

# ZHIYU FU

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## EDUCATION

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### **The University of Chicago**

*Ph.D. in Financial Economics*

*Sep 2018 – Jun 2024 (Expected)*

### **Peking University**

*Bachelor in Economics*

*Sep 2014 – Jun 2017*

### **Beijing Normal University**

*B.S. in Psychology*

*Sep 2013 – Jun 2017*

## RESEARCH INTERESTS

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Asset Pricing, International Finance, Macro Finance

## REFERENCES

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### **Greg Kaplan (Co-chair)**

Professor of Economics

Department of Economics, University of Chicago

### **Ralph Koijen (Co-chair)**

AQR Capital Management Distinguished Service Professor of Finance

Booth School of Business, University of Chicago

### **Wenxin Du**

Professor of Finance and the Henry Kaufman Professor of Financial Institutions

Columbia Business School, Columbia University

### **Zhiguo He**

Fuji Bank and Heller Professor of Finance

Booth School of Business, University of Chicago

### **Stefan Nagel**

Fama Family Distinguished Service Professor of Finance

Booth School of Business, University of Chicago

## WORKING PAPERS

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### **Capital Flows and the Making of Risky Currencies**

(Job Market Paper)

*Presentations:* Colorado Finance Summit Job Market Session 2023, 18th Economics Graduate Students' Conference, 2024 Young Scholars Finance Consortium

*Awards:* BlackRock's Applied Research Award Finalist (2023), Young Scholars Finance Consortium Best PhD Student Paper Award (2024)

*Abstract:* A currency is considered risky if it depreciates during downturns. I show that currency risk is caused by foreign capital flows induced by heterogeneous responses of foreign and domestic investors to global shocks. I establish that foreign flows are “flighty”: foreign investors withdraw capital in response to negative news. Empirically, currency risk appears to play a limited role at most in driving this flightiness. However, consistent with an explanation based on heterogeneous beliefs, I find that foreign forecasts react more strongly to news, and their returns are relatively lower. Motivated by these findings, I develop a model in which foreign investors update their beliefs more strongly to negative shocks, creating flighty foreign flows. In the model, the relative flightiness of a country's external liabilities and external assets determines its currency risk. That is, if foreign holdings of domestic assets respond more to global shocks than do domestic holdings of foreign assets, the country's currency is risky (and vice versa for safe currencies). Based on this, I construct a model-informed measure, “net asset flightiness”—the difference between external assets and liabilities weighted by their specific flightiness, which I show strongly correlates with currency risk.

## **Corporate Bond Elasticities: Substitutes Matter**

*with Manav Chaudhary and Jane Li*

*Presentations:* NBER SI 2023 Asset Pricing, AFA 2024, Columbia Business School, Trans-atlantic Doctoral Conference 2023, David Backus Memorial Conference on Macro-Finance, AFFECT 2023 mentorship workshop

*Awards:* TADC's AQR Asset Management Institute Prize for best economics paper

*Abstract:* Many economic questions require estimating the price impact of demand shifts in the bond market. In spite of corporate bonds having salient characteristics that distinguish close versus distant substitutes, existing estimates of corporate bond multipliers (the price increase in response to demand shifts) typically assume that all bonds, regardless of their characteristics, are equally good substitutes. In this paper, we show that accounting for the heterogeneous substitutability between bonds is critical for estimating multipliers. By allowing rich heterogeneous substitution patterns among bonds, we demonstrate that security-level multipliers are an order of magnitude smaller than previously estimated and are essentially zero. Nonetheless, aggregated portfolios exhibit substantially larger multipliers, reflecting the reduced availability of near substitutes for more aggregated portfolios. Furthermore, we find that the price impact reverts after a quarter, and that the multiplier is larger for high-yield bonds, longer-maturity bonds, and bonds with greater arbitrage risks.

