XIAOJUN GUAN

Personal Website | LinkedIn | Latest Version
6000 Iona Drive Vancouver, BC Canada, V6T 1L4

☐ +1 236-865-7256
@ xiaojunguan.xg@gmail.com

Research Areas

Macroeconomics, Development Economics, Labor Economics

Education

University of British Columbia	**Vancouver, Canada**
PhD in Economics	Expected 2025
MA in Economics	2017-2018
New York University	**New York, US**
BA in Economics and Mathematics (*with Honors*)	2013 - 2017

References

Michael Devereux (Co-supervisor)
Professor
Vancouver School of Economics
University of British Columbia
✉ michael.devereux@ubc.ca

Claudio Ferraz (Co-supervisor)
Professor
Vancouver School of Economics
University of British Columbia
✉ claudio.ferraz@ubc.ca

Gorkem Bostanci
Assistant Professor
Vancouver School of Economics
University of British Columbia
✉ gorkem.bostanci@ubc.ca

Working Papers

The Cost of Compliance: Informality, Technological Change, and Structural Transformation in Brazil (*Job Market Paper*)

This paper investigates the effects of labor-saving technological advancements in agriculture on sectoral labor reallocation in the context of informality and examines how labor regulation enforcement influences this process. Exploiting the 2003 legalization of genetically modified (GE) soy in Brazil and leveraging variation in potential soy yields across municipalities, I find that between 2000 and 2010, municipalities with more significant potential gains from adopting GE soy experienced larger reallocation of labor from agriculture to the formal manufacturing sector, along with a decline in informal manufacturing employment. This resulted in a decrease in the overall informality rate within manufacturing in these areas. Furthermore, stricter enforcement of labor regulations—measured as one standard deviation higher in inspection intensity—reduced the overall labor shift to manufacturing by 29%, an effect driven entirely by changes in formal employment. To rationalize the empirical findings and conduct counterfactual policy experiments, I develop and calibrate a two-sector general equilibrium model. Counterfactual analyses indicate that intensifying enforcement to reduce manufacturing informality by 50% decreases labor reallocation to manufacturing by 4.5%. Additional simulations suggest that lowering entry and fixed costs for firms facilitates labor movement into manufacturing and reduces informality.

[Growth Through Industrial Linkages](), with [Alejandro Rojas-Bernal]()

In this paper, we estimate how changes in the structure of global input-output networks have influenced growth. Using an open economy production network model, we identify sufficient statistics that characterize how productivity shocks across domestic and foreign firms influence country-level TFP. We estimate these sufficient statistics using data on input-output networks and sectoral productivity shocks. Structural changes in global input-output networks between 1965 and 2000 were advantageous for developing countries and unfavorable for advanced economies. Holding the global input-output network fixed, TFP growth in China and India would have been 26.6% and 9.7% lower between 1965 and 2000. Whereas for the US and Australia, TFP growth would have been 4.0% and 16.8% higher. Finally, we show that the dynamics of the domestic intermediate input cost share capture the importance of the structure of the global input-output network in the amplification of shocks on TFP. Our analysis illustrates the importance of industrial linkages and robust domestic intermediate input markets for economic growth.

RESEARCH IN PROGRESS

Heterogeneous Firm Sorting and Local Monopsony Power, with [Sudipta Ghosh]() and [Jan Rosa]()

This paper examines firm-related sources of urban wage premium. Specifically, we study the roles of (1) more productive firms sorting to larger labor markets and (2) the degree of labor market concentration in driving spatial wage inequality. While previous studies have acknowledged the significance of both factors, their interactions have not been quantified. Using the Sample of Integrated Labour Market Biographies (SIAB) from the German Institute for Employment Research (IAB), we first document a series of stylized facts about the spatial distribution of firms' labor market power, wage policies, industry compositions, and firm sizes. Next, motivated by the stylized facts, we develop a spatial general equilibrium model that integrates location choices of heterogeneous (discrete type) firms and oligopsonistic local labor markets. In the model, we assume sequential entry of firms with high-productivity type firms deciding where to enter first, followed by low-productivity types. Larger labor markets are endowed with more productive workers. Hence, firms face a trade-off: while entering larger labor markets can lead to higher output, it also results in increased competition for labor, thereby raising labor costs. The relative strength of these opposing forces determines the equilibrium spatial distributions of firms and wages. Finally, we calibrate our model using two administrative datasets from Germany—the employer-employee sample and the establishment panel—to quantify the relative impact of firm sorting and labor market concentration on spatial wage inequality and conduct policy counterfactual experiments.

TEACHING EXPERIENCE

Teaching Assistant, UBC [Link to student feedback]   Vancouver, Canada

ECON 493, Advanced Empirical Methods for International Economics	2024
ECON 102, Principles of Macroeconomics	2022, 2024
ECON 355, Introduction to International Trade	2022, 2023
ECON 345, Money and Banking	2020, 2021, 2023
ECON 390, Introduction to Economic Research	2022
ECON 350, Public Finance Policy Topics	2022
ECON 456, International Macroeconomics and Finance	2020, 2021
ECON 356, Introduction to International Finance	2021
PPGA 500A, Economics for Policy	2021
ECON 302, Intermediate Microeconomic Analysis	2019, 2020
ECON 101, Principles of Microeconomics	2019
ECON 371, Economics of the Environment	2019

Work Experience

University of British Columbia Vancouver, Canada
Research Assistant for Professor Jesse Perla 2018 - 2020

Honors, Awards, and Grants

President's Academic Excellence Initiative PhD Award, UBC 2020 - 2024
Albert Whiteley Memorial Fellowship, UBC 2019
International Tuition Award, UBC 2018 - 2024
Faculty of Arts Graduate Award, UBC 2018 - 2024
CIDER Research Grant, UBC 2020
CIDER Masters Fellowship, UBC 2017
Dean's Undergraduate Research Fund, NYU 2016
Dean's List, NYU 2014 - 2016

Skills

Programming Languages and Softwares: Python, Stata, R, Julia, MATLAB
Methods: A/B Testing, Decision Trees, Diff-in-Diffs, Doubly Robust Methods, Dynamic Programming, Ensemble Methods, Event Studies, Instrumental Variables, Machine Learning, Optimization, Propensity Scores, Regression, Simulated Method of Moments
Libraries and Tools: pandas, NumPy, SciPy, scikit-learn, CatBoost, Matplotlib, Optuna, Git, GitHub, VS Code
Foreign Languages: Mandarin (native), English (fluent)

Citizenship

Chinese, Canadian Permanent Resident