

UNIVERSITY OF
ROCHESTER

Department of Economics



Job Market
Candidates
2026-2027

Name	Job Market Paper	Fields	References
Burak Arici	Probationary Periods: Incentivizing Effort and Facilitating Learning	Microeconomic Theory Information Economics Dynamic Games	Paulo Barelli Srihari Govindan Yu Awaya
Eugenio González Flores	Borrowing to Do, Doing to Learn	Firm Dynamics Macro-Labor Growth	Mark Bills George Alessandria Yan Bai
So Young Kim	Inclusionary Zoning and Access to Opportunity: Evidence from Washington, D.C.	Public Economics Urban Economics Applied Microeconomics	John Singleton Lisa Kahn David Figlio Ronni Pavan
Simon Li	Foreign Language and Social Preferences	Applied Microeconomics Development Economics	Travis Baseler John Singleton Iris Vrioni
Zeming Ma	Fair Allocations in Crowdfunding: Order- Augmented Revenue- Sharing Problems	Microeconomic Theory Economic Design Fair Division Platform Economics	William Thomson Paulo Barelli Juan D. Moreno- Ternero Yu Awaya
Yidi Yang	College Quality and Returns to Occupational Match	Applied Microeconomics Labor Economics Economics of Education	Ronni Pavan John Singleton Lisa Kahn
Qiyang Yu	Spillovers Under Common Shocks In Panel Data: Estimation And Inference	Econometrics High-dimensional Econometrics Financial Econometrics	Bin Chen Nese Yildiz Yukun Ma

Burak Arici

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Citizenship: Turkiye (F1 Visa)

Education

Ph.D. in Economics, University of Rochester, USA, 2021-2027 (expected)

M.Sc. in Econometrics and Mathematical Economics, The London School of Economics and Political Science, UK, 2020-2021.

B.A. in Management, Bogazici University, Turkiye, 2015-2020.

B.A. in Political Science and International Relations, Bogazici University, Turkiye, 2015-2020.

Research Fields

Microeconomic Theory, Information Economics, Dynamic Games

Working Papers

“Probationary Periods: Incentivizing Effort and Facilitating Learning” (**Job Market Paper**)

“Increase in the Outside Option: Mitigating the Ratchet Effect”

“A Note on the Value of Information in Agency Problems”

Teaching Experience

Teaching Assistant, University of Rochester

Microeconomics Summer Math Camp (Graduate) – Summer 2023, 2024

Modern Value Theory I (Graduate) – Prof. Yu Awaya, Prof. Asen Kochov (Fall 2023, 2024)

Modern Value Theory II (Graduate) – Prof. Paulo Barelli, Prof. William Thomson (Spring 2024)

Game Theory (Undergraduate) – Prof. Paulo Barelli (Fall 2025, 2026)

Intermediate Microeconomics (Undergraduate) – Prof. Srihari Govindan (Spring 2025, 2026)

Fellowships, Scholarships, and Awards

Graduate Fellowship and Tuition Scholarship, University of Rochester, 2021-2027

High Honors, Bogazici University, 2020

Others

Languages: Turkish (native), English (fluent)

Computer Skills: Stata, R

References

Professor Paulo Barelli (Co-Advisor)

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Professor Srihari Govindan (Co-Advisor)

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Professor Yu Awaya

University of Tokyo

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Probationary Periods: Incentivizing Effort and Facilitating Learning

(Job Market Paper: Abstract)

I study a principal-agent problem between an infinitely lived firm and finitely lived workers. Each worker's type is initially unknown to both parties, and high effort helps to better identify it. My model is built on Camargo and Pastorino (2016), who show that probationary periods (commitment to employment) can be part of the equilibria only when the workers' effort has a delayed impact, if both the type space and the output space are binary. I show that if the type space and the output space contain at least three elements, and the workers' outside option gradually increases depending on their past performance, probationary periods are part of the equilibria, even when effort has no delayed impact. This formulation helps to explain environments where a worker who produces medium output for more than one period can secure an alternative job matching his skills, even though the firm is better off switching to a new candidate.

Increase in the Outside Option: Mitigating the Ratchet Effect

I study a dynamic principal-agent problem with limited commitment between a firm and a worker. Both parties live for infinitely many periods, and the worker's cost of production is his private information. I show that the firm can learn the worker's type without firing the high-cost worker, when the production of a certain quality for some finitely many consecutive stages leads to an increase in both the worker's outside option and in the firm's future payoff. Delaying the time when the high-cost worker starts enjoying a higher outside option is crucial in learning. These findings contrast with the results of the ratchet effect literature, in particular with Gerardi and Maestri (2020), who show that there exists no PBE where the firm learns the worker's type without a firing menu, when the parties have a high discount factor.

