Fangzhu Yang

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EDUCATION

Ph.D. in Economics   2018 - 2024 (expected)
Johns Hopkins University, Baltimore, MD
Thesis: *Three Essays on Causal Inference and Structural Estimation of China's Family Planning Policies Using Machine Learning*
Principal Advisor: Prof. Yingyao Hu

M.S.E in Applied Mathematics and Statistics   2016 - 2018
Johns Hopkins University, Baltimore, MD

B.A. in Economics and Mathematics   2014 - 2016
Brandeis University, Waltham, MA
Shanghai University of Finance and Economics, Shanghai, China   2012 - 2013

RESEARCH INTERESTS

Applied microeconomics; Labor economics; Family and gender economics; Machine Learning

WORKING PAPERS

1. Gender Inequality, Household Bargaining, and Social Welfare: A Structural Analysis of Chinas Two-Child Policy Using Machine Learning (**Job Market Paper**)
   Abstract: China relaxed its strict One-Child Policy to universally allow couples to have two children in 2016. Although the new policy suggests an improvement in welfare for couples, as they now have more freedom to achieve their desired fertility levels, it has the drawback of possibly increasing gender inequality both in the labor market and within the household. This paper starts with a difference-in-difference method to show that the new policy increased the gender wage gap between women and men and negatively affected the intrahousehold bargaining power of women. Motivated by this empirical pattern, I then build and estimate a dynamic collective household model to quantify the welfare impact of the new policy on both genders using a novel machine learning method and indirect inference. The results suggest that the welfare cost of the Two-Child Policy for women is equivalent to 6% of lifetime consumption, while the welfare benefit of the policy for men is equivalent to 8.2% of lifetime consumption. Policy experiments suggest that implementing anti-discrimination laws for women in the labor market significantly improves womens welfare while providing public childcare subsidies is most effective in stimulating fertility in the post-policy era.

2. Fostering Entrepreneurship through Crowdfunding: What Drives Local Biases? (with Jian Ni and Yi Xin), submitted

3. Estimation of Treatment Effects of the One-Child Policy Using Self-Reported Information, ready for submission

WORK IN PROGRESS

1. Product Design Using Generative Adversarial Network: An Application in Artistic Template Design (with Hui Li and Jian Ni)

2. How Do Racial Filters in Online Dating Apps Change Racial Homogamy? (with Yujung Hwang and Aureo de Paula)

3. Estimation of Dynamic Models with Unobserved State Variables by Reinforcement Learning (with Yingyao Hu)

ACADEMIC PRESENTATIONS

- "Gender Inequality, Household Bargaining, and Social Welfare: A Structural Analysis of Chinas Two-Child Policy Using Machine Learning."
  4th Annual DC-MD-VA Econometrics Workshop.   Sep 2023
- "The Effect of the Two-Child Policy on Gender Inequality in China."
  2023 Pennsylvania Economic Association Conference.   June 2023
- "Financing Micro-entrepreneurship in Online Crowdfunding Markets: Local Preference versus Information Frictions."
  2022 China India Insights Conference.   October 2022
- "Product Design Using Generative Adversarial Network: An Application in Artistic Template Design."
  43rd ISMS Marketing Science Conference Virtual Conference.   June 2021

EXPERIENCE

- **Research Assistant**   2017 - 2018
  Johns Hopkins University, Baltimore, MD

  - Research assistant to Professor Jian Ni when in the Department of Applied Mathematics and Statistics. Bayesian estimation of dynamic discrete choice model using hidden Markov models.

- **Research Assistant**   2016 - 2017
  Johns Hopkins University, Baltimore, MD

  - Research assistant to Professor Yuya Sasaki when in the Department of Applied Mathematics and Statistics. Implemented robust inference for RD designs using multiplier Bootstrap methods.

- **Teaching Assistant**   2018 - 2023
  Johns Hopkins University, Baltimore, MD

  - Econometrics   Fall 2023
  - Economics of Poverty/Inequality   Spring 2023
  - Economic Development in Sub-Saharan Africa   Fall 2022
  - Gender Economics   Spring 2022
  - Gender Economics   Fall 2022
  - Econometrics   Fall 2021
  - Market Design, Economics of Matching   Spring 2021
  - Elements of Microeconomics   Spring 2020
  - Microeconomic Theory   Fall 2019, Fall 2020

  Brandeis University, Waltham, MA

  - Statistics for Economics Analysis   Fall 2015

REFEREE

- Econometric Reviews   2023

HONORS AND AWARDS

- Ph.D. Student Fellowships, Johns Hopkins University   2018-2023
- Clarence M. Guggenheimer Award, Johns Hopkins University   2022
- High Honors for the senior thesis program, Brandeis University   2016
- People's scholarship awarded for academic performance, SHUFE   2013

TECHNICAL SKILLS

- Proficient in Stata, R, Python, C/C++ and LaTeX
- Basic knowledge in SQL and Java
- Language: Chinese (native), English (proficient)

REFERENCES

- Prof. Yingyao Hu (JHU), yhu@jhu.edu
- Prof. Yujung Hwang (JHU), yujungghwang@gmail.com
- Prof. Robert Moffitt (JHU), moffitt@jhu.edu
- Prof. Jian Ni (Virginia Tech), jianni.cmu@gmail.com