Essays on Debt and Heterogeneous Agent Macroeconomics
Shujaat Khan

Experiences of the Great Recession have underscored that heterogeneity in income, wealth, and indebtedness cannot be ignored by policymakers. In this dissertation, I study how household heterogeneity and the distribution of debt affect the performance of macroprudential and monetary policy.

1 Macroprudential Policies in a Heterogeneous Agent Model of Housing Default (job market paper)

This paper uses a heterogeneous agent model of housing default to study how the effectiveness of macroprudential policies changes under different income and house price specifications. When calibrated to match the observed default choices of households during the financial crisis, the model has clear implications for the kind of macroprudential policies that will be more effective in different circumstances. When income shocks are large, restrictions on the loan-to-value ratio are more effective in reducing defaults, while when house price shocks are large, the default rate is more responsive to changes in payment-to-income limits. These results are an implication, filtered through the model, of the well-known double trigger fact: In the Great Recession, defaulting households tended to be those who were both seriously underwater and had experienced a substantial shock to income.

2 Has Higher Household Indebtedness Weakened Monetary Policy Transmission? (with Gaston Gelos, Federico Grinberg, Tommaso Mancini-Griffoli, Machiko Narita, and Umang Rawat)

Has monetary policy been less effective since the global financial crisis because of high household debt? This paper examines this question using household data from the United States. It compares the responsiveness of household consumption to monetary policy shocks in the pre- and post-crisis periods, relating changes in monetary transmission to changes in household balance sheets. The results show that while the responsiveness of household consumption has diminished somewhat since the crisis, this decline has not been dramatic. Moreover, households with the largest mortgage debt levels display the largest responsiveness to monetary policy both in the pre- and post-crisis periods. This is true even at high debt levels, with little evidence of debt-overhang-effects. Taken together, these facts imply that higher post-crisis loan-to-value ratios are not responsible for any weakening of monetary policy transmission in the United States.

3 Welfare Implications of Credit Allocation Under Alternative Macroprudential Policies

Alternative macroprudential tools that may achieve the same financial stability objectives will differ in how they allocate credit among households, and such differences have welfare consequences. This paper constructs a model with heterogeneous agents, a social planner, and competitive mortgage markets to conduct a comparative welfare analysis of alternative macroprudential policies. Households, failing to internalize the social costs from default, overborrow, which not only leads to a high homeownership rate but also a high default rate. A social planner can improve aggregate welfare by tightening credit conditions using various macroprudential tools. The model evaluates the tradeoffs between default rates and household welfare under alternative macroprudential rules.