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RESEARCH INTERESTS

Primary: Macroeconomics

Secondary: Firm Dynamics, Macro-Labor, Growth

EDUCATION

- **PhD in Economics, University of Rochester** *Aug. 2021 - May 2027 (Expected)*
Rochester NY, USA
- **MA in Economics, University of Rochester** *Aug. 2021 - Dec. 2023*
Rochester NY, USA
- **MA in Economic Theory, Instituto Tecnológico Autónomo de México** *Aug. 2017 - Dec. 2021*
◦ Highest Honors Mexico City, Mexico
- **BA in Economics, Instituto Tecnológico Autónomo de México** *Aug. 2012 - Dec. 2016*
◦ Highest Honors Mexico City, Mexico

WORK IN PROGRESS

- **Borrowing to Do, Doing to Learn (Job Market Paper)**
- **Becoming Informal: Selection or Displacement?**
With Alejandro Castillo
- **Wedge-Accounting in Multi-Sector Models**
With Paulo Lins and Gian Paulo Soave

WORK EXPERIENCE

- **Research Assistant, University of Rochester** *Jun. 2022 - Feb. 2026*
◦ Assisted professors Mark Bills, Rafael Guntin, Narayana Kocherlakota and Gaston Chaumont. Rochester NY, USA
- **Economist, Banco de México - Research Division** *Jan. 2017 - Aug. 2021*
◦ Forecasting, research, and data visualization for the Quarterly Regional Economic Report. Mexico City, Mexico
- **Research Assistant, Instituto Tecnológico Autónomo de México** *Aug. 2016 - Dec. 2016*
◦ Assisting the realization of an on-campus experiment for Piotr Evdokimov. Mexico City, Mexico

TEACHING EXPERIENCE

- **Adjunct Instructor, University of Rochester** *May. 2024 - May. 2025*
◦ Intermediate Macroeconomics (Undergraduate): Summer 2024, Spring 2025 (Eval 4.38/5). Rochester NY, USA
- **Teaching Assistant, University of Rochester** *Feb. 2023 - Dec. 2024*
◦ Macroeconomics I (Graduate): Fall 2024 (Awarded Best TA 2025). Rochester NY, USA
◦ Macroeconomics Summer Math camp (Graduate): Summer 2023, Summer 2024.
◦ Intermediate Macroeconomics (Undergraduate): Spring 2024 (Eval 4.57/5).
◦ Money, Credit and Banking (Undergraduate): Fall 2023 (Eval 4.80/5).
◦ Graduate Support TA (Graduate): Spring 2023.
- **Teaching Assistant, Instituto Tecnológico Autónomo de México** *Jan. 2015 - Dec. 2016*
◦ General Equilibrium (Graduate): Fall 2016 Mexico City, Mexico
◦ Introduction to Microeconomics (Undergraduate): Spring 2015, Fall 2015.
◦ Intermediate Microeconomics (Undergraduate): Spring 2015, Fall 2015.

CONFERENCES AND SEMINARS

2026 Midwest Macro Spring

HONORS AND AWARDS

- Tapan Mitra Prize for the Best Fifth Year Paper, University of Rochester 2026
- Raymond N. Ball Dissertation-Year Fellowship, University of Rochester 2026
- Edward Peck Curtis Award for Excellence in Teaching, University of Rochester 2026
- Best TA, University of Rochester 2025
- Job Market Paper Summer Research Fellowship, University of Rochester 2025
- The Conibear Memorial Prize for Best Third Year Paper, University of Rochester 2024
- W. Allen Wallis Fellowship, University of Rochester 2024
- Norman M. Kaplan Memorial Prize for Excellent Scholarship, University of Rochester 2023
- Summer Research Fellowship, University of Rochester 2022
- McKenzie Fellowship, University of Rochester 2021
- Scholarship for Academic Excellence, Instituto Tecnológico Autónomo de México 2012

SKILLS

- **Programming Languages:** Julia, Matlab, Stata, LaTeX, Python, Fortran
- **Languages:** Spanish (native), English (native), French (intermediate)

