Zhiyu Fu

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Education

The University of Chicago, 2018 to 2024 (expected)
Ph.D. Student in the Joint Program of Financial Economics

BEc, Economics, Peking University, 2017
BS, Psychology, Beijing Normal University, 2017

Research Fields

(International) Macro Finance, Asset Pricing, Financial Institutions

Working Paper

"Corporate Bond Elasticities: Substitutes Matter" (2023) with Manav Chaudhary and Jane (Jian) Li

Abstract: We construct exogenous demand shocks using quarterly mutual fund flow data to estimate CUSIP and portfolio elasticities for U.S. corporate bonds. Our approach relaxes the homogeneous cross-elasticity assumption implicitly embedded in many existing methods. At the CUSIP level, the elasticity is around 25, suggesting bonds are considerably more elastic than stocks. While individual bonds are highly elastic, aggregated portfolios of bonds are not—ratinglevel portfolio's have elasticities as low as 0.2. Generally, demand elasticity is negatively related to the level of aggregation. We also find that demand is more elastic in the long run, with the price impact taking around three to four quarters to fully revert. Turning to heterogeneity in elasticities, we find high-yield and long-term bonds are more inelastic than investment-grade and short-term bonds. Furthermore, the sharp change in inelasticity around the IG/HY cut-off suggests that investor segmentation may be a source of demand inelasticity. Finally, we find difficult-to-replicate portfolios have more inelastic demand, consistent with greater arbitrage risk being a source of inelasticity. Overall, our findings contribute to understanding the key drivers of inelastic markets.

"The Convenience Yield, Inflation Expectations, and Public Debt Growth" (2022) with Jane (Jian) Li and Yinxi Xie

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 an active fiscal policy. The convenience yield for long-term debt is the discounted value of future convenience service flows, thus is 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 rational-

izes 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.

"A Heterogeneous Financial Accelerator"

Abstract: The corporate bond market is dominated by institutional investors, who are subject to various regulatory constraints limiting their risk capacity. During economic downturns, these regulatory constraints become a heterogeneous financial accelerator: It increases the debt financing costs for risky firms, accelerating their default risks, while generating convenience yield for safe firms. I study the real effect of this mechanism in a general equilibrium model featuring heterogeneous firms, whose investment is partially financed by long-term corporate bonds, and bond investors subject to the regulatory constraint. I find risky firms cut off their investment more aggressively due to higher financial costs, while safe firms time the market by borrowing from the bond market and paying out dividends. In aggregate, the regulatory constraint amplifies the drop in investment by 10%.

Work in Progress

"The Great Lockdown and the Big Stimulus: Tracing the Pandemic Possibility Frontier for the U.S. " (Earlier version available) with Greg Kaplan, Ben Moll, and Gianluca Violante

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.

Research Experience and Other Employment

2021 Research Assistant for Prof. Ralph Koijen
2020 Research Assistant for Prof. Greg Kaplan
2018 Research Assistant for Prof. Ufuk Akcigit

Teaching Experience

Spring 2021 Economics for Everyone: Macro, Teaching Assistant for Prof. Greg Kaplan
Spring 2020/2021 Advanced Macroeconomics, Teaching Assistant for Prof. Anil Kashyap

Honors, Scholarships and Fellowships

2019 CRSP Summer Research Grant, Booth School of Business
2018-Present Social Science Graduate Fellowship, University of Chicago

Language and Computational Skills

Computational Skills: Julia, Python, R, Stata
Languages: English (fluent), Mandarin (native), Wu (native)