

UNIVERSITY OF  
ROCHESTER  
Economics



Job Market  
Candidates  
2024-2025

University of Rochester- Department of Economics  
2024-2025 Job Market Candidates

Name	Job Market Paper	Fields	References
Chunya Bu	Business Cycle Accounting with Goods and Capital Market (Dis)Integration	<ul style="list-style-type: none"> <li>• International Macroeconomics</li> <li>• International Finance</li> <li>• Macroeconomics</li> </ul>	Yan Bai George Alessandria Gaston Chaumont
Woosuk Choi	Risk Aversion, Occupation Choice, and Earnings Dynamics	<ul style="list-style-type: none"> <li>• Labor Economics</li> <li>• Personnel Economics</li> <li>• Applied Microeconometrics</li> </ul>	Ronni Pavan Lisa Kahn John Singleton
Lorenz Ekerdt	Self- Selection and the Diminishing Returns of Research (with Kai-Jie Wu)	<ul style="list-style-type: none"> <li>• Macroeconomics</li> <li>• Growth</li> <li>• Economics of Innovation</li> </ul>	Mark Bils George Alessandria Martha Stinson
Lena Harris	Drought and Investment in Electricity Markets	<ul style="list-style-type: none"> <li>• Environment and Resource Economics</li> <li>• Health Economics</li> </ul>	John Singleton Lisa Kahn Elaine Hill
Xiaonan Ma	Earnings Dynamics, Transitions, and Stepping-stone Employers	<ul style="list-style-type: none"> <li>• Macroeconomics</li> <li>• Labor Economics</li> <li>• Firm Dynamics</li> </ul>	Mark Bils Yan Bai Narayana Kocherlakota
Marcos Mac Mullen	Government Spending and International Transmission: Fiscal Rules in Imperfect Financial Markets	<ul style="list-style-type: none"> <li>• International Macroeconomics</li> <li>• International Finance</li> <li>• International Trade</li> </ul>	George Alessandria Yan Bai Gaston Chaumont
Changwoo Park	Stable Matchings Under Two-Sided Asymmetric Incomplete Information	<ul style="list-style-type: none"> <li>• Microeconomic theory</li> <li>• Market design</li> <li>• Game theory</li> </ul>	William Thomson Paulo Barelli Yu Awaya

University of Rochester- Department of Economics  
2024-2025 Job Market Candidates

Name	Job Market Paper	Fields	References
Joao Rudge Leite	Heterogeneous Banks and Transmission of Monetary Policy	<ul style="list-style-type: none"><li>• Macroeconomics</li><li>• Banking</li><li>• International Finance</li></ul>	Yan Bai George Alessandria Matias Moretti
Jose Villegas Gomez	Consumer Debt Moratoria	<ul style="list-style-type: none"><li>• Household Finance</li><li>• Corporate Finance</li><li>• Labor Economics</li><li>• International Macroeconomics</li></ul>	Yan Bai George Alessandria

# Bu, Chunya

PhD Candidate, Department of Economics,  
University of Rochester

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[cbu2@ur.rochester.edu](mailto:cbu2@ur.rochester.edu)

Citizenship: China (Mainland)

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## **Education**

2018 – 2025 (expected), Economics Ph.D. Program, University of Rochester, the U.S.

2020, M.A. in Economics, University of Rochester, the U.S.

2016 Fall, exchange student in Education Abroad Program, University of California, San Diego, the U.S.

2014 – 2018, B.A. in Economics, Fudan University, China.

## **Research Fields**

International Macroeconomics, International Finance, Macroeconomics.

## **Publication**

Bu, Chunya, John Rogers, and Wenbin Wu (2021). "[A Unified Measure of Fed Monetary Policy Shocks](#)". Journal of Monetary Economics, 118, 331-349.

Bu, Chunya, John Rogers, and Wenbin Wu (2020). "[Forward-Looking Monetary Policy and the Transmission of Conventional Monetary Policy Shocks](#)". Board of Governors of the Federal Reserve System, Finance and Economics Discussion Series 2020-014.

## **Working Papers**

Bu, Chunya (2024) "Business Cycle Accounting with Goods and Capital Market (Dis)Integration".

Bu, Chunya (2024) "[Firm Default Risks and Exchange Rate Puzzles](#)".

Bu, Chunya (2023) "[Sovereign Risks Priced in Corporate Bonds](#)".

## **Employment**

### **International Monetary Fund Internship**

2021 Summer, Research Department.

### **University of Rochester.**

2018 – 2022, Teaching assistant for International Macroeconomics, Intermediate Macroeconomics.

2018 – 2022, Research assistant for Professor Gaston Chaumont, University of Rochester.

## **Awards and Fellowships**

Graduate Fellowship and Tuition Scholarship, University of Rochester, 2018-present.

Takayama Fellow Scholarship Fund, University of Rochester, 2020.  
Summer Research Grant, University of Rochester, 2019.

### **Conference**

Presented at Midwest Macroeconomics Meetings, 2023.  
Presented at Peking University, Economics Department, 2024.

Latest updated: September, 2024

## Abstracts

### **Business Cycle Accounting with Goods and Capital Market (Dis)Integration (2024)**

**Bu, Chunya**

I incorporate aggregate uncertainty into the open-economy neoclassical growth model with time-varying wedges in goods and capital markets to investigate implications of goods and capital market frictions on international risk-sharing. The underlying frictions are estimated from gross goods and financial flows. Applying this model to U.S. and China data reveals the fluctuations of goods and capital market wedges for the last 30 years of globalization.

### **Firm Default Risks and Exchange Rate Puzzles (2024)**

**Bu, Chunya**

I incorporate micro-founded financial frictions from endogenous firm default choice into an open-economy model to address exchange rates puzzles. In a two-country model with productivity shocks, firms finance investment via issuing bonds subject to default risks. Households share risks through a portfolio choice of home and foreign corporate bonds. Exchange rate paths depend on default risk premium as bond returns are risky and households are risk-averse. A positive home productivity shock dampens home default risk premium more than that of foreign. Home currency then appreciates to achieve an interest-rate parity between home and foreign creditors. On the other hand, consumption differentials rise because of the incomplete asset market. Taking together, the model is able to reconcile the Backus-Smith puzzle (Backus & Smith 1993) depending on the degree of financial frictions.

The underlying mechanism lies in the adjustment of household's foreign asset positions. In response to a positive shock, home default risks drop so that foreign households increase home bond holdings for the hedging motive. The excess foreign demand appreciates the home currency.

I calibrate the degree of financial frictions with bond-level data. Specifically, I derive a measure of financial frictions from the micro-foundation, defined as the relative default risk premium between home and foreign households, and estimate it from the spreads of corporate bonds denominated in different currencies. I use its empirical volatility to discipline the model. The quantitative results reconcile the Backus-Smith puzzle and improve the exchange rate volatility puzzle.

### **Firm Default Risks and Exchange Rate Puzzles (2024)**

**Bu, Chunya**

This paper documents evidence of "Twin Ds" (Na, Schmitt-Grohé, Uribe, and Yue, 2018) - rise of sovereign risks followed by currency deprecations - for the Euro-area. I propose a new measure of sovereign risks as the spread premium of EU firms over the average spreads in the dollar bond market. Firm credit risks are carefully eliminated by focusing on EU firms issuing bonds in both USD and EUR, and controlling the firm fixed effect. This sovereign risk measure is closely correlated with the bilateral spot exchange rate. USD appreciates against EUR when the EU sovereign risks are high. A structural VAR model shows that a 100 basis-point positive country risk shock leads to around 200 basis-point decreases in the 1-month ahead spot exchange rate of USD to one EUR.