OTHER PROFESSIONAL ACTIVITIES

- Student Seminar Organizer, University of Rochester Economics Department *Sept. 2024 - May 2025*
Rochester NY, USA
- Mentor to 1st Year PhD Students, University of Rochester Economics Department *Sept. 2023 - May 2025*
Rochester NY, USA
- Student Council Member, University of Rochester Economics Department *Aug. 2023 - May 2024*
Rochester NY, USA
- Heterogeneous-Agent Macro Workshop, NBER *Jun. 2023*
Boston MA, USA

ADDITIONAL INFORMATION

Citizenship: Mexico, Spain, F-1 Status in USA

REFERENCES

1. **Prof. Mark Bils (Main Advisor)**
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2. **Prof. George Alessandria**
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3. **Prof. Yan Bai**
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So Young Kim

CONTACT INFORMATION

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Last updated: September 2026

EDUCATION

University of Rochester, Ph.D. in Economics	2021–2027 (Expected)
Sungkyunkwan University, M.A. in Economics	2019–2021
Sungkyunkwan University, B.A. in Economics, <i>Summa Cum Laude</i>	2014–2019

FIELDS OF INTEREST

Public Economics, Urban Economics, Applied Microeconomics

WORKING PAPERS

“Inclusionary Zoning and Access to Opportunity: Evidence from Washington, D.C.”

Job Market Paper

“Labor Market Regulation and Technology Adoption: Evidence from Nurse Staffing Mandate in California”
with Woosuk Choi, *Reject and Resubmit, Journal of Human Resources*

“Recidivism Reduction Initiatives: An Evaluation of Conditional Early Release”
with Julia Godfrey, *Under Review*

WORK IN PROGRESS

“Getting Tougher on Crime: DUI Look-back Periods” with Julia Godfrey

PUBLICATIONS

“Precaution Effort and Accident Fatalities: With Focus on the Effect of Income Inequality in Korea” with Iljoong Kim. *Korean Journal of Law and Economics*, 18(2): 99–129, 2021. (In Korean)

“Regulatory Reforms in Holding Companies” with Changmin Lee and Seo Yeun Nam. *Korean Journal of Law and Economics*, 17(3): 537–560, 2020. (In Korean)

PRESENTATIONS

2026 Sungkyunkwan University; UEA Summer School; North American Regional Science Council (NARSC)*

2023 Western Economic Association International (WEAI) 98th Annual Conference

* Scheduled

AWARDS AND FELLOWSHIPS

Tapan Mitra Prize (Best 5th year paper), University of Rochester	2026
Dean's Post-Field Research Dissertation Completion Fellowship, University of Rochester	2026–2027
Wang Family Graduate Student Summer Research Fellowship, University of Rochester	2026
Summer Research Fellowship, University of Rochester	2025
Research Data Grant, University of Rochester	2025
River Campus Library Data Grant, University of Rochester	2022, 2025
Wallis Institute of Political Economy Fellowship, W. Allen Wallis Institute	2023–2024
Graduate Fellowship and Tuition Scholarship, University of Rochester	2019–Present
Kwanjeong Educational Foundation Scholarship for Domestic Graduate Students	2019–2020
Shimsan Graduate Scholarship, Sungkyunkwan University	2019–2020
Sungkyunkwan University Alumni Award	2019
Future-oriented HR Scholarship, Lotte Corporation	2017–2018
Minister Award of Ministry of Trade, Industry, and Energy (MOTIE)	2017
Merit-Based Academic Excellence Scholarship, Sungkyunkwan University	2015–2016

TEACHING EXPERIENCE

Teaching Assistant, Department of Economics, University of Rochester	
Econometrics	Spring 2024, 2025
Labor Markets	Fall 2024
Discrete Choice Models, Economics of Education	Fall 2023
Teaching Assistant, Simon Business School, University of Rochester	
Pricing Policies	Fall 2022, 2023, 2024
Teaching Assistant, Department of Economics, Sungkyunkwan University	
Introduction to Microeconomics	Spring 2019–Spring 2021
Law and Economics	Fall 2020

RESEARCH EXPERIENCE

Research Assistant for Lisa B. Kahn, University of Rochester	Apr 2023–Mar 2024
Research Assistant for John D. Singleton, University of Rochester	May 2022–Mar 2024
Research Assistant for Iljoong Kim, Sungkyunkwan University	2018–2021
Research Assistant for Kyoungbong Woo, Korea National Open University	2019–2021
Research Assistant for Changmin Lee, Hanyang University	2018–2019

