

# Research Statement

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My main research interests lie within the field of macroeconomics and financial economics. I study the relations between financial intermediation, household investment, firm decisions, and the economy performance. My dissertation focuses on two broad questions: (1) How the interactions between households and financial intermediaries vary across the real business cycles, and how they reshape the aggregate economic stability. (2) How firms' decisions in the capital market or when adopting new technologies determine the economic performance.

There is an on-going research for financial intermediation and economic stability. Based on the various frictions it solves, financial intermediation has different effects on the economy. In my job market paper "**Nurturing Young Public Firms over Real Business Cycles**", I focus on financial intermediaries who direct investment from the households to capable entrepreneurs. The financial intermediaries in my model perform costly state verification on entrepreneurs, to discover their abilities. However, the marginal benefit of higher effort is bounded above, and is irrelevant with the size of investment. Due to this feature, financial intermediaries won't exert effort accordingly when flooded by funds. The model predicts that the effort per unit value of investment, as well as the average quality of financial services and commission rate, are countercyclical.

Using financial sector data in the U.S., such as the micro-level initial public offering (IPO) market data, I construct several measures for cyclicity of the sector-wise commission rate. They are all consistent with the model's prediction. I calibrate the model to the U.S. IPO market and aggregate economy, and conduct several counterfactual exercises to show that a more efficient and flexible financial intermediation sector improves economic stability.

In the paper "**Antitrust Policy in a Globalized Economy**", I turn to the firm side of the story. my coauthor and I study firms' behaviors in the capital market, especially the M&A market. We find out that the number of mergers and acquisitions (M&A) has risen rapidly since the 1980s in the United States, which serves as an important channel for capital

reallocation. We provide a framework to evaluate the cost and benefits of antitrust policy in a global context. M&A reallocates bundled capital from one firm to another, with built-in technology, but also increases monopoly power. An optimal antitrust policy seeks a balance between the positive productivity effect and the negative markup effect. In a globalized economy, increasing productivity fully accrues to domestic firms and workers while a higher markup only partially hurts domestic consumers. The weakening antitrust policy since the 1980s is thus an optimal response to the increasing globalization in the same period. We present a dynamic general equilibrium model of M&A, to show that welfare, measured as aggregate consumption in stationary equilibrium, is a hump-shaped function of the antitrust policy parameter. And the optimal antitrust policy parameter varies as the openness of the economy changes.

In the paper “**A Model of Technology Diffusion**”, my coauthor and I study firms’ behaviors when adopting new technologies, especially those that are at the frontier. It has been documented in various countries and industries that new technologies, instead of being adopted simultaneously by everybody in the same area, display an S-shaped adoption curve over time. This long and lagged diffusion process even applies to technologies which were later proven to improve productivity significantly. In this paper we propose an innovative explanation of the phenomena. In the diffusion of a new technology, agents who are heterogeneous in beliefs choose their optimal stopping/adopting time, while they are learning from the output of others. As the population of agents who are experimenting on the new technology grows up, the learning process accelerates. Part of the incentives for them to wait is to free-ride on a larger experimenting group in the future. Our model can explain various technology diffusion data, such as the hybrid corn adoption in the U.S., or the adoption of the 12 industrial innovations.

As a future research agenda, I will further utilize the firm-level data in the U.S. financial market. I want to study the firms’ decision of going public, which serves as a missing chain to my job market paper. To be more specific, I want to study what factors determine the timing of IPO for eligible firms, and why some public firms choose to go back to be private. In a current work in progress, my coauthor and I are studying the relation between firms’ technology choices and job dynamics over the business cycles. We found that in the U.S. from 2007 to 2012, when revenue increases 1% for large firms, their employment increases 0.62%. The employment increase in small firms associated with a 1% increase in revenue is 0.84%. The difference is statistically significant and economically large. We think this fact may shed light on the jobless recovery phenomena. In another work in progress, my coauthors and I are studying firm innovations in China. We think that China are in a developing stage which we describe as skill-scarce. And a sufficiently large high-skilled labor force is essential for technological innovation. The optimal policy should seek balance between subsidizing innovation activities directly, or to subsidize human capital accumulation, such as college education and professional education.