** (2015). The worrisome deficit of technicians and technologists in Colombia. Web post

Languages

Spanish (Mother-tongue), **English** (Fluent written and spoken), **Italian** (Fluent written and spoken), **French** (Fluent)