SKILLS

Software	Stata, MATLAB, QGIS, R, Python
Languages	Korean (Native), English (Fluent), Spanish (Pre-intermediate)

REFERENCES

John D. Singleton (Advisor)
Department of Economics
University of Rochester
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David Figlio
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Ronni Pavan
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Inclusionary Zoning and Access to Opportunity: Evidence from Washington, D.C.
(Job Market Paper)

Inclusionary zoning (IZ) requires developers to reserve a share of new units at below-market rents. Can it expand lower-income access to high-opportunity neighborhoods at scale without displacing incumbents or deterring construction? Exploiting variation in the timing of IZ completions in Washington, D.C., I find that new IZ developments increase lower-income entry into higher-income neighborhoods, with little evidence of increased incumbent displacement. To evaluate the policy at scale, I estimate a spatial equilibrium model of household sorting, endogenous amenities, and developer entry and project size. Relative to no IZ, the policy raises the share of eligible households living in above-median-opportunity neighborhoods by 0.76 percentage points. Gains are large for IZ recipients but modest overall, because developers build 17 percent fewer units in IZ-subject projects and higher-income households re-sort into high-opportunity areas. These responses constrain scalability: raising the set-aside up to 20 percent expands access, but beyond that, lost construction outweighs additional below-market units.

**Labor Market Regulation and Technology Adoption:
Evidence from Nurse Staffing Mandate in California**
with Woosuk Choi

We study how quantity-based labor regulations affect technology adoption using California's nurse staffing mandate. Combining nationwide hospital data with a synthetic difference-in-differences design, we show that the mandate reduced adoption of Clinical Decision Support systems by up to 6.4 percentage points among hospitals with low baseline staffing conditions or tight financial constraints. Conversely, adoption of nurse staffing software increased by up to 9 percentage points among well-staffed, financially flexible hospitals. These patterns reflect the crowding out of quality-enhancing technologies and increased demand for compliance tools. Overall, staffing mandates shift the technology investment composition, with implications for mortality and clinical performance.

Recidivism Reduction Initiatives: An Evaluation of Conditional Early Release
with Julia Godfrey

This paper provides the first causal evidence on conditional early release by studying Pennsylvania's Recidivism Risk Reduction Incentive (RRRI). Using quasi-random assignment to sentencing judges as an instrument for RRRI eligibility, we estimate effects on in-prison behavior and post-release outcomes. RRRI reduces time served by 270 days, but has little effect on program completion or misconduct. Post-release, RRRI increases parole violations without meaningfully increasing new convictions. The increase is concentrated in drug-related and low-level infractions, importantly, low in cost. A cost-benefit calculation suggests substantial net welfare gains, highlighting the potential for conditional early release to be a scalable policy tool.

Simon Li

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Rochester, U.S.A.

EDUCATION

• University of Rochester, Ph.D. in Economics

Field: Applied Microeconomics; Causal Inference

Sep 2021 - May 2027 (expected)

Rochester, U.S.A.

• The Chinese University of Hong Kong, M.Phil. and B.S. in Economics

First Class Honors

Sep 2014 - Jun 2021

Hong Kong

SKILLS HIGHLIGHT

Experimentation & Causal Inference: A/B test; CUPED; Causal forest; Difference-in-differences; Matching

Machine Learning: Logistic regression; Random forest; XGBoost; Double machine learning

Programming Languages: Python (Pandas, NumPy, Scikit-learn); SQL; R; Stata

WORKING EXPERIENCE

• Project Lead, Field Experiment on Education and Social Attitudes

Tools: Randomized controlled trial; Survey construction; Double machine learning

Jul 2024 - May 2026

Rochester, U.S.A.

◦ Led design and execution of a randomized controlled trial with 1,000+ students in Kyrgyzstan.

◦ Managed field operations across four schools, coordinating local partners and enumerator teams.

◦ Constructed baseline and endline surveys; Selected high-dimensional controls using double lasso.

◦ Estimated treatment effects using ANCOVA and DID; Implemented IPW to correct differential attrition.

• Research Assistant, Spillover Effects of Cash Transfer Programs

Tools: Meta-analysis; Panel data regressions; Heterogeneity analysis

Jan 2025 - Jul 2025

Rochester, U.S.A.

◦ Built a dataset from 20+ studies to quantify program impacts and enable cross-study comparison.

◦ Delivered short- and long-term impact estimates by harmonizing inconsistent metrics across studies.

◦ Identified spillover effects concentrated among poorer households, informing program targeting design.