## **A unified measure of Fed monetary policy shocks (2021)**

**Bu, Chunya, John Rogers, and Wenbin Wu**

**Journal of Monetary Economics (2021), 118, 331-349.**

We develop a U.S. monetary policy shock series that stably bridges periods of conventional and unconventional policymaking, is largely unpredictable, and contains no significant central bank information effect. We attribute differences between our measure and often-used alternatives to our econometric procedure, a partial least squares approach, and our using the full maturity spectrum of interest rates in estimating the shock. We find that shocks to our monetary policy series have particularly large effects on maturities in the middle of the term structure and produce conventionally-signed impulse responses of output and inflation.

## **Forward-Looking Monetary Policy and the Transmission of Conventional Monetary Policy Shocks (2020)**

**Bu, Chunya, John Rogers, and Wenbin Wu**

**Board of Governors of the Federal Reserve System,  
Finance and Economics Discussion Series 2020-014.**

Standard structural VAR models and estimation using Romer and Romer (2004) monetary policy shocks show that, in samples after the 1980s, a contractionary conventional monetary policy shock generates smaller and sometimes perversely-signed impulse responses compared to earlier samples. Using insights from the central bank information effects literature, we show that the analyses producing these results suffer from an omitted variables problem related to forward-looking information emanating from Federal Reserve forecasts. Transmission of conventional monetary policy shocks takes on the standard signs, and is typically significant, once Fed forward-looking information is taken into account. This reconciliation does not follow from adding private sector forecasts to the estimation frameworks.

*last updated: September 23, 2024*

# Woosuk Choi

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Republic of Korea

## Education

Ph.D. Economics, University of Rochester, 2025 (Expected)  
M.A. Economics, University of Rochester, 2021  
M.A. Economics, Sungkyunkwan University, Republic of Korea, 2019  
B.A. Economics, Sungkyunkwan University, Republic of Korea, 2017

## Research Interests

Labor Economics, Personnel Economics, Applied Microeconometrics

## Working Papers

“Risk Aversion, Occupation Choice, and Earnings Dynamics” (*Job Market Paper*)

“College Majors and Earnings Growth”, with Josh Kinsler, Alexis Orellana, and Ronni Pavan, *Revise and resubmit, Journal of Labor Economics*

## Work in Progress

“Labor Market Regulation and Technology Adoption: Evidence from California Nurse Staffing Regulation”, with So Young Kim

“Task Heterogeneity and Employer Learning”

## Teaching Experience

### Teaching Assistance

Econometrics, University of Rochester, Prof. Ronni Pavan and Prof. Kegon Tan	2021-2023
Research and Communication in Economics, University of Rochester, Dr. Lorentz Ekerdt	2023
Intermediate Microeconomics, University of Rochester, Prof. Elizabeth Ashby	2022
Pricing Analytics, Simon Business School, University of Rochester, Prof. Takeaki Sunada	2022
Mathematical Economics, Sungkyunkwan University, Prof. Yong Gwan Kim	2017-2018
Microeconomics, Sungkyunkwan University, Prof. Yong Gwan Kim	2018
Introduction to Financial Accounting, Sungkyunkwan University, Prof. Kwon-il Choi	2017



## Honors, Awards, Fellowships, and Grants

The Dean's Post-Field Research Dissertation Completion Fellowship, University of Rochester	2024-2025
Tapan Mitra Prize for the Best Fifth-year Empirical Paper, University of Rochester	2024
The Wallis Institute of Political Economy Fellowship, University of Rochester	2022-2023
River Campus Library Data Grant, University of Rochester	2022-2023
Norman M. Kaplan Memorial Prize for the Best Course Record, University of Rochester	2021
Department Graduate Fellowship and Scholarship, University of Rochester	2019-2024
National Humanities/Social Sciences Graduate Research Scholarship, Korean Student Aid Foundation	2018
Simsan Graduate Fellowship, Sungkyunkwan University	2017
Connected Track Scholarship, Sungkyunkwan University	2017-2018
National Humanities/Social Sciences Undergraduate Scholarship, Korean Student Aid Foundation	2011-2016

## Presentations and Workshop (\*scheduled)

2024: Midwest Econometrics Group\*, Economic Graduate Student Conference (WashU)\*, Korean Economic Review International Conference, Econometric Society Summer Schools in Dynamic Structural Econometrics

2023: Asian Australasian Society of Labor Economics Conference, Wallis Political Economy Working Group

2019: Western Economic Association International Conference

## Others

**Programming:** Julia, Stata, Matlab, Python, R, and  $\LaTeX$

**Language:** Korean (Native), English, Japanese

## Reference

### Ronni Pavan

Department of Economics  
University of Rochester  
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### Lisa Kahn

Department of Economics  
University of Rochester  
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Rochester NY, 14627, USA  
lisa.kahn@rochester.edu

### John Singleton

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University of Rochester  
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Rochester NY, 14627, USA  
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## **Risk Aversion, Occupation Choice, and Earnings Dynamics**

*(Job Market Paper)*

This paper examines the role of risk aversion in shaping occupational choices and earnings distribution. Using hypothetical lottery questions in the NLSY97, I measure individual risk aversion and document that more risk-averse workers earn significantly less, with the gap widening over their careers. I show risk-averse workers are more likely to select occupations with greater earnings stability but lower levels and slower growth of earnings. To identify the causal effect of risk aversion on earnings and to explore the underlying mechanisms, I develop and estimate a structural model of occupation choice that accounts for the heterogeneity in risk aversion and human capital accumulation. In the model, risk aversion is correlated with unobserved initial skills and influences skill accumulation through occupation choices. The estimated model reveals substantial differences in the distribution of productivity shocks across occupations. Decomposition analysis attributes approximately 77 percent of the earnings gap between risk attitude groups to occupational sorting driven by risk aversion, with over half explained by differences in human capital accumulation. Using counterfactual analysis, I explore the labor market implications of social insurance that provides earnings floor. The findings indicate that such policies induces risk-averse workers to select into relatively higher-return occupations, resulting in a redistribution of earnings from risk-tolerant to risk-averse workers.

## **College Majors and Earnings Growth**

*(with Josh Kinsler, Alexis Orellana, and Ronni Pavan)*

In this paper we estimate major specific earnings profiles using matched American Community Survey (ACS) and Longitudinal Employer-Household Dynamics (LEHD) data. The advantage of the matched data relative to the ACS alone is that it provides a long panel of worker earnings, thus avoiding estimating life cycle profiles using cross-cohort variation. Once we allow the returns to major to vary by cohort, we find that engineering, computer science, and business majors experience faster earnings growth relative to humanities majors. For example, the gap in earnings between technical majors like engineering and computer science and humanities grows by 5-6% between ages 23 and 50. Our estimates also indicate that more recent graduates in these fields earn a larger premium relative to humanities than earlier cohorts.

