HAIYANG TU

CONTACT INFORMATION

School of Finance, Renmin University of China
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EDUCATION

Renmin University of China, School of Finance *2022–2027 (expected)*
Ph.D. in Finance
Advisors: Chengsi Zhang (Chair) and Zehao Liu

University of North Carolina at Chapel Hill *Sep 2025–Sep 2026*
Visiting Ph.D. Student, Kenan-Flagler Business School
Host Advisor: Yunzhi Hu

Renmin University of China, School of Information *2018–2022*
B.S. in Mathematics and B.A. in Finance
Pilot Class of Finance and Mathematics (Outstanding Graduate)

RESEARCH INTERESTS

Primary: Financial Intermediation, Monetary Policy, Corporate Finance
Secondary: Fiscal Policy

EXPERIENCE

People's Bank of China, Statistics and Analysis Department *Jul–Sep 2025*
Research Intern (Advisor: Xiandong Yan)

PUBLICATIONS

- **China's Fiscal Sustainability Study: A Research Framework and Comprehensive Assessment** (in Chinese)
  with Bingyang Lyu, Fuwen Zeng and Rong Li
  Journal of Management World, January 2024 (Leading Article)
  - Outstanding Paper of the Year 2024 (Ranked First), *Journal of Management World*
  - Reprinted in *Social Sciences Digest*, March 2024

  We establish a comprehensive DSGE framework to assess the impacts of large-scale fiscal policy changes on China's fiscal sustainability, including revenue reductions, increased expenditures, a con-

tinuous slowdown in economic growth, deepening demographic aging, and radical green transitions.

- **Understanding China's Monetary Policy Framework: A Coordinated Perspective on Reserve Management and Interest Rate Steering** (in Chinese)
  with Chengsi Zhang
  Chinese Review of Financial Studies, April 2026
  Reserve management, by adjusting the size and maturity structure of reserve supply, determines where market rates settle within the interest rate corridor; interest rate steering uses the policy rate and the corridor bounds to keep short-term rates stable and pass them through to other market rates. This coordination took shape as the PBoC's reserve management shifted from reserve supply driven by foreign exchange purchases to active liquidity tools.

- **Bank Competition and Resilience to Liquidity Shocks**
  with Zehao Liu, Xueyu Yin and Chengsi Zhang
  International Review of Economics and Finance, 2025
  Exploiting changes in bank competition resulting from U.S. deregulation, we find that banks proactively increase their liquidity holdings after the bank market becomes more competitive, which bolsters their resilience to liquidity shocks. We argue that heightened competition amplifies the potential liquidity risk associated with similar liabilities.

WORKING PAPERS

- **Vendor Equity and the Bubble in AI**
  with Yunzhi Hu
  Working Paper
  We model the AI bubble as a frontier laboratory whose training is worthless to its investors, because its models are quickly imitated, but raises the productivity of the chips its supplier sells to data centers. The supplier therefore has an incentive to create the bubble through circular financing: with equity stakes and purchase commitments it sets the training spending in each round, so that each round of investors pays for a public good that raises the value of its chips. The bubble survives because savings exceed what productive capital can absorb, and because the supplier's future profits make its commitment credible.

- **Instant Payment System: Reshaping Competition and Liquidity**
  with Zehao Liu and Chengsi Zhang
  Working Paper
  Instant payment systems reshape bank competition and liquidity. Intrabank transfers are virtually costless, whereas interbank payments require real-time liquidity for settlement. This dichotomy incentivizes banks to expand their market share to internalize more transactions, thereby reducing liquidity needs and attracting more deposits. At the same time, high interbank settlement burdens create formidable entry barriers for new competitors, enhancing the franchise value of incumbent banks.

- **The Formation of Liquidity Stratification in China's Money Market** (in Chinese)
  with Chengsi Zhang and Shuo Xu

Under Review (Second Round), *Journal of Management World*

Using excess reserve data for 360 banks, we build a search-and-matching model with heterogeneous banks and nonbank financial institutions, and explain how liquidity stratification in China's money market arises from the distribution of reserves, access to central bank facilities, trading frictions, and balance-sheet constraints.

- **Fiscal-Monetary Policy Mix and Price Level Dynamics: A Low-frequency Relationship Perspective** (in Chinese)

  with Chengsi Zhang

  Under Review (Third Round), *Statistical Research*

  Our empirical analysis using a TVP-SV-VAR model reveals that the historical expansion of government debt in China has not resulted in long-term inflation. Our findings from an estimated DSGE model indicate that active monetary policy plays a crucial role in stabilizing inflation, consequently diminishing the effectiveness of fiscal expansion.

- **Central Bank Liquidity Injection and Money Market Transmission: A Structural Estimation Perspective Based on Banking-System Excess Reserves** (in Chinese)

  with Chengsi Zhang

  To be submitted to *Economic Research Journal*

  Reserves lent by the PBoC enter the interbank market through primary dealers, who lend them on to nonbank institutions that cannot hold reserves; nonbanks in turn place the funds back with banks as interbank deposits and NCDs. Along this transmission chain we build a structural model that runs from central bank operations to NCD pricing, hand-collect excess reserve data for about 400 banks over 2012–2025, and estimate the model on daily data to quantify the frictions at each link.

- **Artificial Intelligence, Goods Stratification, and Inflation: Supply-Demand Mechanisms of Relative Price Shocks and Monetary Policy Implications** (in Chinese)

  with Chengsi Zhang

  To be submitted to *Economic Research Journal*

  Since 2025, amid low inflation, prices of electronic goods have risen, and prices of mobile electronic devices have turned from years of decline to increases. Our structural estimates attribute this to AI squeezing memory chips from both the demand and the supply side: AI capital demand competes with household consumption for capacity-constrained inputs, pushing up the prices of mobile electronic devices and reducing the quantities purchased.

- **China's Monetary Policy toward High-Quality Development** (in Chinese)

  with Chengsi Zhang

  To be submitted to *Journal of Financial Research*

  Viewing bank reserves as the collateral that backs deposit money creation, we build a DSGE model in which the central bank supplies reserves and large and small banks issue deposit money. As aggregate reserves grow, large banks, which face smaller payment shocks, become reserve-abundant first and no longer need overnight borrowing under any payment outcome; small and medium-sized banks get there later, so reserve abundance comes in two tiers. Large banks have already reached the first tier: their marginal cost of deposits has shifted from the OMO rate to the interest rate on excess reserves, so cutting the OMO rate alone no longer passes through to their deposit and loan rates, and rate cuts

need a matching cut in the excess reserve rate.

TEACHING EXPERIENCE

Teaching Assistant, Renmin University of China *2023–2025*

Advanced Topics in Money and Banking (Ph.D.)
The Economics of Money and Finance (Undergraduate)

HONORS AND AWARDS

Outstanding Paper of the Year 2024 (Ranked First), *Journal of Management World* *2024*
Outstanding Graduate, Renmin University of China *2022*