• Research Assistant, RCT Program Evaluation

Tools: LASSO; Principal Component Analysis

Jan 2023 - Apr 2023

Toronto, Canada

◦ Assisted in an unconditional cash transfer program involving 3,000 low-income individuals in the U.S.

◦ Analyzed RCT data; Treatment increased spending by \$310/month (67% on non-durables).

◦ Constructed individual's financial health index (by PCA); Treatment improved index scores by 5%.

◦ Applied LASSO to select a subset of pre-treatment covariates and ran seemingly unrelated regressions.

SELECTED PROJECTS

• Mobile Game A/B Testing with Cookie Cats

Tools: A/B test; Bootstrap; Power analysis

Jan 2025 - Mar 2025

Rochester, U.S.A.

◦ Designed an A/B test evaluating how moving the first progression gate impacted player retention rate.

◦ Conducted power analysis to validate sample size and computed bootstrapped confidence intervals.

◦ Built end-to-end analysis pipeline in Python, from data cleaning through statistical inference.

◦ Quantified a 0.8 pp drop in 7-day retention at 99% confidence, recommending against the gate change.

• The Causal Effects of Higher Education Expansion on Vocational Education

Tools: Difference-in-differences; Propensity score matching

Sep 2023 - Jun 2024

Rochester, U.S.A.

◦ Examined the causal effects of China's HEE on the income of secondary vocational education graduates.

◦ Used propensity score matching; Constructed a matched dataset with 7,902 samples for regressions.

◦ Designed and estimated DID regressions; Found the wage gaps closed by 10.3% after HEE intervention.

◦ Conducted parallel trend and placebo tests; The results are robust to changes in intervention timing.

• Productivity Growth in China's Manufacturing Sector

Tools: Large-scale data cleaning; Productivity estimation; Data validation

Jan 2023 - Jul 2023

Rochester, U.S.A.

◦ Wrote programs to construct a panel of Chinese above-scale manufacturing firms from 1998 to 2013.

◦ Implemented a firm-matching algorithm; The fraction of linked firms increased from 84.7% to 92.2%.

◦ Constructed real capital stock series; The benchmark estimates implied an increase of 3.1% per year.

◦ Cross-validated firm-level output against tax records; Official statistics overstated revenue growth by 2x.

Zeming Ma

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Education

Ph.D. in Economics, University of Rochester, USA, December 2026 (expected)
M.A. in Economics, University of Rochester, USA, 2022
M.S. in Econometrics and Quantitative Economics, University of Arizona, USA, 2019
B.S. in Energy Economics, Renmin University of China, China, 2018

Research Interests

Microeconomic Theory, Economic Design, Fair Division, Platform Economics

Working Papers

- “Fair Allocations in Crowdfunding: Order-Augmented Revenue-Sharing Problems” (**Job Market Paper**; under review at *Management Science*)
- “How to Fairly Share Streams: Index Characterizations for Music Streaming Problems”, with Di Feng

Published Papers

- “Three Rules for Airport Problems: Characterizations Via Order Preservation, Dispersion Minimization, and Consistency”, *Mathematical Social Sciences*, 142 (2026), 102543
- “Inflationary and Distributional Effects of Fossil Energy Price Fluctuation on the Chinese Economy” with Chen, Z. M., Chen, P. L., Xu, S., Hayat, T., and Alsaedi, A., *Energy*, 187 (2019), 115974.

Research In Progress

- “No Quality, No Pay: Encourage High-Quality Data Through Performance-Based Compensation Mechanisms in Discrete Choice Experiments,” with Yicheng Mao (lab experiments currently under preparation)
- “Beyond Stability – How Residency Placements Shape Long-Run Physician, Patient, and Hospital Outcomes,” with Liuyi Wang (data partially collected)

Teaching Experience

- Lecturer, University of Rochester
Principles of Economics: Summer 2024 and 2025
- Teaching Assistant, University of Rochester
Topics in Microecon Theory: Fall 2025 (Steven Landsburg)
Fair Allocation: Fall 2024 (William Thomson)
Public Finance: Spring 2024 (Elizabeth Ashby)
Intermediate Microeconomics: Fall 2023 (Elizabeth Ashby)
Principles of Economics: Spring 2023 (Elizabeth Ashby) and 2025 (Daria Botton)
Game Theory: Fall 2022 (Yu Awaya)

