Research Statement

Hokyu Song, University of Pittsburgh, Fall 2023

My research is in the fields of macroeconomics and financial economics. Currently, my research focuses on (i) the role of financial heterogeneity in mergers and acquisitions (M&A), (ii) understanding the effects of low interest rates on long-run wealth inequality in an endogenous growth model with creative destruction.

Financial Frictions in Mergers and Acquisitions

The first area of my research examines the effects of financial frictions on M&A and their aggregate implications. In my job market paper, "Financial Synergies in Mergers and Acquisitions: Empirical Evidence and Aggregate Implications", I focus on the evidences and effects of financial synergies in M&A, which arise when an acquirer firm's superior financial condition benefits a target firm that is financially constrained but expects a higher return on investment. To demonstrate the presence of the financial synergies in M&A, I find that targets' average revenue product of capital (ARPK) exceed acquirers' ARPK. However, this finding is not consistent with the evidence in average Q, which is widely regarded as a sufficient statistic for the marginal value of investment, because acquirers tend to have a higher average Q than targets. To reconcile the contradicting empirical evidence and quantify the effect of the findings on the aggregate economy, I develop a dynamic general equilibrium M&A model with financial frictions. The calibrated model successfully replicates the observed puzzle, and furthermore, the model indicates that targets' marginal Q indeed exceed acquirers' marginal Q, implying that capital is indeed reallocated from acquirers to targets in M&A. The calibrated model further shows that M&A mitigates 46% of the TFP loss from misallocation, accounting for 20% of the TFP gains generated by M&A. However, the model also suggests that M&A brings negative effects on measures of business dynamism by reducing the number of firms/entrants and increasing inequalities in firms' financial conditions.

In my ongoing research, I investigate the aggregate implications of M&A with a focus on the industrial organization (IO) perspective, particularly in terms of market power. In my work in progress, "Acquiring for Market Power: Evidence from Firm-Level Markup in Compustat", I estimate the dynamic treatment effects of M&A on firm-level markup using the Compustat sample. My initial findings suggest that M&A increases markup by 0.04 log points in the first year, but this effect gradually diminishes and disappears by the sixth year post-M&A. As I gather more empirical evidence, I plan to construct a structural macro model with endogenous markup and financial heterogeneity disciplined by these findings to quantify the overall effects of M&A on the aggregate economy.

Wealth Inequality in a Schumpeterian Growth Model

My second area of research focuses on understanding how the creative destruction process shapes the long-run wealth distribution and top wealth inequality, as well as the distributive implications of low interest rates. Since the 1980s, wealth inequality has steadily risen while (real) interest rates have declined. A neoclassical growth model predicts that if the interest rate is stuck at a low level, wealth inequality will decrease in the long run. However, this prediction can be reversed if the effect of creative destruction on wealth distribution is taken into account.

In my working paper, "Implications of Low Interest Rates on Long-Run Wealth Inequality in a Schumpeterian Model", I build a Schumpeterian endogenous growth model with heterogeneous asset returns to households, resulting in an endogenous wealth distribution. I characterize a balanced growth path that features household heterogeneity in both wealth and income, utilizing the linearity condition of household policy functions. In this model, I demonstrate that as interest rates fall, top wealth inequality increases in the long run. This occurs because low interest rates amplify asset prices, enhancing returns from founding new firms through creative destruction. This environment especially benefits those invested in entrepreneurial activities, who constitute a significant fraction of the top wealth holders.

Future Work

Going forward, I plan to utilize my ARPK evidence in other dimensions. Professor Frederik Schlingemann and I plan to examine the ARPK evidence in cross-border M&A. This is motivated by the fact that firms often use M&A as a means of making foreign direct investment and expanding their market abroad. Through this work, I look forward to extending my research agenda to the topics of international economics and finance.

In addition, I plan to study the ARPK evidence in conjunction with patent data in M&A. Since large firms often acquire innovations by purchasing smaller firms, it is crucial to consider M&A when understanding the innovation decisions of firms. While some studies have touched on this aspect of M&A (e.g. Phillips and Zhdanov, 2013 RFS), to the best of my knowledge, none has explored the impacts of financial heterogeneity on aggregate innovation and economic growth through M&A. By incorporating patent data into my projects, I aim to shed more light on the motivations and aggregate implications of M&A in the context of innovation decisions.

I also plan to extend my job market paper to incorporate credit cycles or monetary policy, in order to explain the procyclicality of M&A and its implications. Previous literature has explained the procyclicality of M&A in the context of the Q-theory of mergers. The new project is expected to show that the procyclicality of M&A can be explained based on the result of Ottonello and Winberry (2020, Econometrica) that large firms are more responsive to expansionary monetary policy.