# Lorenz K.F. Ekerdt

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<https://sites.google.com/view/lorenz-ekerdt/home>

## Education

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### University of Rochester

PhD Economics

2023

### London School of Economics and Political Science

MSc Economics

2017

### Vassar College

BA Economics, BA Biology

2015

## Professional Experience

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### Economist

Center for Economic Studies, U.S. Census Bureau

July 2023 - Present

### Research Assistant

Professor Mark Bils

Fall 2023

### Research Assistant

Professor Yena Park

Summer 2019

## Research

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### Working papers

*The Rise of Specialized Firms* (with [Kai-Jie Wu](#))

*Self-Selection and the Diminishing Returns to Research* (with [Kai-Jie Wu](#))

*The Role of R&D Factors in Economic Growth*

### Work in progress

*Revisiting the Locality of Labor Markets*

*Firm Stochastic Discount Factors Over the Business Cycle* (with [Paulo Lins](#), [Kai-Jie Wu](#))

*The Employer Demographics Project* (with [Valeska Aurajo](#), [Michaela Dillon](#), [John Earle](#), [Nicholas Laberge](#), [Adela Luque](#), [James Noon](#), [Vitaliy Novik](#), [Jared Wold](#), [Samuel Young](#))

## Teaching

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### Instructor

POGO 511 **Introductory Data Analysis for Policy and Government**

Schar School of School of Policy and Government, George Mason University

Fall 2024

ECO289 **Economics Research and Communication**

University of Rochester

Spring 2023

## Teaching Assistant

ECO208 <b>Intermediate Macroeconomics</b> University of Rochester	2021-2022
ECO209 <b>Intermediate Microeconomics</b>	2020-2021
ECO289 <b>Economics Research and Communication</b> University of Rochester	Spring 2020
STR401 <b>Managerial Economics</b> Simon Business School, University of Rochester	Summer 2019

## References

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Professor **Mark Bills** (advisor)  
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Professor **George Alessandria**  
Department of Economics, University of Rochester, NY 14627  
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**Martha Stinson**  
Principal Economist, Center for Economic Studies, U.S. Census Bureau, Washington, D.C., 20233  
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## Presentations

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Federal Reserve Bank of Philadelphia*	2024
Comparative Analysis of Enterprise Data Conference*	2024
Washington Area International Trade Symposium	2024
Schar School of Policy and Government, George Mason University**	2024
University of California, Santa Barbara*	2024
University of Pittsburgh*	2024
Federal Reserve Bank of Richmond*	2023
Society for Economic Dynamics Annual Meeting	2023
Midwestern Macroeconomics Conference	2022
Economics Graduate Student Conference (WUSTL)	2022
Federal Research Data Center Conference	2022

\*Presented by coauthor

\*\*Invited speaker

## Awards, Fellowships, Grants

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<b>Tapan Mitra Prize for Best Fifth-Year Empirical Paper</b> University of Rochester	2022
<b>NSF Doctoral Dissertation Improvement Grant</b> National Science Foundation	2020
<b>Conibear Memorial Prize for Best Third-Year Paper</b> University of Rochester	2020

**Graduate Fellowship and Tuition Scholarship**  
University of Rochester

2017-2023

## **Other**

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**Citizenship:** U.S.A., Germany

**Languages:** English (fluent), German (fluent)

**Software:** Julia, Matlab, Python, R, Stata, SAS

Job market info  
Lorenz Ekerdt

Papers and abstracts

Job market paper: Self-Selection and the Diminishing Returns of Research (with Kai-Jie Wu)

Abstract: The downward historical trend of research productivity has been used to suggest that there are severe permanent diminishing returns of knowledge production. We argue that a substantial portion of the declining research productivity is a transitory phenomenon caused by self-selection in researchers' ability and the expansion of the research sector. To quantify these transitory diminishing returns, we develop a model of self-selected researcher supply and estimate it using data on the labor force share and earnings distribution of researchers. Our results suggest that the average ability of researchers has fallen dramatically. We then use our findings to revisit the estimation of the knowledge production function and its resulting prediction on long-run economic growth. We find that switching from an accounting framework without considering self-selection to one with nearly doubles the long-run growth rate of per capita income predicted by semi-endogenous growth models.

Other papers:

1. The Rise of Specialized Firms (with Kai-Jie Wu)

Abstract: This paper studies firm diversification over 6-digit NAICS industries in U.S. manufacturing. We find that firms specializing in fewer industries now account for a substantially greater share of production than 40 years ago. This reallocation is a key driver of rising industry concentration. Specialized firms have displaced diversified firms among industry leaders---absent this reallocation, concentration would have decreased. We then provide evidence that specialized firms produce higher-quality goods: specialized firms tend to charge higher unit prices and are more insulated against Chinese import competition. We propose two potential drivers for the rise of specialized firms: (i) income growth and, (ii) rising import competition from developing countries, both operating through a reallocation toward higher-quality products.

2. The Role of R&D Factors in Economic Growth

Abstract: This paper studies factor usage in the R&D sector. I show that the usage of non-labor inputs in R&D is significant, and that their usage has grown much more rapidly than the R&D workforce. Using a standard growth decomposition applied to the aggregate idea production function, I estimate that at least 77% of idea growth since the early 1960s can be attributed to the growth of non-labor inputs in R&D. I demonstrate that a similar pattern would hold on the balanced growth path of a standard semi-endogenous growth model, and thus that the decomposition is not simply a by-product of rising research intensity. I then show that combining long-running differences in factor growth rates with non-unitary elasticities of substitution in idea production leads to a slowdown in idea growth whenever labor and capital are complementary. I conclude by estimating this elasticity of substitution and demonstrate that the results favor complementarities.

Letter Writers

1. Mark Bills
2. George Alessandria
3. Martha Stinson

Link to webpage

<https://sites.google.com/view/lorenz-ekerdt/>

Dissertation title

Essays in Macroeconomics and Growth

Fields

Macroeconomics, Growth, Economics of Innovation

Email

Lekerdt@gmail.com

## Lena Harris

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CONTACT INFORMATION University of Rochester  
280 Hutchison Road  
Rochester, NY 14627  
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Email: [h.harris@rochester.edu](mailto:h.harris@rochester.edu)  
Website: <https://lenaharris.github.io>

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EDUCATION **Ph.D. Economics** 2025 (Expected)  
University of Rochester  
**M.A. Economics** 2021  
University of Rochester  
**B.A. Economics, International Affairs, French** 2017  
University of Colorado, Boulder  
Honors in Economics

RESEARCH INTERESTS Environment and Resource Economics, Health Economics

PUBLISHED PAPERS  
\*Primary author “Limited Impact of Roadway Construction and Traffic Congestion on Nearby Housing Prices” with Max Harleman, Mary Willis, Perry Hystad, and Elaine Hill, *Transport Policy* 2024.

“Farmer response to policy induced water reductions: Evidence from the Colorado River”, *Journal of Environmental Economics and Management* 2024.

“Roadway construction as a natural experiment to examine air pollution impacts on infant health” with Elaine Hill\*, Max Harleman, Grace Sventek, Mary Willis, Beate Ritz, Erin J Campbell, and Perry Hystad, *Environmental Research* 2024

“A population-based cohort study of electronic tolling, traffic congestion, and adverse birth outcomes” with Mary Willis\*, Erin Campbell, Mira Chaskes, Ethan Sawyer, Max Harleman, Beate Ritz, Elaine Hill, and Perry Hystad, *Environment International* 2023.

“Changes in socioeconomic disparities for traffic-related air pollution exposure during pregnancy over a 20-year period in Texas” with Mary Willis\*, Elaine Hill, Collette Ncube, Erin Campbell, Max Harleman, Beate Ritz, and Perry Hystad, *JAMA Network Open* 2023.