Conference Presentations

- “14th Conference on Economic Design”, Colchester, UK, June 2025
- “European Meeting on Game Theory 2025 (SING20)”, Maastricht, Netherlands, June 2025
- “17th Meeting of the Social Choice and Welfare Society”, Paris, France, July 2024
- “34th Stony Brook International Conference on Game Theory”, Stony Brook, US, July 2023
- “13th Conference on Economic Design”, Girona, Spain, June 2023 (accepted; unable to attend)

Fellowships and Scholarships

- Graduate fellowship and tuition scholarship, University of Rochester, 2020 – present
- Economics Tuition Scholarship, The University of Arizona, 2018 - 2019

Relevant Skills

Programming: Python, R, Stata, Matlab, and L^AT_EX

Languages: Mandarin (native) and English (professional proficiency)

References

William Thomson (Advisor)

Professor

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Juan D. Moreno-Terner

Professor

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Paulo Barelli

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Yu Awaya

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University of Tokyo

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Fair Allocations in Crowdfunding: Order-Augmented Revenue-Sharing Problems

(Job Market Paper: Extended Abstract)

Crowdfunding has emerged as a vital financing tool for startups, where agents sequentially make contributions to a project that generates revenue upon completion. This paper addresses an underexplored question: how should the realized revenue be allocated among the agents? We formalize this as **order-augmented revenue-sharing problems**.

Motivated by the early-bird policies observed in practice, we propose *order preservation in award rates*: each agent’s award rate (award per unit of contribution) should be at least as high as that of any subsequent agent. We pair it with adaptations of classical principles: *anonymity* (independence of agents’ names); *revenue monotonicity* (no agent loses from increased revenue); *consistency* (re-applied to any subgroup, dividing among them exactly what it awarded them, the rule confirms each member’s award) and its weakening *early consistency*, imposed only on initial segments of the queue; *increment-ratio invariance* (additional revenue is divided among unconstrained agents in proportions depending only on their positions); and *merging proofness* and *splitting proofness* (immunity to manipulation by merging or splitting contributions).

Two benchmark rules embody the two principles: the **proportional rule** (*Prop*) rewards amounts; the **sequential priority rule** (*SP*) rewards earliness. We characterize the only two coherent families reconciling them.

1. **Switching rules** select a set of benchmark levels of the total award rate (revenue over total contribution) at which awards are divided strictly proportionally, and give absolute priority to earlier agents between consecutive levels.
2. **Weighted proportional rules** assign a non-increasing weight to each position and make awards proportional to weighted contributions, with positions possibly graded into **seniority tiers**, as claims are graded into tranches in a debt contract; *SP* is the member whose tiers are all singletons.

Our main results are characterizations of rules.

Theorem 1: A rule satisfies *order preservation in award rates*, *revenue monotonicity*, and *consistency* if and only if it is a **switching rule** (*anonymity* is implied, not assumed).

Theorem 2: A rule satisfies *order preservation in award rates*, *anonymity*, *increment-ratio invariance*, and *early consistency* if and only if it is a **weighted proportional rule** with a graded weight profile.

Theorem 3: A rule satisfies *order preservation in award rates*, *consistency*, and *increment-ratio invariance* if and only if it is **Prop or SP**: the two families meet only at the benchmarks.

Theorem 4: A rule satisfies *merging proofness* and *splitting proofness* if and only if it coincides with *Prop* upon failure and, upon success, with a revenue-dependent weighted average of *Prop* and *SP*; adding *equal treatment of equals* singles out the **proportional rule**.

Finally, in a contribution game where backers choose when and how much to pledge, manipulation-proof rules produce the opening-and-deadline campaigns observed in practice, and an early-bird schedule enlarges a campaign only if the timing of funding, not merely its amount, affects what the project earns.

How to Share the Cost When Sharing a Ride: Three Rules for Airport Problems – Characterizations via Order Preservation, Dispersion Minimization, and Consistency

(Published at *Mathematical Social Sciences*)

Consider a group of agents sharing an Uber ride to different destinations. How should the ride cost be divided? We model this as a class of cost allocation problems where a public facility is shared by agents whose “needs” are nested. That is, a facility accommodating an agent can also accommodate any other agent with a lower need at no extra cost. The facility has to be provided to accommodate all agents. These problems are known as “**airport problems**”. Using an axiomatic approach, we identify desirable allocation rules through three novel fairness-related properties: (i) **order preservation in contribution rates** requires agents’ contribution rates (ratio of contribution to need) to follow the order of their needs; (ii) **minimizing the range of contribution rates** requires that the range of contribution rates among agents be minimized; and (iii) **single-constraint consistency** is an expression of the classical “consistency principle”.

