

# Mitchell Watt

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## EDUCATION

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- 2018 - present    Doctor of Philosophy in Economics  
**Stanford University**  
Primary Advisor: Professor Paul Milgrom  
Committee: Professors Andrzej Skrzypacz, Ilya Segal, Shoshana Vasserman, and Ravi Jagadeesan
- 2016-2018        Master in Public Policy  
**Harvard University, John F. Kennedy School of Government**  
Concentration: Business and Government Policy  
Thesis: *Trust mechanisms and online platforms: A regulatory response*  
Advisor: Professor Jason Furman
- 2008-2012        Bachelor of Science (Hons.) and Graduate Diploma of Economics  
**The University of Queensland**  
Major: Mathematics  
Honours Thesis: *Morse Theory: Smooth and Discrete*  
Advisor: Professor Stephan Tillmann

## RESEARCH INTERESTS

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Market design, microeconomic theory, industrial organization, public policy.

## WORKING PAPERS

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**In-Kind Subsidies with Topping Up** (Job Market Paper) with Zi Yang Kang (Toronto) Draft TBC

We characterize the optimal in-kind subsidy mechanism for redistribution in settings where recipients have access to a private market to “top up” their subsidized consumption. The optimal subsidy design depends on two key factors: the cost of public funds and the correlation between demand for the good and the social planner’s welfare weights. When the social planner seeks to redistribute to consumers with lower demand for the good, subsidies are optimal only if lump-sum transfers are unavailable and the cost of public funds is lower than the average welfare weight, leading to subsidies for consumption *up to* a maximum level. When the social planner seeks to redistribute to consumers with higher demand for the good, the social planner may prefer in-kind subsidies to lump-sum transfers, providing discounts for consumption *beyond* a minimum level. In both cases, the optimal subsidy increases in the designer’s preference to redistribute and decreases in the cost of the good, but the effect of increasing inequality aversion depends on the correlation of welfare weights and demand for the good.

**Optimal In-Kind Redistribution** with Zi Yang Kang (Toronto) [Link](#)

This paper develops a model of in-kind redistribution where consumers participate in either a private market or a government-designed program, but not both. We characterize when a social planner, seeking to maximize weighted total surplus, can strictly improve upon the laissez-faire outcome. We show that the optimal mechanism consists of three components: a public option, nonlinear subsidies, and laissez-faire consumption. We quantify the resulting distortions and relate them to the correlation between consumer demand and welfare weights. Our findings reveal that while private market access constrains the social planner’s ability to redistribute, it also strengthens the rationale for non-market allocations.

## A Walrasian Mechanism with Markups for Nonconvex Economies with Paul Milgrom

[Link](#)

Revise and Resubmit at the *Review of Economic Studies*

We introduce Markup equilibrium, an extension of Walrasian equilibrium that adds a markup to the prices that consumers pay to ensure existence even in nonconvex quasilinear economies. Markup equilibria are resource-feasible, incur no budget deficit, and require little more communication and computation than the Walrasian equilibrium. The Markup direct mechanism is large-market incentive-compatible. Our Bound-Form First Welfare Theorem states that for any feasible allocation and price vector, the welfare loss compared to a first-best allocation is at most the sum of (i) the budget surplus and (ii) any rationing losses suffered by the participants. This implies that any Markup equilibrium with a small markup is nearly efficient.

## Strong Monotonicity and Perturbation-Proofness of Walrasian Equilibrium

[Link](#)

Best Paper by Young Researcher, Econometric Society Australasian Meeting (2023)

I study the price impact of small perturbations to Walrasian equilibrium, as might be caused by changes in the supply vector, changes in the set of participants, or misreports by an agent. A (nested) sequence of markets is perturbation-proof if, given any supply vector, the price impact of any bounded perturbation is inversely proportional to the number of agents. Perturbation-proofness implies good incentive properties of Walrasian equilibrium in large markets and robustness of prices to small misspecifications. Replica economies are perturbation-proof if and only if the base economy's demand correspondence is strongly monotone. When buyers' preferences are drawn identically and independently from a type distribution with a strongly monotone expected demand correspondence, the resulting sequence of economies is perturbation-proof with high probability.

## Congestion in Labor Markets: Evidence from an Online Platform

Draft TBC

with Shoshana Vasserman (Stanford GSB) and John J. Horton (MIT Sloan)

We report the results of a field experiment on an online labor market platform that introduced a “soft” cap on the number of applications that could be received for a job opening and the number of days applications were accepted. Despite reducing the number of applications per opening, the intervention did not reduce the hiring probability or reported match quality. We interpret this as evidence of *inefficient congestion*: before the intervention, applicants submitted too many applications to popular jobs and too few to less popular ones. We show that inefficient congestion can arise due to a “missing market” for job applications and the associated failure of applicants to internalize their effects on the hiring probability of competing applicants. We find that application fees introduced by the platform reduced hire rates and competition among candidates, suggesting that these fees may have been miscalibrated or higher than socially efficient.

## Concavity and Convexity of Order Statistics in Sample Size

[Link](#)

We show that the expectation of the  $k^{\text{th}}$ -order statistic of an i.i.d. sample of size  $n$  from a monotone reverse hazard rate (MRHR) distribution is convex in  $n$  and that the expectation of the  $(n - k + 1)^{\text{th}}$ -order statistic from a monotone hazard rate (MHR) distribution is concave in  $n$  for  $n \geq k$ . We apply this result to the analysis of independent private value auctions in which the auctioneer faces a convex cost of attracting bidders. In this setting, MHR valuation distributions lead to concavity of the auctioneer's objective. We extend this analysis to auctions with reserve values, in which concavity is assured for sufficiently small reserves or for a sufficiently large number of bidders.

