# SANTIAGO FRANCO

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### Education

University of Chicago, Ph.D. Economics

2018-2024 (expected)

Universidad de los Andes, Colombia, B.A. Economics

2017

Universidad de los Andes, Colombia, B.S. Mathematics

2017

#### References

Esteban Rossi-Hansberg (Chair) University of Chicago

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### Research and Teaching Fields

Primary: Macroeconomics, Spatial Economics

Secondary: International Trade, Economic Growth, Productivity

### Job Market Paper

## Output Market Power and Spatial Misallocation

Abstract: Most product industries are local. In the U.S., firms selling goods and services to local consumers account for half of total sales and generate more than sixty percent of the nation's jobs. Competition in these industries occurs in local product markets: cities. I propose a theory of such competition in which firms have output market power. Spatial differences in local competition arise endogenously due to the spatial sorting of heterogeneous firms. The ability to charge higher markups induces more productive firms to overvalue locating in larger cities, leading to a misallocation of firms across space. The optimal policy incentivizes productive firms to relocate to smaller cities, providing a

rationale for commonly used place-based policies. I use U.S. Census establishment-level data to estimate markups and to structurally estimate the model. I document a significant heterogeneity in markups for local industries across U.S. cities. Cities in the top decile of the city-size distribution have a fifty percent lower markup than cities in the bottom decile. I use the estimated model to quantify the general equilibrium effects of place-based policies. Policies that remove markups and relocate firms to smaller cities yield sizable aggregate welfare gains.

## Working Papers

# Estimating Production Functions in Differentiated-Product Industries with Quantity Information and External Instruments (with Nicolas de Roux, Marcela Eslava, and Eric Verhoogen)

Abstract: This paper highlights shortcomings of standard methods of production-function estimation when quality or variety vary at the firm level and develops a new approach that can be applied in such contexts. We take advantage of input and output quantity data from Colombian producers of rubber and plastic products. Using constant-elasticity-of-substitution aggregators of outputs and material inputs at the firm level, we derive a simple expression showing how quality and variety choices may bias standard estimators. Using real exchange rates and variation in the "bite" of the national minimum wage, we construct external instruments for materials and labor choices to supplement standard internal instruments. We implement a two-step instrumental-variables method, estimating a difference equation to recover the materials and labor coefficients and then a levels equation to recover the capital coefficient. A simple Monte-Carlo simulation illustrates the advantages of our method in a setting with firm-level input-quality differences.

# (In)formal Growth: Dynamics of Human Capital in Developing Economies (with Jose M. Quintero)

Abstract: Labor informality is pervasive in developing economies. In this paper, we study the interconnection between informal labor, human capital accumulation, and economic growth. How do informal labor markets affect human capital accumulation and vice-versa? What are the aggregate effects of this interaction on growth and welfare? Using panel data from Chile and Colombia, we explore the dynamics of formal and informal sectors by documenting two new empirical facts. First, a substantial portion of the formal wage premium is attributable to workers' skill-based sorting. Second, formal workers experience higher wage growth during their life cycle. To rationalize these patterns, we build an endogenous growth model where heterogeneous workers sort into formal and informal labor markets based on their potential earnings. Worker's human capital increases over their life cycle through interactions with other workers. In equilibrium, more knowledgeable workers sort into the formal sector, and the growth rate of the economy is determined by the rate at which all workers meet formal-more knowledgeable workers. We structurally estimate the model and use it to quantify the effect of formalization policies. We find that policies that increase the cost of informality are effective in reducing the size of the informal sector. However, these policies also dampen growth by impeding interactions with more productive formal workers.

### Work in Progress

Aggregate TFP Growth and Quality Change: Evidence from Colombian Manufacturing (with Danial Lashkari and Eric Verhoogen)

Copycats or Pioneers? Firm Dynamics in an Informal Economy (with Jose M. Quintero)

# Awards, Scholarships, and Grants

| University of Chicago Data Funds Award (\$3,000)                                      | 2023      |
|---|-----------|
| University of Chicago Henry Morgenthau Jr. Memorial Fellowship                        | 2023-2024 |
| University of Chicago Mansueto Institute Urban Doctoral Fellow                        | 2020-2021 |
| University of Chicago Neubauer Fellowship   | 2018-2023 |
| Universidad de los Andes Cum Laude degree in economics                                | 2017      |
| Universidad de los Andes Ulpiano Ayala award (best undergraduate thesis in economics) | 2017      |

# Teaching Experience

| Spatial Economics (Ph.D.)             | TA for Prof. Rossi-Hansberg | Winter 2023         |
|---------------------------------------|-----------------------------|---------------------|
| International Commercial Policy (MBA) | TA for Prof. Adao           | Fall 2020, 2021     |
| Macroeconomics Honors (undergraduate) | TA for Prof. Mongey         | Winter, Spring 2021 |
| Math Camp (Ph.D.)                     | Lecturer                    | Summer~2021         |

# Research Experience and Other Employment

| Research Assistant for Prof. Rossi-Hansberg, University of Chicago | 2022 – 2023 |
|--|-------------|
| Research Assistant for Prof. Adao, University of Chicago           | 2021        |
| Research Assistant for Prof. Akcigit, University of Chicago        | 2019–2020   |
| Research Assistant for Prof. Verhoogen, Columbia University        | 2015 – 2018 |
| Research Assistant for Prof. Camacho, Universidad de los Andes     | 2014        |

# Professional Experience

| Presentations       | Northwestern (2023), Lacea-Lames (2021), Ames (2021)                |
|---------------------|---|
| Refereeing Activity | Journal of Political Economy, The Economics of Creative Destruction |
| Data Clearances     | U.S. Census Bureau Special Sworn Status                             |

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