

Bosung Jang**Essays on Financial Frictions and Asset Pricing**

In asset pricing studies, the connection between financial frictions and asset prices has been of growing interest. My research explains empirical regularities in asset prices by incorporating financial frictions in production economies. In particular, I focus on mechanisms for how financial frictions affect asset prices through firms' external finance.

In my job market paper, I examine how external financing costs affect growth and asset prices. In the U.S. high-tech industry data, there are two stylized facts. First, the R&D of public high-tech firms has been more than half of the R&D of all public firms since the mid 1990's. Second, equity finance is the main source of external funds for high-tech firms. Based on these facts, I document empirical findings suggesting that aggregate external financing cost can have substantial impacts on long-run productivity. Using the aggregate financing cost measure of Eislefeldt and Muir (2016), I find a significant relation between financing cost, equity finance, and R&D in U.S. high-tech industries. Since R&D is an engine of innovation, this result implies that financing costs can influence productivity. Motivated by this idea, I construct a general equilibrium model where financing costs affect innovation activities and future productivity. In the model, R&D firms are financially constrained and rely on external equity to finance their R&D investment, paying stochastic financing costs. When a favorable financing cost shock hits, firms use more resources for innovation as equity finance becomes cheaper. As a result, the financing cost shock eventually generates positive impacts on long-run growth. Through this mechanism, the economy is subject to substantial long-run risk as growth prospects fluctuate endogenously. As the long-run risk is priced under Epstein-Zin preferences, the model generates a sizable equity premium, doing a good job of matching macro moments in the data. Furthermore, a large risk premium of high R&D firms over low R&D firms is justified in the model as in the data. In particular, as R&D firms are more exposed to the financing cost risk factor, this accounts for much of the risk premium in the model. In addition, as favorable financing cost shocks encourage R&D investment, a lower financing cost forecasts higher productivity growth in the model. Importantly, I find that the prediction of the model is in line with empirical evidence. Lastly, the model produces results consistent with the empirical fact that R&D growth forecasts both output and consumption growth.

In the second paper, I investigate the effects of debt maturity choice on the cross-section of stock returns and capital structure. I construct a model where debt maturity affects the investment and financing decisions of firms. In the economy, firms can issue both short-term and long-term bonds, and also use equity finance when they run financial deficits. Debt finance and equity finance are subject to collateral constraints and issuance costs, respectively. Due to these frictions, short- and long-term debt finance influence firm value in different ways. Since long-term debt requires firms to maintain collateral for a long time, a large long-term debt reduces flexibility in investment, whereas such a long-run constraint is absent for short-term bonds. However, since a large short-term debt increases the risk of financial deficits next period, firms are more likely to rely on costly equity finance. With this mechanism, the model performs well in matching financial and cross-sectional stock return moments in the data, generating the value premium documented in Fama and French (1992). I find that debt maturity does not have incremental power in explaining the cross-sectional stock returns in the presence of Fama-French factors. However, the model provides an interesting implication that firms substitute between leverage and maturity. In the finance literature, theoretical explanations for the substitution relationship have been mainly based on conflicts between stockholders and bondholders. Without hinging on the contract-theoretic approach, my model replicates the theoretical prediction.