“Changes in traffic congestion and air pollution due to major roadway infrastructure improvements in Texas” with Max Harleman\*, Mary Willis, Beate Ritz, Perry Hystad, and Elaine Hill, *Science of the Total Environment* 2023.

“A population-based cohort study of traffic congestion and infant growth using connected vehicle data” with Mary Willis\*, David Schrank, Chunxue Xu, Beate Ritz, Elaine Hill, and Perry Hystad, *Science Advances* 2022.

WORKING PAPERS “Drought and Investment in Electricity Markets” (Job Market Paper)

WORKS IN PROGRESS “Lake Desiccation and Pregnancy Loss” with Mary Willis



CONFERENCES, TALKS, AND WORKSHOPS	Allied Social Science Associations	<i>Scheduled</i> 2025
	Association of Environmental and Resource Economists Annual Summer Conference	2024
	USDA Economic Research Service, CU Environmental and Resource Economics Workshop, Western Economic Association International, Association of Environmental and Resource Economists Annual Summer Conference, Eastern Economic Association	2023
	International Society for Environmental Epidemiology	2022
AWARDS AND SCHOLARSHIPS	Summer Research Grant, University of Rochester	2023, 2024
	AS&E Supplemental Professional Development Funding, University of Rochester	2023
	Library Data Grant, University of Rochester	2021
	Economics Department Ph.D. Fellowship and Tuition Scholarship, University of Rochester	2019-2024
	Katherine J. Lamont Scholarship, University of Colorado	2016-2017
	Richard and Amanda W. Smoot Endowed Scholarship, University of Colorado	2016
	Dean's Scholars, University of Colorado CU Esteemed Scholars Scholarship, University of Colorado	2014-2017 2013-2017
TEACHING EXPERIENCE	<b>Instructor</b>	
	Econometrics, Undergraduate	Summer 2022
	<b>Teaching Assistant</b>	
	Research in Applied Econometrics, Graduate	Spring 2022, 2023, 2024
	Public Finance, Undergraduate	Spring 2023
	Economic Statistics, Undergraduate	Fall 2022
	Principles of Economics, Undergraduate Econometrics, Undergraduate	Spring 2022 Fall 2021
RESEARCH EXPERIENCE	Short Term Consultant at the World Bank	2021-2023
	Research Assistant for Prof. John Singleton, UR	2023
	Research Assistant for Prof. Nese Yildiz, UR	2022
	Research Assistant for Prof. Elaine Hill, UR	2020-2023
	Research Assistant for Prof. Carol Shiue, CU	2017
OTHER	Nationality	American
	Languages	English (native), French (conversational)
	Hobbies	Gardening, hiking, sewing
ACADEMIC REFERENCES	<b>Elaine Hill</b> (co-chair) Department of Economics University of Rochester elaine.hill@urmc.rochester.edu	<b>Lisa Kahn</b> (co-chair) Department of Economics University of Rochester lisa.kahn@rochester.edu
	<b>John Singleton</b> Department of Economics University of Rochester john.singleton@rochester.edu	

# Drought and Investment in Electricity Markets

*Job Market Paper*

Worsening drought under climate change may pose a threat to electricity markets since thermal electricity generation can be an extremely water intensive process. This paper shows that while short run drought shocks shift generation towards costlier sources, in the long run changes in the mixture of generating technologies are mitigative. To do this, I estimate a model of investment and production in electricity markets which innovates on existing work by incorporating drought as a determinant of production costs. The findings from this paper are informative for several policy areas, from optimal investment in renewable technologies to environmental inequities arising from spatial pollution exposure.

# Xiaonan (Steve) Ma

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## Education

Ph.D., Economics, University of Rochester, 2025 (expected)

M.A., Economics, Tsinghua University, 2019

B.A., Economics, Peking University, 2016

B.B.A., Management Information Systems, Beijing Technology and Business University, 2015

## Research Fields

Macroeconomics, Labor Economics, Firm Dynamics

## Working Paper

Earnings Dynamics, Transitions, and Stepping-stone Employers (*Job Market Paper*)

A Simple Search Model with Employer Network

## Work-in-Progress

Human Capital, Career Choice, and the Hours Profile Over the Life-Cycle, *with Paulo Lins*

Anatomy of Motivations for Transitions

## Research Experience

Special Sworn Status Principal Investigator (PI), U.S. Census Bureau, 2022-present

Research Assistant for Prof. Narayana Kocherlakota, University of Rochester, 2021

Research Assistant, Tsinghua University 2017-2019

Research Assistant, Peking University 2014

## Teaching Experience

University of Rochester

Instructor:

Intermediate Macroeconomics, 2022 Summer

Teaching Assistant:

Intermediate Macroeconomics by Prof. Hamid Firooz, 2023 Fall

Economics of Globalization by Prof. Gaston Chaumont, 2023 Spring

Money, Credit, and Banking by Prof. Narayana Kocherlakota, 2022 Spring/Fall

Pricing Policies by Prof. Greg Shaffer, 2022 Spring/Fall

Economic Statistics by Prof. Nese Yildiz, 2021 Fall

## Honors and Fellowships

Conference Travel Grant, University of Rochester, 2024

Summer Research Fellowship, University of Rochester, 2023, 2024

Conibear Prize for the best third-year paper, 2022

Data Research Grant, University of Rochester, 2022, 2023

Summer Research Grant, University of Rochester, 2021

McKenzie Fellowship, University of Rochester, 2019-2024

Tachiki Graduate Scholarship, Tsinghua University, 2017, 2018

## Miscellaneous

*Language:* English (fluent), Mandarin (native)

*Programming:* Julia, MATLAB, Python, Stata, R, EViews, SAS

# Earnings Dynamics, Transitions, and Stepping-stone Employers

Xiaonan Ma<sup>\*†</sup>

## Abstract

Earnings cuts upon transitions (ECUTs) have been widely documented, prompting the need for both empirical validation and theoretical explanations. This article revisits this feature in U.S. labor market with the data from the Longitudinal Employer-Household Dynamics (LEHD) and the National Survey of College Graduates (NSCG). I confirm that ECUTs are frequent, even after accounting for measurement error in location changing and transition timing. Furthermore, by linking the LEHD to the NSCG, I identify the workers' reported reasons for transitions, and quantify the share of ECUTs associated with each motivation. While non-pecuniary motivations are important, the pecuniary reasons are the most commonly chosen. Notably, many workers who report pecuniary reasons as their sole motivation for transitioning also experience ECUTs. Building on these findings, I explore the relationship between pecuniary motivation, future earnings trajectories, and the likelihood of subsequent transitions. The results indicate that (1) workers who transition for pecuniary reasons experience higher earnings growth in future periods, and (2) these workers are more likely to undergo subsequent transitions. I propose that certain employers serve as "stepping-stones" by improving workers' opportunities to transition to more desirable firms. The pursuit of such stepping-stone employers, therefore, represents an additional pecuniary motivation for transitions. This is supported by firm-level heterogeneity in transition rates observed in the LEHD data: firms with higher transition rates to high-paying employers tend to be negatively correlated with the initial earnings growth of workers entering these firms. To formalize this mechanism, I develop a random search model where firms are characterized by heterogeneous, vectorized offer arrival rates. Both the theoretical framework and empirical analysis underscore the critical role of stepping-stone employers in understanding ECUTs and broader labor market dynamics.

