

# Songyuan (Diane) Ding

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## EDUCATION

### Harvard University, Cambridge, MA

A.M. in Economics

Ph.D. Candidate in Business Economics. GPA: 3.94/4.00

Expected Feb 2025

Aug 2019 - Feb 2025

Completed all requirements for PhD (ABD) with independent research on fixed-income and FX markets

Research Fields: Industrial Organization, Finance, Macroeconomics

Relevant Courses: Investment Management and Capital Markets, Business Analysis and Valuation Using Financial Statements

### The University of Chicago, Chicago, IL

B.A. (with General Honors): Economics (B.A.) with Honors & Mathematics (B.S.). GPA: 3.79/4.00

May 2017

Relevant Courses: Nonparametric Inference, Machine Learning and Large-Scale Data Analysis

Awards: Dean's List (2013-2017), Jeff Metcalf Internship for Economic Research

## SKILLS

**Computer:** Python, R, MATLAB, Stata, and SQL; Familiar with C, C++, Java, and GIS

**Language:** English and Mandarin

## WORK EXPERIENCE

### Doctoral Researcher, Economics Department and Harvard Business School, Harvard University

Jul 2019 - Present

- Design, lead and present multi-year study on the U.S. syndicated loan market, with a focus on secondary-market strategies of institutional investors and their impacts on primary-market debt issuance by commercial banks
- Conduct extensive data analysis in Python on 160k loan contracts and monthly series of holdings by 10k mutual funds
- Discover that mutual funds under-diversify and miss-hedge by investing 2.6 times more frequently into pre-exposed issuers
- Build a network model of FX hedging through optimal invoicing and simulate theory-implied currency portfolio of trade flows
- Develop computationally efficient programs to predict optimal portfolio leveraging the sparse structure of Jacobian matrices

### Research Assistant to Professors Ariel Pakes and Michael Whinston, Harvard University & MIT

Jun 2021 - Present

- Evaluate effects of U.S. bank M&A activities on retailer consumer welfare via deposit rate, travel distance, and unobserved non-rate quality channels in over 3,000 counties
- Estimate a discrete choice model with endogenous and heterogeneous supply of household deposits in MATLAB
- Convey key progress to team members based at MIT, Columbia University and Imperial College London in weekly meetings and manage and mentor two graduate researchers on data practices and methodologies to ensure project integration

### Research Assistant to Professor Gabriel Chodorow-Reich, Harvard University

Jul 2019 - Jun 2022

- Analyzed empirical impact of stock market wealth on real economy through local expenditure
- Characterized trading behavior of life insurance firms in equity and its implications on overall market volatility, especially in recessions, using equity-level statutory filings data of over 90,000 firms
- Introduced, consolidated and maintained a comprehensive dataset of product-level consumer scanner record on research computing clusters and established usage guidelines for three other research teams at Harvard Economics and HBS

### Research Assistant to Professor Emmanuel Farhi, Harvard University

May 2020 - Jul 2020

- Studied aggregate implication of supply and demand shocks in a multi-sectoral model with input-output linkages and quantified welfare effects of various stimulus policies

### Fulltime Associate to Professors Joseph Gyourko and Jesse Handbury, University of Pennsylvania

Jul 2017 - Jun 2019

- Analyzed the impact of geographical and regulatory factors on housing and land prices for two Wharton faculty
- Constructed land price index based on auction data and estimated land supply elasticity based on pixel-level topographical information and satellite data
- Monitored, collected, and evaluated a survey of residential land use regulation for over 2,450 municipalities
- Estimated of non-homothetic preferences in price and quality for consumers of different income levels across the U.S.
- Processed Nielsen HomeScan data, tuned specifications for GMM estimation in MATLAB, and calculated price elasticities for over 40,000 products on AWS and Wharton HPC computation clusters
- Facilitate negotiations for purchase and maintenance of major real estate datasets from CoreLogic and CoStar

## LEADERSHIP AND ACADEMIC SERVICE

### National Bureau of Economic Research Insurance Working Group Student Workshop

Oct 2023

### Summer School and Conference in Dynamic Structural Econometrics at MIT

Aug 2023

### Mannheim Centre for Competition and Innovation Summer School on Platform Economics

Jul 2023

Led panel discussion hosted by University of Mannheim and University of Bonn

### Teaching Fellow, Empirical Methods in Financial Economics PhD Course

Feb 2023 - May 2023

Crafted quantitative exercises on time series, causal inference, machine learning and factor modeling, achieving a 4.86/5 evaluation