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Fields of Concentration:
        Primary: International Trade
        Secondary: Development Economics

Desired Teaching:
        International Trade
        Urban Economics
        Development Economics
        Spatial Economics

Comprehensive Examinations Completed:
        2016 (Oral): Development Economics, Public Finance
        2015 (Written): Microeconomics, Macroeconomics

Dissertation Title: *Essays in International Trade*

Committee:
        Professor Costas Arkolakis (Chair)
        Professor Lorenzo Caliendo
        Professor Ana Cecilia Fieler
        Professor Samuel Kortum

Expected Completion Date: May 2021

Degrees:
        Ph.D., Economics, Yale University, 2021 (expected)
        M.Phil., Economics, Yale University, 2016
        M.A., Economics, Yale University, 2015
        M.A., Economics, PUC-Rio, 2014
        B.Sc., Economics, *with honors*, University of São Paulo, 2011

Fellowships, Honors and Awards:
>University Dissertation Fellowship, Yale University, 2019
>Ryoichi Sasakawa Young Leaders Fellowship ($2,000), 2016-2017
>Cowles Foundation Fellowship, 2014-2018
>University Fellowship, Yale University, 2014–2020
>FAPERJ 'Bolsa Nota 10' Full Scholarship (top student in the program), PUC-Rio, 2013
>CNPq Full Scholarship, PUC-Rio, 2012
>Luiz de Freitas Bueno Award (top Economics student), University of São Paulo, 2011

Teaching Experience:
>*Yale University*
>Spring 2020/Fall 2018, Teaching Assistant to Prof. Costas Arkolakis, The Economics of Space, Yale College
>Spring 2018, Teaching Assistant to Prof. John Eric Humphries, Introduction to Data Analysis and Econometrics, Yale College
>Fall 2017, Teaching Assistant to Prof. Steven Berry, Introductory Microeconomics, Yale College
>Spring 2017, Teaching Assistant to Prof. Nicholas Ryan, Introduction to Data Analysis and Econometrics, Yale College
>Fall 2016, Teaching Assistant to Prof. Eduardo Faingold, Microeconomic Theory, Yale College
>*PUC-Rio*
>Summer 2013, Teaching Assistant to Prof. Leonardo Rezende, Statistics (PhD)

Research and Work Experience:
>Research Assistant to Prof. Nicholas Ryan, Yale University, 2017
>Research Assistant to Berk Özler, The World Bank, 2015-2016
>Research Assistant to Prof. Gabriel Madeira and Prof. Mauro Rodrigues Junior, University of São Paulo, 2010-2011
>Coordinator at Entrance Exam Preparatory Course, University of São Paulo, 2008-2009

Publications:
>"Combining Pre-School Teacher Training with Parenting Education: A Cluster-Randomized Controlled Trial" with Berk Özler, Lia C.H. Fernald, Patricia Kariger, Christin McConnell, and Michelle Neuman, *Journal of Development Economics,* 133(C): 448-467. 2018.

Working Papers:
>"Drivers of Concentration: The Roles of Trade Access, Structural Transformation, and Local Fundamentals" (November 2020), *Job Market Paper*

Work in Progress:
>*"*Measuring Non-Tariff Barriers" (August 2019).

Referee Service:
>*Journal of International Economics*

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References

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Dissertation Abstract

Drivers of Concentration: The Roles of Trade Access, Structural Transformation, and Local Fundamentals [Job Market Paper]

Which factors determine the degree of spatial concentration of a country's population? Recent empirical evidence on the economic importance of structural transformation from agriculture to manufacturing and of differences across locations in access to trade networks suggests that these two factors could influence concentration. Understanding the extent of this influence is important because concentration is associated with economic development; because spatial effects may influence the welfare consequences of trade shocks; and because such an understanding would help us predict the effects on the economic geography of the world of potential future events such as a retreat from globalization and the continued structural transformation of developing countries.

In this paper, I investigate the drivers of spatial concentration by combining a modern quantitative spatial model with non-homothetic PIGL preferences to obtain a two-sector quantitative spatial model featuring differential trade access, structural transformation, and local fundamentals (exogenous amenities and sectoral productivities). Under some parametric restrictions, the model delivers an analytical expression decomposing changes in a country's degree of spatial concentration into separate terms that reflect the roles of these three factors.

I then develop a methodology to bring the model to the data in two steps. In the first step, I estimate sector- and year-specific gravity trade equations using data on international and intranational trade flows and global transportation network maps. These regressions provide estimates of trade costs by sector and year. In the second step, I use the model's equilibrium conditions and data on population, sectoral employment, and income per capita to "calibrate" the model to a 2005 world economy composed of 1611 locations across 192 countries. I do so by finding the vectors of location-specific fundamental productivities and amenities that perfectly rationalize the observed distribution of endogenous variables.

Having calibrated the model, I use it to study the role of trade access on spatial concentration by performing counterfactual exercises in which I recompute the equilibrium population distribution under alternative trade-cost matrices. Results indicate that trade access can have meaningful effects on spatial concentration. For example, reducing international trade costs from their 2005 levels would reduce the spatial concentration of population within most countries, while trade-cost increases would have the opposite effect. Thus, increased access to foreign markets tends to reduce concentration. These counterfactual trade-cost shocks also have substantial effects on welfare and trade volumes. Finally, I use the model-implied decomposition equation to disentangle the roles of structural transformation, differential trade access, and local fundamentals in accounting for observed 1990-2015 changes in concentration for 44 countries. Results show that the vast majority of the variation in observed changes is explained by local fundamentals, with only 1% accounted for by differential trade access and structural transformation. Thus, while the latter two forces can meaningfully affect concentration, in practice they are dominated by the influence of local fundamentals.

Measuring Non-Tariff Barriers

To what extent do non-tariff barriers (NTBs) hinder international trade? Although policymakers and international institutions often argue that NTBs are a serious obstacle to trade, they have been less studied than tariffs or geographic costs, in part because they are harder to measure and to tractably incorporate into theoretical models. This paper develops a methodology that includes NTBs in a quantitative trade model and that can be used to extract NTB measures from the data. I start by extending the Eaton-Kortum framework to incorporate NTBs. In the model, agents must obtain licenses from the government to be able to import, leading to a price gap between domestically produced and imported varieties of the same good. This result yields potentially testable predictions regarding the relationship between price gaps and the presence of NTBs (as measured by "coverage ratios"). I then show that it is possible to invert the model's general equilibrium equation system to back out measures of NTB intensity (as well as productivities and bilateral trade costs) as long as one has country-level data on wages, price levels, bilateral import shares, and price gaps. Finally, I propose a methodology to recover appropriate measures of price gaps through a fixed-effects approach that compares log import prices to log domestic prices within goods categories for each country.