

Yifan Wang

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Education

The Australian National University *Honours Degree in Economics (top 1.5% admitted)* Jun 2022

- Honours Thesis: *Tax Competition, Endogenous Taxation and Business Environment*
- Research School of Economics Bob Gregory Honours Scholarship (AUD 10,000)
- Key Courses: Advanced Behavioural Economics (1/40), Financial Economics (top 2%), Contract Theory, Advanced Micro Theory, Advanced Macro Theory

The Australian National University *Bachelor of Economics* Jun 2020

- Key Courses: Advanced Microeconomics, Advanced Macroeconomics, Industrial Organizations (top 2%), Bayesian Game Theory, Intermediate Microeconomics (top 1%), Mathematical Analysis & Optimizations

Research Experience

Full-time Research Assistant *Faculty of Business and Economics, HKU*

RA for Professor Uta Schönberg, Co-Editor of American Economic Review May 2024 – Present

- Developed and solved a general equilibrium model for a small open economy with multiple sectors. The model incorporated the Rybczynski theorem and Jones' algebra to analyze how factors like immigration affect output, wages, and resource allocation across industries
- Constructed and analyzed a comprehensive one-sector closed economy model with constant returns to scale (CRS) production technology, incorporating labor and capital supply dynamics, output demand elasticity, and price effects. Derived closed-form solutions for key economic variables, demonstrating advanced skills in theoretical economics and mathematical modeling
- Designed an automated workflow using Python and multiple APIs for text analysis, conducting comprehensive literature reviews on immigration and labor economics. Processed and analyzed over 2,000 academic papers, significantly enhancing research efficiency and depth of analysis
- Developed simulations and data visualizations using Python to analyze complex patterns in labor dynamics, economic flows, and migration, providing critical insights for research projects

RA for Dr. Chang Sun Aug 2023 – Apr 2024

- Conducted rigorous proof-checks and implemented MATLAB code for analyzing complex input-output (IO) tables and Leontief-inverted matrices. Studied the transmission of productivity shocks through global production networks, including round-about economies and multi-sector settings
- Extended optimal taxation theory in a generalized framework, focusing on implications of foreign direct investment (FDI) and multi-country production
- Developed a generalized multi-country production network framework that incorporates inventories into production, enabling investigation of inventory holdings' potential cushioning effects on economic shock transmission and resulting spatial labor market dynamics

Research Honours Student

Canberra, Australia

Research School of Economics, ANU

Jun 2022 – Dec 2022

- Completed a 50-page thesis titled *"Tax Competition, Endogenous Taxation and Business Environment"*
- Created an original mechanism for theorizing tax competition under information asymmetry and parameterized "business environment" by a signal game
- Discovered the sufficient condition for the existence of Nash Equilibria under the mechanism
- Constructed the equilibrium path analysis through dynamic transformation of capital

Research Assistant

Canberra, Australia

Tax and Transfer Policy Institute, Crawford School of Public Policy, ANU

Aug 2020 – Jan 2021

- Contributed to Australia's national tax reform project under the supervision of Professor Robert Breunig,

focusing on policy analysis and economic modeling

- Conducted comprehensive behavioral data analysis of the top 10 firms in the mining and wholesale sectors, employing econometric techniques to identify trends and anomalies
- Collaborated with senior researchers to evaluate the potential economic impacts of proposed tax reforms, utilizing both quantitative and qualitative methodologies

Professional Experiences Combined

2017 – 2021

Gained diverse industry exposure through internships at Fosun International (Investment Analysis), Intellisla Research Institute (AI and Fintech Research), and Ernst & Young (Economic Consulting). Developed skills in macroeconomic analysis, industry research, and applied econometric methods while working on projects spanning regional economic development, AI policy implications, and investment feasibility studies.

Working Papers and Research in Progress

Current research focus: Labor & immigration with Professor Uta Schönberg; international trade & General equilibrium applications

A General Equilibrium Model for Inventories

Primary Research Sample

Abstract: This paper develops a multi-country, multi-sector production network model incorporating firms' inventory holdings for intermediate and final goods. By fully endogenizing inventory decisions, the model uncovers a unique propagation mechanism for global shocks distinct from international trade channels, while demonstrating isomorphism to other multi-sector models with input-output linkages under certain constraints.

Note: This paper represents my most significant independent research to date and serves as my writing sample for PhD applications.

Revisiting Fixed Production Costs: A Modified Micro-to-Macro Model in Multinational Production, with Prof Chang Sun

Abstract: This paper extends the Costinot et al. (2020) framework to incorporate multinational production and Foreign Direct Investment (FDI), developing a comprehensive model for n countries that determines optimal production locations based on blueprint technology. The analysis provides new insights into the interactions between consumption taxation, production subsidies, and the dynamics of international trade and FDI flows.

Tax Competition, Endogenous Taxation and Business Environment, supervised by Prof Fedor Iskhakov and Maria Racionero

Abstract: This thesis extends the Zodrow-Mieszkowski-Wilson (ZMW) model of tax competition by incorporating a transitional corporation and endogenous business environment. The analysis develops static and dynamic models that provide insights into strategic interactions between governments and firms, considering credibility in policy-making and predicting the existence of Nash equilibria under certain conditions.

Teaching Experience

Academic Tutor & Teaching Assistant

Canberra, Australia

Research School of Economics, Australian National University

Feb 2020 – Feb 2021

- Instructed weekly Microeconomics I (ECON1101) tutorials for cohorts of up to 90 undergraduate students
- Assessed academic performance for over 1,200 students, including mid-term and final examinations

Tutor

Mar 2019 – Feb 2020

- Delivered lectures and tutorials across 20+ prestigious institutions, including UCL, KCL, ANU, and UCSD
- Instructed 50+ advanced economics courses, spanning topics such as Advanced Microeconomics, Game Theory, and Industrial Organization at graduate levels

Technologies

Technologies: Python, MATLAB, L^AT_EX; **Languages:** Chinese (Native), English (Proficient)