Macro-prudential Policy and Asset Liquidity

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Abstract

This paper develops a dynamic model to study optimal liquidity regulations that can be implemented on multiple assets that differ in liquidity. I show that optimal macro-prudential policies are affected both by the asset liquidity and the multi-asset structure. Lower asset liquidity amplifies drops of asset prices, tightens the collateral constraint during financial crises, and thus raises macro-prudential taxes to discourage the ex-ante holding. With multiple assets, the marginal benefit of investing in one asset is affected by future cross-price elasticities of all assets, whose effects depend on future trading positions and the tightness of the collateral constraint. Quantitatively, optimal macro-prudential policies favor a portfolio with more liquid assets and less borrowing. In the constrained-efficient equilibrium, agents decrease leverage by 9.4 percent and increase the liquid share of the balance sheet by 2.6 percent compared to the unregulated equilibrium. The optimal policy lowers the probability of encountering financial crises by 8 percent and increases consumption by 0.99 percent. Finally, I provide theoretical and quantitative analyses on the efficacy of the Basel III reform. Both the liquidity coverage ratio and the net stable funding ratio lower the probability of crises and shrink the welfare loss of the competitive equilibrium by 23 to 60 percent.

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