Drawing inspiration from the literature on economic design, we adapt the proportionality principle to ensure that no group of agents subsidizes its complementary group. We call this derived rule the “**constrained proportional rule**”. Our main result is that this rule is the only rule satisfying these three properties. We also provide new characterizations of two other well-known rules. The “**constrained equal contributions rule**” is the only rule **minimizing the variance of contributions**. The “**constrained equal benefits rule**” is the only rule **minimizing the range (or variance) of benefits**.

How to Fairly Share Streams: Index Characterizations for Music Streaming Problems

(with Di Feng)

Subscription-based music platforms, like Spotify, collect billions in subscription fees, yet there is no consensus on how to fairly divide this revenue among artists. We formalize this scenario as a **streaming problem**: a set of artists, a set of users, and a streaming matrix recording the streams each artist receives from each user; rewards are determined in proportion to **popularity indices**, which assign to each artist an importance score.

Motivated by demands for guaranteed minimum payments – voiced by the Justice at Spotify campaign and enacted in the 2022 French streaming agreement – we introduce **floored proportional indices** (*FP* indices), which guarantee every artist a baseline reward and thereby compromise between proportionality and equality. We characterize *FP* indices by **pairwise redistribution invariance** (redistributing a user’s streams between two artists leaves every other artist’s index unchanged), **equal treatment of equals**, and a mild responsiveness condition, **stream monotonicity**; strikingly, the revenue floor is not assumed but emerges from these properties. Replacing *equal treatment of equals* with **null artist** eliminates the floor and characterizes the subclass of **weighted proportional indices** (*WP* indices). Under *null artist*, **equal impact of streams** identifies the **pro-rata index** and **equal impact of values** identifies the **user-centric index** – the two indices used in practice – reducing the industry debate to whether a stream or a dollar is the unit of consumption. Finally, *FP* rewards coincide with an asymmetric Nash bargaining solution, which microfound the floor as a per-artist disagreement payoff.

Yidi Yang

Updated September 20, 2026

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LinkedIn: linkedin.com/in/yidi-yang-econ

Research Interests

Applied Microeconomics, Labor Economics, Economics of Education

Education

University of Rochester	Rochester, NY
Ph.D. in Economics	<i>Aug 2021 - May 2027 (expected)</i>
M.A. in Economics	<i>Dec 2023</i>
Columbia University	New York, NY
M.A. in Economics	<i>Dec 2020</i>
Chinese University of Hong Kong (CUHK), Shenzhen	China
Bachelor of Business Administration in Economics	<i>May 2019</i>

Working Papers

“College Quality and Returns to Occupational Match” (Job Market Paper)

Work In Progress

“Children’s Academic Burden and Parental Labor Supply”
“Stepping Stone Colleges” (Joint with Cathy Zeng)

Professional Experience

Analysis Group	Boston, MA
Associate Extern	<i>Summer 2025</i>
• Conducted qualitative research on a high-profile legal complaint, synthesizing key facts and litigation context. • Analyzed subscriber data to estimate causal economic damages and guide litigation strategies with data insights in a mock case. • Shadowed Associates to gain direct exposure to economic consulting workflows and live case discussions.	
ByteDance	Beijing, China
Data Strategy Intern	<i>Summer 2024</i>
• Developed an information design model to simulate market response to new information. • Translated model insights into strategic recommendations for stakeholders. • Collaborated with cross-functional teams and identified high-potential products to enhance incentive program performance. • Designed a growth attribution framework and provided data evidence for growth opportunities.	

Research Assistance	Professor Lisa Kahn, University of Rochester	2022-2023
	Professor Christopher Sleet, University of Rochester	2023
	Professor Harrison Hong, Columbia University	2020

Teaching Assistance	<i>University of Rochester</i>	
	Applied Econometrics (Graduate)	Spring 2024
	Econometrics (Undergraduate)	Fall 2023, 2024, Summer 2025
	Intermediate Macroeconomics (Undergraduate)	Spring 2024, 2025
	Pricing Policies (Simon Business School)	Fall 2023
	<i>CUHK Shenzhen</i>	
	Intermediate Macroeconomics (Undergraduate)	Spring 2019