**Keywords:** Earnings cuts; Earnings dynamics; Transitions; Motivations for transitions; Stepping-stone employers.

**JEL codes:** E24, J31, J60, J80

<sup>\*</sup>Department of Economics, University of Rochester. [xma22@ur.rochester.edu](mailto:xma22@ur.rochester.edu). I am grateful to Prof. Mark Bilal for his guidance. I also thank all members of Macro Workshop and participants in student seminar in the University of Rochester for helpful comments and suggestions.

<sup>†</sup>Any views expressed are those of the authors and not those of the U.S. Census Bureau. The Census Bureau's Disclosure Review Board and Disclosure Avoidance Officers have reviewed this information product for unauthorized disclosure of confidential information and have approved the disclosure avoidance practices applied to this release. This research was performed at a Federal Statistical Research Data Center under FSRDC Project Number 2799. (CBDRB-FY24-P2799-R11722, CBDRB-FY25-P2799-R11760)

# Marcos Mac Mullen

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## Education

2025 (expected)	Ph.D. Candidate, Economics, University of Rochester, USA
2021	M.A. Economics, University of Rochester, USA
2018	M.Sc. Macroeconomic Policy and Financial Markets, BSE, Spain
2015	B.A. Economics, Universidad del CEMA, Argentina

## Research Fields

International Macroeconomics, International Finance, International Trade

## Working Papers

[“Government Spending and International Transmission: Fiscal Rules in Imperfect Financial Markets” \(JMP\)](#)

[“Real Exchange Rate and Net Trade Dynamics: Financial and Trade Shocks”](#), with Soo Kyung Woo

## Conference and Seminars Presentations

2024	Federal Reserve Board, Federal Reserve Bank of St. Louis, SEA (scheduled)
2023	Graduate Research Day UofR, RIDGE International Macro Summer Forum, Korea University*, Bank of Korea*, NBER IFM Summer Institute, SED, SEA, Midwest Econometrics Fall, Santa Clara University*, National Tsing Hua University*, National Taiwan University*, University of Toronto*, McGill University*, KDI*, KIET*, Hong Kong University of Science and technology*, University of Hong Kong*, University of Virginia*, University of South Carolina*, IMIM*
2022	Midwest Macro Fall*, EGSC in St. Louis *presented by co-author

## Honors, Fellowships, Awards, and Grants

- 2024 Tapan Mitra Prize for Best Fifth Year Theoretical Paper, University of Rochester, USA.
- 2024-2025 Raymond N. Ball Dissertation-Year Fellowship, University of Rochester, USA.
- 2024 Summer Dissertation Fellow, Federal Research Bank of St. Louis, Missouri, USA.
- 2024 Summer Dissertation Fellow, Federal Research Board, DC, USA.
- 2023 Summer Research Fellowship (\$5,000), Economics Dptment, University of Rochester, USA.
- 2022-2023 The Wallis Institute of Political Economy Fellowship, University of Rochester, USA.
- 2022 Research Grant (\$3,000), Economics Department, University of Rochester, USA.
- 2019-2024 McKenzie Fellowship, Economics Department Ph.D., University of Rochester, USA.

## Teaching and Research Experience

### LECTURER

- 2021-2023 *Computational Macroeconomics Mini Course (Graduate)*, University of Rochester, USA.
- 2021 *Heterogeneous Firms and International Trade (Graduate)*, UCEMA, Argentina.
- 2018 *Topics in Fiscal Policy (Graduate)*, UCEMA, Argentina.

### TEACHING ASSISTANT

- 2022 *International Finance (Undergraduate)*, University of Rochester. Spring.  
Instructor: Prof. Joseph Steinberg.
- 2021 *International Trade (Undergraduate)*, University of Rochester. Fall.  
Instructor: Prof. Walter Steingress.

### RESEARCH ASSISTANT

- 2021-2024 *Research Assistant* for Prof. George Alessandria, University of Rochester, and Prof. Kim Ruhl, University of Wisconsin-Madison
- 2019 *Research Assistant* for Prof. Javier Fernandez-Blanco, BSE.

## Others

Computer Skills: Julia, Matlab, Dynare, R-Studio, Stata,  $\text{\LaTeX}$

Languages: English (Fluent), Spanish (Native)

## References

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# **Government Spending and International Transmission: Fiscal Rules in Imperfect Financial Markets**

*(Job Market Paper)*

The dynamics of the real exchange rate (RER) and net trade flows are crucial for the international transmission of shocks. While international macro models predict that a positive government spending shock appreciates the RER and reduces net trade, the opposite has been documented in advanced economies. Focusing on the US economy, I show that government spending shocks explain around 40 percent of the variance of the RER and net trade. I provide empirical evidence on the importance of the interaction between government debt and frictions in international financial markets for the international transmission, and a theory rationalizing the evidence. When increases in government spending are financed with debt, the presence of portfolio frictions triggers deviations from uncovered interest parity that depreciate the RER and increase net trade due to expenditure switching. I highlight the importance of this mechanism for the unconditional dynamics of the RER and net trade, emphasizing its policy implications.

# **Real Exchange Rate and Net Trade Dynamics: Financial and Trade Shocks**

*(with Soo Kyung Woo)*

This paper studies the drivers of the US real exchange rate (RER), with a particular focus on its comovement with net trade (NT) flows. We consider the entire spectrum of frequencies, as the low-frequency variation accounts for 61 and 64 percent of the unconditional variance of the RER and NT, respectively. We develop a generalization of the standard international business cycle model that successfully rationalizes the joint dynamics of the RER and NT while accounting for the major puzzles of the RER. We find that, while financial shocks are necessary to capture high frequency variation in the RER, trade shocks are essential for the lower frequency fluctuations.

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## Education

Ph.D. in Economics, University of Rochester, USA, 2025 (expected)

M.A. in Economics, University of Rochester, USA, 2022

M.A. in Economics, Sogang University, South Korea, 2018

B.A. in Economics and B.S. in Mathematics, Sogang University, South Korea, 2016

## Research Interests

Microeconomic theory, Market design, Game theory

## Working Papers

1. “Stable matchings under two-sided asymmetric incomplete information”, **Job market paper**
2. “Obviously strategy-proof implementation for mixed-ownership object-allocation problems”  
\* **Submitted**
3. “The local-global equivalence on general networks”, with Wonki Jo Cho,  
\* **Revise and Resubmit at *Journal of Economic Theory***
4. “Group incentive-compatible allocation of discrete resources when ownership is partitioned”,  
with Wataru Ishida. \* **Revise and Resubmit at *Games and Economic Behavior***
5. “Ordinal and ex-ante efficiency notions for probabilistic assignments in two-sided matching problems”

## Published Paper

- “Fractional Group Identification”, with Wonki Jo Cho, 2018, *Journal of Mathematical Economics*, 77, 66-75.