## ACADEMIC PUBLICATIONS

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Vasserman, S., & Watt, M. (2021). Risk aversion and auction design: Theoretical and empirical evidence. *International Journal of Industrial Organization*, 79:102758.

## OTHER PUBLICATIONS

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- [Commentary on Effective Allocation of Affordable Housing by Nick Arnosti and Peng Shi](#) with Paul Milgrom, Management Science Blog, 2020.
- [Trust mechanisms and online platforms: A regulatory response](#) with Hubert Wu, Harvard Mossavar-Rahmani Center for Business and Governance, Associate Working Paper Series, No. 97, 2018.
- [Labor should fight for economic mobility](#) with The Hon. Dr. Jim Chalmers, Chifley Research Centre Blog, 2013

## HONORS AND AWARDS

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- Journal of Industrial Economics Fellowship (2024)
- Gale and Steve Kohlhagen Fellowship in Economics, Stanford University (2024-2025)
- Best Paper by Young Researcher, Econometric Society Australasian Meeting (2023) for *Strong monotonicity and perturbation-proofness of Walrasian equilibrium*
- The Koret Fellowship, Stanford University (2021-2023)
- Ric Weiland Graduate Fellowship, Stanford University (2021-2023)
- Centennial Teaching Award, Stanford University (2021)
- Department of Economics Outstanding TA Award, Stanford University (2021)
- Dean's Award for Excellence in Student Teaching, Harvard Kennedy School (2018)
- John F. Kennedy Fellowship, Harvard Kennedy School (2016-2018)
- Graduate of the Year, University of Queensland (2012)
- University Medal, University of Queensland (2011)
- Harriet Marks Bursary, University of Queensland (2011)
- Madalen Kitty Ravenhill Hulbert Memorial Prize, University of Queensland (2009)
- John Black Prize, University of Queensland (2009)
- Dean's Excellence and Equity Scholarship, University of Queensland (2008-2010)
- UQ Excellence Scholarship, University of Queensland (2008-2010)

## CONFERENCE PRESENTATIONS

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- 21st Annual Berkeley/Columbia/Duke/MIT/Northwestern IO Theory Conference (2024, upcoming)
- Econometric Society Australasian Meeting (2023)
- 34th Stony Brook International Conference on Game Theory (2023)
- American Economics Association CSQIEP Mentoring Conference (2023)
- NBER Market Design Working Group, Fall Meeting (2021)

## TEACHING EXPERIENCE

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<b>Stanford University</b>	ECON 202 Graduate Microeconomics I (TA, 2020) ECON 136 Market Design (TA, 2021) Public Policy Masters Math & Economics Bootcamp (Instructor, 2021) Economics PhD Math Camp (Instructor, 2022-23)
<b>Harvard Kennedy School</b>	API-303 Game Theory & Strategic Behavior (TA, 2017) API-101D Markets & Market Failure (TA, 2017) API-102I Economic Analysis of Public Policy (TA, 2018)
<b>University of Queensland</b>	MATH1051 Calculus & Linear Algebra I (TA, 2009) MATH1052 Multivariable Calculus & ODEs (TA, 2009-2013) MATH2000 Calculus & Linear Algebra II (TA, 2011-2013) MATH3402 Functional Analysis (TA, 2013) MATH3500 Problems & Applications in Modern Mathematics (TA, 2012-13) ECON7040 Macroeconomic Analysis (TA, 2013) ECON7010 Consumer and Firm Behaviour (TA, 2013)

## ACADEMIC SERVICE

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- Member of the Economics Graduate Student Committee (2021-2023)
- Volunteer, WE RISE: Women's Empowerment and Rational Inclusion at Stanford Economics (2018-19)
- Volunteer for Graduate Student Admissions, Department of Economics, Stanford University (2018-2023)
- Social Chair, Department of Economics, Stanford University (2019)

## OTHER EXPERIENCE

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<b>Auctionomics</b> - Consultant	March 2023 - present
Research support, economic analysis and litigation consulting for defense counsel in <i>United States et al. v. Google LLC</i> (online display advertising antitrust case). Analysis of auction design and strategy, including original research, empirical analysis, analysis of documentary evidence, report writing and presentation to non-expert audiences.	
<b>AlphaBeta Advisors</b> - Consultant	May-August 2017
Strategic economic analysis and advice for a number of public sector clients on policy design, including labour market economics and industry policy.	
<b>Parliament of Australia, Office of The Hon. Dr. Jim Chalmers MP</b> - Adviser	October 2013-July 2016
Speech-writer and adviser on policy issues for the (then) Shadow Minister for Financial Services and Superannuation, Shadow Minister for Sport, Shadow Assistant Minister for Trade, Resources and Productivity. Policy and legislative advice, speech-writing, support for parliamentary duties.	
<b>Australian Labor Party</b>	
Secretary, Australian Young Labor	April 2014-September 2015
President, Queensland Young Labor	May 2013 - May 2014
Campaign organizing, event management and administrative management of youth wing of party.	
<b>The Pyjama Foundation</b> - Volunteer and IT Assistant	April-November 2013
Assisted the charity (which provides tutoring and support for foster children) with database development and maintenance, training for new volunteers, and general office administration.	