Fellowships & Awards	Graduate Fellowship, University of Rochester	2021-2026
	PEPR Grant, University of Rochester	2022
	Summer Research Grant, University of Rochester	2022
	PER Research Summer Fellowship, Columbia University	2020
	Visiting International Student Academic Excellence Award, University of Wisconsin-Madison	2018
	First Class Honours, CUHK Shenzhen	2019
	Dean's List and Master's List, CUHK Shenzhen	2016-2019
	Academic Performance Scholarship, CUHK Shenzhen	2017

Skills

Programming
Python, SQL, R, Matlab, Stata, LaTeX

Languages
Mandarin (native), English (fluent)

References

Professor Ronni Pavan (Advisor)
Department of Economics
University of Rochester
ronni.pavan@rochester.edu

Professor John Singleton
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University of Rochester
john.singleton@rochester.edu

Professor Lisa Kahn
Department of Economics
University of Rochester
lisa.kahn@rochester.edu

College Quality and Returns to Occupational Match

(Job Market Paper)

How does college quality matter? Existing literature emphasizes student and institutional characteristics, but has paid little attention to the connection with the labor market. This paper introduces a new perspective to understand college quality through how it affects the relatedness between job and college education. Using panel survey data and a novel knowledge-based measure of relatedness, I find that students from the lowest-quality colleges work in less related occupations and see no wage gains from the relatedness on average. An exception is science majors at these colleges, who experience substantial returns of 14%, though such majors are relatively rare. In contrast, students attending middle- and high-quality colleges earn 4%-5% more in more related jobs. Further analysis indicates that in addition to major courses, non-major courses in similar fields also contribute to the wage gains, especially at top-tier colleges. These findings suggest that college quality shapes the wage returns to job-education relatedness, potentially through differences in course composition.

Qiyang Yu

University of Rochester qyu13@ur.rochester.edu [Google Scholar](#)

Research Interests

Econometrics, High-dimensional Econometrics, Financial Econometrics

Education

- Ph.D. in Economics, University of Rochester, Expected 2027
- B.A. in Economics, University of Michigan, 2021

Job Market Paper

- **Spillovers Under Common Shocks In Panel Data: Estimation And Inference**

Abstract: This paper develops estimation and inference methods for panel data models in which one unit's covariates affect other units' outcomes through an unknown network, in the presence of unobserved common shocks. Under sparsity and regularity conditions, I establish asymptotic normality for bilateral spillover estimators at the root- T rate and common private-effect estimators at the root- NT rate. An application to industry-level R&D reveals heterogeneous and asymmetric cross-industry spillovers, while the estimated private return becomes small and statistically insignificant after accounting for common shocks.

Publications

- **Diffusion Index Forecasting With Tensor Data**
(with Bin Chen and Yuefeng Han), *Journal of Econometrics*, 2026
- **Estimation and Inference For CP Tensor Factor Models**
(with Bin Chen and Yuefeng Han), *Journal of Econometrics*, 2026

Working Papers

- **Useful Factors Are Fewer Than You Think**
(with Bin Chen and Guofu Zhou), 2023.

Work in Progress

- **Semi-parametric Inference in Panel Data with Interactive and High-dimensional Confounding**
(with Bin Chen and Yukun Ma)
- **Missing Imputation of CP Factor Model**
(with Bin Chen and Yuefeng Han)
- **Asset Pricing with a Latent Network**
(with Qixiang Gao)

Teaching Experience

- Instructor, ECON 231: Econometrics (Undergraduate), Summer 2026
- Instructor, ECON 230: Economic Statistics (Undergraduate), Summer 2024
- Teaching Assistant, ECON 485–486: Introduction to Econometrics (Graduate), Spring 2024–2026
- Teaching Assistant, ECON 230: Economic Statistics (Undergraduate), Fall 2023–2025

Presentations

- Southern Economic Association (SEA) 96th Annual Meeting, 2026, Upcoming
- New York State Economic Association (NYSEA) Conference, 2026, Upcoming
- Canadian Econometrics Study Group (CESG) Conference, 2026, Upcoming
- Midwest Econometrics Group (MEG) Conference, 2026, Upcoming
- AMES-China, Hong Kong, 2026
- Rochester Econometrics Mini Conference, 2026
- Midwest Econometrics Group (MEG) Conference, 2025
- Rochester Econometrics Mini Conference, 2024

Awards

- Tapan Mitra Prizes (Best 5th Year Paper), University of Rochester, 2026
- Hsiao Research Award, University of Rochester, 2026

Referee Service

Journal of Applied Econometrics; Econometric Reviews

Skills

- Programming: Python, R, Matlab