## Work in Progress

- “When are stable correspondences Nash-implementable under distributional constraints?”, with Wataru Ishida and Ryoken Nagashima.
- “Ranking when populations vary: An axiomatic characterization of ranking-by-rating rules”

## Teaching Experience

### Lecturer, University of Rochester

Math Camp (G): Summer 2021, Summer 2022

### Teaching assistant, University of Rochester

Industrial Organization (UG): Spring 2024 (Yu Awaya)

Game Theory (UG): Fall 2023 (Paulo Barelli)

Modern Value Theory II (G): Spring 2022, Spring 2023 (Paulo Barelli and William Thomson)

Modern Value Theory I (G): Fall 2021, Fall 2022 (Asen Kochov and Yu Awaya)

### Teaching assistant, Korea University

Intermediate Microeconomics (UG): Spring 2019 (Kiho Yoon)

Economics of Strategy and Information (UG): Spring 2018 (Wonki Jo Cho), Fall 2018 (Kiho Yoon)

## Conference and Seminar Presentations

Midwest International Trade and Theory Conference, Rochester, New York, USA, 2024

European Meeting on Game Theory (SING19), Besançon, France, 2024

Meeting of the Society for Social Choice and Welfare, Paris, France, 2024

Korean Economic Review International Conference, Pyeongchang, South Korea, 2024

Ottawa Microeconomic Theory Workshop, Ottawa, Canada, 2023

Asian Meeting of the Econometric Society, Singapore, 2023

Conference on Economic Design, Girona, Spain, 2023

Meeting of the Society for Social Choice and Welfare, Mexico City, Mexico, 2022

International Conference on Social Choice and Voting Theory, Virtual Event, 2021

W. Allen Wallis Institute Seminar, Rochester, New York, USA, 2021

## Research Assistantships

Research assistant for Prof. William Thomson, University of Rochester, 2020-2021

Research assistant for Prof. Wonki Jo Cho, Sogang University, 2017-2018

Research assistant at the Center for Distributive Justice, Seoul National University, 2017

## Professional Service

Referee for: Social Choice and Welfare, Mathematical Social Sciences

## Fellowships, Scholarships, and Honor

Summer Dissertation Fellowship, University of Rochester, 2024

Winston W. Chang Graduate Economics Fellowship, University of Rochester, 2023

W. Allen Wallis Fellow, University of Rochester, 2021-2022

Korean Rochester Economics Alumni Fellowship, University of Rochester, 2020-2021

Summer research grant, University of Rochester, 2020-2021

Graduate fellowship and tuition scholarship, University of Rochester, 2019-present

Brain Korea 21 Plus Scholarship, Korea University, 2018-2019

Best Graduate Student Paper Award, Korea University, 2018

Summa Cum Laude, Sogang University, 2016

## Language Skills

English (Fluent), Korean (Native)

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## Stable Matchings

### under Two-sided Asymmetric Incomplete Information

*(Job Market Paper)*

We introduce and study worker-firm matching where incomplete information is present on both sides but is “asymmetric”: the workers are partially informed of the characteristics of each firm, while the firms have no information about the characteristics of each particular worker. We propose a notion of stability and explore its welfare and structural properties. We ask whether and when the stable outcomes are assortative and, thus, are “ex-post efficient”. Unfortunately, even with just one worker who is uncertain of two adjacent firm types, some stable outcomes may not be assortative. This disappointing result prompts us to ask to what extent the stable outcomes are assortative and how their partial assortativity is affected by varying levels of information available to the workers. We introduce two weaker notions of assortativity, “non-wastefulness” and a “parametrized variant of assortativity”, and for each, we identify a condition on information structures under which the stable outcomes satisfy the respective notion. The intuition gained from this analysis also help identify conditions that ensure the full assortativity of, and hence, the ex-post efficiency of stable outcomes. Next, we turn to the question of how stable outcomes arise. We show that starting from an arbitrary outcome, the process of randomly selecting blocking pairs and matching them converges to a stable outcome with probability one. Our finding lays a dynamic, decentralized foundation of the stability under study, extending similar results that have been established under complete information (Roth and Vande Vate, 1990) and one-sided incomplete information (Chen and Hu, 2020).

## **The Local-global Equivalence on General Networks**

*(with Wonki Jo Cho)*

**Revise and Resubmit at *Journal of Economic Theory***

Strategy-proofness is an incentive property requiring that no (preference) type gain by reporting any other type in a prespecified domain of admissible types. The “local-global equivalence (LGE)” refers to the equivalence of strategy-proofness and “local” strategy-proofness, which requires immunity to misrepresentation assuming that an agent is constrained to report “local” types relative to his true type. Generalizing an existing framework, we allow the notion of localness to be arbitrary and directed and hence manipulation opportunities to be asymmetric across types. We provide two conditions, each of which characterizes the networks satisfying LGE: (i) strong connectedness, a refined notion of connectedness; and (ii) Property DL, a directed-network adaptation of Property L by Kumar et al. (2021). This characterization also helps reveal conditions for the random version of LGE (the equivalence of strategy-proofness and local strategy-proofness for random rules). We discover a necessary condition called hyper-connectedness and a sufficient condition called Property ULLO for random LGE. Our conditions are more general than earlier ones in the literature. They are satisfied by several well-known preference domains.

## **Group Incentive-compatible Allocation of Discrete Resources When Ownership Is Partitioned**

*(with Wataru Ishida)*

**Revise and Resubmit at *Games and Economic Behavior***

We introduce and study the problem of allocating objects when the ownership structure is of the following form: Society is partitioned into groups of agents, each collectively owning a number of objects equal to its size. We consider two core notions, the “standard core” and the “exclusion core” (Balbuzanov and Kotowski, 2019). We show that they are independent notions, contrarily to what is the case for “traditional” ownership structures—e.g., collective, private, and mixed ownership—and that they always have a non-empty intersection. Next, we turn to the issue of group incentive-compatibility. We look for rules satisfying efficiency, the “within-group endowments lower bounds”, group strategy-proofness, and “group-wise neutrality”. We identify and characterize a family of rules on the basis of these axioms. We also show that they recommend allocations in the intersection of the standard core and the exclusion core, reconciling the two core notions.

## Obviously Strategy-proof Implementation for Mixed-ownership Object-allocation Problems

We study the problem of allocating indivisible commodities, or “objects”, when some of them are privately owned and some are collectively owned. We search for well-behaved rules that are implementable in “obviously dominant equilibrium”, namely, obviously strategy-proof rules (Li, 2017). We start from the *you request my house–I get your turn* rules (Abdulkadiroğlu and Sönmez, 1999), the “AS rules”. We ask whether and when they are obviously strategy-proof. When preferences are strict but otherwise unrestricted, and with at least three agents, the AS rules are obviously strategy-proof if and only if there is at most one owner. This disappointing result raises the question whether things would work out better on some restricted preference domains. On the single-peaked domain, we propose a new family of rules and show that not only are these “priority-augmented crawlers” obviously strategy-proof, but also that they satisfy efficiency, the individual endowments lower bounds, group strategy-proofness, weak neutrality, and separability. We further establish that on the single-dipped domain, contrarily to what is the case on the single-peaked domain, the AS rules are obviously strategy-proof.

## Efficiency Notions for Probabilistic Assignments in Two-sided Matching Problems

We study various efficiency notions for probabilistic assignments in two-sided one-to-one matching problems, exemplified by “marriage problems”, with indifference allowed. When agents report only ordinal preferences, a common one is *sd*-efficiency (“*sd*” is for stochastic dominance). Alternative notions have been proposed and scrutinized for object allocation problems, yet much less attention has been paid to these notions in the context of marriage problems. To fill this gap, we adapt them to marriage problems by taking into account the welfare of agents on both sides. Our alternative ordinal notions are ex-post efficiency; and *dl*- and *ul*-efficiency (“*dl*” and “*ul*” are for downward and upward lexicographic dominance). We investigate the relationships among these notions and their counterparts for object allocation problems, simply obtained by only considering the welfare of agents on one side. Our ex-ante efficiency notion is “*usw*-efficiency” (“*usw*” is for utilitarian social welfare), proposed by Doğan et al. (2018) for object allocation problems. It is defined on the basis of the following dominance relation: An assignment “*usw*-dominates” another assignment for a preference profile if and only if the former maximizes utilitarian social welfare for a larger set of utility profiles consistent with the preference profile. We characterize the *usw*-domination of an assignment and *usw*-efficient assignments in terms of “extension of support”.