## **The Convenience Yield, Inflation Expectations, and Public Debt Growth**

*with Jane Li and Yinxi Xie*

*Presentations:* MFA 2023, 2022 CEA annual conference, Summer Institute of Finance (SAIF, Shanghai) 2022, Midwest Macro Meeting 2022

*Abstract:* U.S. long-term Treasury debt serves the important role of safe and liquid assets in the economy, hence carrying significant convenience yields. We present two new findings relating the convenience yield to inflation and government fiscal policy. First, the convenience yield of Treasury debt is negatively correlated with inflation expectations. Second, inflation expectations predict future debt-to-GDP growth at different horizons. To explain these findings, we incorporate convenience yields into a staggered-price model with a non-Ricardian fiscal policy. The convenience yield for long-term debt is the discounted value of future convenience service flows, thus negatively correlated with future debt supply. Furthermore, a government deficit shock leads to both higher debt in the future as well as higher expected inflation simultaneously. The model rationalizes the two empirical findings and provides a natural framework to study the interactions among inflation, debt growth, and cost of borrowing, particularly the convenience yield component.

## **Risk-Based Regulations in Credit Markets: A Heterogeneous Risk Accelerator**

*Solo author*

*Abstract:* Credit markets in the U.S. are dominated by institutional investors, who are subject to various regulations limiting their risk capacity. I study the macroeconomic implications of such risk-based regulations in a general-equilibrium model featuring heterogeneous firms and a bond investor subject to risk-based constraints. During economic downturns, these risk-based constraints become a heterogeneous financial accelerator: It increases the debt financing cost for risky firms, amplifying their default risk, while generating convenience yields for the safest firms. In aggregate, these constraints significantly amplify the drop in investment and output. I also study the effects of credit market intervention policies using this framework. I find that credit policies successfully mitigate the initial drop and speed up the follow-up recovery.

## **The Great Lockdown and the Big Stimulus: Tracing the Pandemic Possibility Frontier for the U.S.**

*with Greg Kaplan, Benjamin Moll, and Giovanni L. Violante*

*Presentations:* Bank for International Settlements 2022, International Monetary Fund 2021, Mean Field Games in Economics 2020, Conference on Monetary Policy and Heterogeneity at Board of Governors 2020, Banco Central de Chile 2020

*Abstract:* We provide a quantitative analysis of the trade-offs between health outcomes and the distribution of economic outcomes associated with alternative policy responses to the COVID-19 pandemic. We integrate an expanded SIR model of virus spread into a macroeconomic model with realistic income and wealth inequality, as well as occupational and sectoral heterogeneity. In the model, as in the data, economic exposure to the pandemic is strongly correlated with financial vulnerability, leading to very uneven economic losses across the

population. We summarize our findings through a distributional pandemic possibility frontier, which shows the distribution of economic welfare costs associated with the different aggregate mortality rates arising under alternative containment and fiscal strategies. For all combinations of health and economic policies we consider, the economic welfare costs of the pandemic are large and heterogeneous. Thus, the choice governments face when designing policy is not just between lives and livelihoods, as is often emphasized, but also over who should bear the burden of the economic costs. We offer a quantitative framework to evaluate both trade-offs.

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## SKILLS

**Programming:** Julia (advanced), Python (advanced), R (intermediate), Matlab (intermediate), C (intermediate)

**Languages:** English (Proficient), Chinese (Native)

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## OPEN-SOURCE PROJECTS

**PanelShift.jl** | 

- A handy Julia package that implements efficient lead&lag with respect to a time vector. Gaps in time periods are allowed. A common operation when analyzing unbalanced panel data.

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## HONORS, AWARDS AND SCHOLARSHIPS

2024, John Leusner Fellowship

2024, 2024 Young Scholars Finance Consortium Best PhD Student Paper Award

2023, BlackRock's Applied Research Award Finalist

2023, Fama-Miller Center Research Grant, Booth School of Business

2019, CRSP Summer Research Grant, Booth School of Business

2018-Present, Social Science Graduate Fellowship, University of Chicago

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## OTHER RESEARCH EXPERIENCE AND EMPLOYMENT

2021, Research Assistant for Prof. Ralph Koijen

2020, Research Assistant for Prof. Greg Kaplan

2018, Research Assistant for Prof. Ufuk Akcigit

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## TEACHING EXPERIENCE

Spring 2020/2021, Advanced Macroeconomics, Teaching Assistant for Prof. Anil Kashyap

Spring 2021, Economics for Everyone: Macro, Teaching Assistant for Prof. Greg Kaplan

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## HOBBIES

Bouldering: An intermediate climber (V6)