# Stable Matchings under Two-sided Asymmetric Incomplete Information

Changwoo Park\*

September 23, 2024

## Abstract

We introduce and study worker-firm matching where incomplete information is present on both sides but is “asymmetric”: the workers are partially informed of the characteristics of each firm, while the firms have no information about the characteristics of each particular worker. We propose a notion of stability and explore its welfare and structural properties. We ask whether and when the stable outcomes are assortative and, thus, are “ex-post efficient”. Unfortunately, even with just one worker who is uncertain of two adjacent firm types, some stable outcomes may not be assortative. This disappointing result prompts us to ask to what extent the stable outcomes are assortative and how their partial assortativity is affected by varying levels of information available to the workers. We introduce two weaker notions of assortativity, “non-wastefulness” and a “parametrized variant of assortativity”, and for each, we identify a condition on information structures under which the stable outcomes satisfy the respective notion. The intuition gained from this analysis also help identify conditions that ensure the full assortativity of, and hence, the ex-post efficiency of stable outcomes. Next, we turn to the question of how stable outcomes arise. We show that starting from an arbitrary outcome, the process of randomly selecting blocking pairs and matching them converges to a stable outcome with probability one. Our finding lays a dynamic, decentralized foundation of the stability under study, extending similar results that have been established under complete information ([Roth and Vande Vate, 1990](#)) and one-sided incomplete information ([Chen and Hu, 2020](#)).

*JEL Classification Numbers:* C78, D40, D82, D83

*Key Words:* Matching, stability, incomplete information, efficiency, assortativity

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# João Pedro Rudge Leite

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---

## EDUCATION

- Ph.D. Economics, University of Rochester, 2019-2025 (Expected)
- M.A. Economics, University of Rochester, 2021
- M.Sc. Economics, Sao Paulo School of Economics (FGV-SP), Brazil, 2019
- B.Sc. in Economics, Sao Paulo School of Economics (FGV-SP), Brazil, 2015

## RESEARCH FIELDS

Macroeconomics, Banking, International Finance

## WORKING PAPERS

“Heterogeneous Banks and Transmission of Monetary Policy” (2024) - Job Market Paper

I propose a mechanism for the transmission of monetary policy through banks’ funding structure. First, I provide empirical evidence for this mechanism using Call Reports data for U.S. banks. I show that banks with longer maturities in their liabilities are less responsive to tightening monetary policy, i.e., they reduce their lending relatively less. Second, I explore the mechanism’s aggregate implications using a General Equilibrium model, in which banks endogenously choose their funding, accounting for differences in maturity.

## WORKS IN PROGRESS

“Banking Sector Exposure to Global Financial Cycle and Sovereign Debt Crises” with Jefferson Martinez Saavedra

## HONORS, FELLOWSHIPS, AWARDS, AND GRANTS

- 2021 Summer Research Grant, U of R
- 2019-2024 Economics Department Ph.D. Fellowship and Tuition Scholarship, U of R
- 2017-2019 Full M.Sc. Scholarship, CAPES, Brazil

## RESEARCH EXPERIENCE

- 2021 RA for Prof. Gaston Chaumont, U of R



## TEACHING EXPERIENCE

### TEACHING

Summer 2023      *Economic Statistics (Undergraduate)*, U of R,

### TEACHING ASSISTANT

2024 Spring      *Intermediate Macroeconomics (Undergraduate)*, U of R, Prof. Matias Moretti

2023 Fall      *International Macroeconomics (Undergraduate)*, U of R, Prof. Rafael Guntin

2022 Fall, 2023 Spring      *Intermediate Macroeconomics (Undergraduate)*, U of R, Prof. Hamid Firooz

2022 Spring      *Financial Econometrics (Undergraduate)*, U of R, Prof. Bin Chen

2021 Fall      *Intermediate Microeconomics (Undergraduate)*, U of R, Prof. Steven Landsburg

## OTHERS

Computer Skills: Julia, Stata, Matlab

Languages: English (Fluent), Portuguese (Native)

## REFERENCES

### **Yan Bai** (Advisor)

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### **George Alessandria**

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### **Matias Moretti**

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# Heterogeneous Banks and Transmission of Monetary Policy

(Job Market Paper)

This paper analyzes the impact of heterogeneity in banks' funding on the transmission of monetary policy shocks. Empirically, I find that banks whose liabilities have longer maturity are less responsive to monetary shocks. I interpret this finding using a heterogeneous-banks macroeconomic model with endogenous default and funding choices. The funding choice is mainly driven by idiosyncratic risk and financial frictions since long-term wholesale liabilities allow banks to smooth dividends over time. Using this framework, I assess the aggregate implications of monetary shocks and provide quantitative evidence that the transmission is affected by the distribution of banks' funding structure.

# Jose Villegas

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## Academic Positions

2022- Postdoctoral Researcher, Ghent University, Department of Economics

## Education

2022 Ph.D. in Economics, University of Rochester, USA  
2018 M.A in Economics, University of Rochester, USA  
2015 M.A in Economics, Georgetown University, USA  
2013 B.A. in Economics, Universidad Mayor de San Andres, Bolivia

## Research Fields

Household Finance, Corporate Finance, Labor Economics, International Macroeconomics

## Working Papers

“Consumer Debt Moratoria”, [link](#) (**Job Market Paper**)  
*with Bulent Guler, Yasin Kürşat Önder and Mauricio Villamizar-Villegas*  
“Debt Moratoria and Macroeconomics”, [link](#)  
*with Yasin Kürşat Önder and Mauricio Villamizar-Villegas*  
“Employment Fluctuations, Real Estate Prices and Property Taxes” [link](#)  
“Investment, Capital Structure and Default Risk” [link](#)

## Work In Progress

“Credit Guarantees, Firm Response and Macroeconomics”, *with Yasin Kürşat Önder*  
“Labor Market Frictions, Employment Costs, and Sovereign Default Risk”

## Research Visits

2023: Banco de la República, Bogotá Colombia  
- Research visit to employ administrative loan-granular data for project on the effect of Debt Moratorium on firms and households (Dr. Mauricio Villamizar)

## Conference and Seminar Presentations

- 2024: EEA-EES Meeting, Erasmus School of Economics
- 2024: Society for Economic Dynamics Annual Meeting, Universitat Autònoma de Barcelona
- 2024: Belgian Financial Research Forum, National Bank of Belgium
- 2024: International Conference on Empirical Economics, Penn-State Altoona (Online)
- 2023: Macroeconomics Seminar, KU Leuven
- 2023: Macroeconomics Seminar, Banco de la República (Colombia)
- 2023: International Symposium, National Bank of Belgium
- 2022: Workshop on Empirical Macroeconomics, Ghent University

## Fellowships, Scholarships, and Awards

- Graduate Fellowship and Tuition Scholarship, University of Rochester, 2016-2020
- Summer Research Grant, University of Rochester Summer, 2017, 2018
- Student Fellowship - ILADES/Georgetown University, 2014-2015
- First Prize Research Paper, 7th National Meeting of Economists, Central Bank of Bolivia, 2014
- Graduation with Honors, Second Highest GPA, Universidad Mayor de San Andrés, 2013
- Excellence Award, Three Highest GPA Economics Dep., Universidad Mayor de San Andrés, 2009
- Excellence Award, Highest Freshman GPA, Universidad Mayor de San Andrés, 2009

## Teaching Experience

Instructor, University of Rochester

Economic Statistics (Undergraduate) – (Summer 2019, 2020)

Teaching Assistant, University of Rochester

Economic Statistics (Undergraduate) – Professor Bin Chen (Spring 2019, 2020, Fall 2020)

Economics of Globalization (Undergraduate) – Professor Gaston Chaumont (Fall 2018, 2019)

Econometrics (Undergraduate) – Professor Tan Kegen (Spring 2021)

Intermediate Macroeconomics (Undergraduate) – Professor Hamid Firooz (Spring 2022)

Instructor, Universidad Alberto Hurtado

Introduction to Econometrics (Undergraduate) – (Spring 2016)

Teaching Assistant, Universidad Alberto Hurtado (Ilades-Georgetown)

Microeconomics I (Graduate) – Professor Lucas Navarro (Fall 2015)

Macroeconomics I (Graduate) – Professor Mauricio Tejada (Fall 2015)

Microeconomics II (Graduate) – Professor Carlos Ponce (Spring 2016)

Econometrics II (Graduate) – Professor Marcela Peticara (Spring 2016)

## Others

**Languages:** Spanish (native), English (fluent)

**Computer Skills:** Stata, R, Python, Matlab, Fortran, Latex.

## References

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## **Consumer Debt Moratoria**

*with Bulent Guler, Yasin Kursat Önder, and Mauricio Villamizar*

*(Job Market Paper: Extended Abstract)*

Debt moratoria, which refers to the suspension of debt payments, has proven to be among the most effective and least costly policies to alleviate debt burdens for liquidity-constrained borrowers. The 2020 pandemic brought moratoria policies to the forefront, and despite their central role, its study remains largely unexplored both empirically and theoretically. In this paper, we study the effectiveness of mortgage moratoria on households' consumption and delinquency behavior and its implications for the aggregate real economy and financial sector.

Empirically, we exploit the regulatory design for eligibility during the 2020 debt moratorium in Colombia: only mortgages with less than 60 days past due before the start of the policy were eligible for the policy. We argue that households just below and above this threshold are similar *ex-ante* and differ primarily in their receipt of treatment. Next, using Colombian administrative household credit data, we compare delinquent households marginally qualifying and narrowly missing the eligibility rule to estimate the effect of the policy on credit card expenditure and delinquency for mortgages and other household debt. Our results suggest that moratoria help stressed households facing temporary liquidity constraints due to the COVID-19 pandemic: households receiving moratoria have a 2.1% higher credit card expenditure and a 0.98 percentage points (pp) lower mortgage delinquency probability at the end of the quarter they receive treatment. Additionally, we find that treated households reduced the likelihood of defaulting on other debt obligations: delinquency probability on short-term loans and car loans is 0.09 and 0.36 pp lower in the quarter of treatment, respectively.

We complement our empirical analysis with an incomplete life-cycle market model that incorporates realistic housing tenure decisions and financial intermediaries' providing risky mortgages to assess the policy's impact on consumption and banks' balance sheets. We use the model to compare the economy's response to a drop in aggregate productivity relative to a case where a moratorium is introduced after the productivity shock. Initially, we exclude GE effects to test the internal validity of the model, finding that the elasticity of consumption to the moratoria aligns with our empirical estimates. Incorporating GE effects, we find that moratoria mitigates the negative impact of a productivity drop on households and improves financial stability: consumption and welfare decline by 7% less, and house price decline by 18% less. Though banks face short-term costs with the policy, long-term benefits arise due to lower liquidation of bank assets, as moratoria reduces the number of households prepaying their mortgage to smooth out consumption. Finally, we show that a moratoria policy without interest accrual improves household welfare and yields similar long-term gains for banks.

## **Debt Moratoria and Macroeconomics**

*with Yasin Kursat Önder and Mauricio Villamizar*

Our study analyzes the impact of debt moratorium policies on firms' default risk and future credit conditions. Using Colombian administrative data, we compare firms that narrowly met the criteria for moratoria (eligible firms could not exceed 60 days overdue on their loans) with those that just missed it. Our findings reveal that stressed firms accessing moratoria experience more favorable loan conditions on subsequent borrowing, characterized by higher loan amounts and lower interest rates. This credit relief, in turn, contributes to substantial increases in firm investment and employment. To delve deeper into the implications, we employ a quantitative general equilibrium model of default to assess both short- and long-term effects. While these policies effectively mitigate liquidity concerns, they concurrently elevate default risks. Notably, our research underscores the considerable welfare gains when debt moratorium policies incorporate interest forgiveness during periods of debt standstill by reducing default risk.

## **Employment Fluctuations, Real Estate Prices, and Property Taxes**

This paper studies the role of real estate prices on employment fluctuations. We focus on the relative importance of the housing wealth and the firm collateral channel in employment. We use empirical evidence from Italian municipality data and feature a quantitative model with financial frictions to quantify each channel. First, we exploit municipal-level variation in property tax changes to estimate its effect on labor, consumption, and real estate prices during Italy's 2012 property tax reform. Then, we use the estimates to calibrate a quantitative model that includes houses and commercial real estate charged with different property tax rates. We find that both channels explain more than 50% of the employment decline due to higher property taxes. However, the firm collateral channel reduces employment by 20% more than the housing wealth channel.

## **Credit Guarantees, Firm Response and Macroeconomics**

*with Yasin Kursat Önder*

This paper evaluates the effects of the 2020 Public Credit Guarantee Scheme in Belgium. Using firm balance sheet data, we leverage a policy-induced discontinuity in loan eligibility: firms with fewer than fifty employees benefited from a 25 basis point (bp) reduction in interest rates for guaranteed loans. We compare those just below the employment threshold with firms just above it. Our findings indicate that firms benefiting from the lower interest rates experienced increases in employment and investment. Locally, our results are not explained by the size of the loan received, pre-policy firm performance difference, or predetermined differences in capital structure. Interestingly, the interest rate differential did not lead to higher levels of debt accumulation; instead, these firms substituted more costly, non-guaranteed debt. Overall, our results suggest that credit guarantees enhance firms' economic performance by mitigating price-related financial frictions.

## **Investment, Capital Structure and Default Risk**

This paper studies how changes in the sovereign spread affect firms' investment and the potential heterogeneous response due to different maturity and leverage decisions. We employ balance-sheet data for Italian firms and exploit predetermined variations in total and long-term debt obligations for non-financial Italian corporations. We compare firms across leverage and long-term debt share (maturity) groups to estimate the investment decline associated with sovereign spread movements during the 2010-2012 Italian debt crisis. Our empirical analysis shows that firms' investment declines during sovereign default risk episodes, and this decline is heterogeneous depending on the predetermined capital structure of firms. In particular, during the Italian debt crisis, a 100 basis point increase in the sovereign spread is associated with an investment decline of 4.02 pp. and 2.58 pp. for high-leverage high-maturity and low-leverage high-maturity firms, respectively. Additionally, we find that during a sovereign debt crisis, higher leverage always amplifies the decline of investment, while higher maturity shields the investment for low leverage but is detrimental for firms with high leverage. Using a partial equilibrium model where firms can default on short and long-term debt, we are able to interpret our findings as the result of the interaction between rollover risk and debt overhang affecting firms.