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Liquidity and Leverage

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One of the most important lessons that we learned from the past financial crisis is that excessive leverage of financial (and not only) institutions, combined liquidity dry-ups and asymmetric information may lead to severe systemic events. The fact that both liquidity and leverage are highly cyclical amplifies these effects and may lead to self-enforcing crisis dynamics. The goal of my project is to study interactions of these economic mechanisms and their feedback effects on the real side of the economy.

In the first part of the project, I will study the dynamic interaction between risk taking and financial leverage decisions for a financial institution. Bondholders' rational expectations determine the financing conditions, which in turn determine the institutions' dynamic leverage and default policy. I show that this simple feedback mechanism may generate sudden leverage spirals: deteriorating financing conditions lead to higher leverage and risk taking, amplifying the cost of debt financing even further. I characterize both portfolio choice and optimal dynamic leverage policy in closed form and derive conditions under which the leverage spiral is weakened or amplified by the optimal choice of risk exposure and debt maturity. Regulatory constraints on risk taking (such as the Volcker rule or minimal capital requirements) may exacerbate leverage spiral and increase equilibrium default risk. Systemic risk taking may serve as a coordination mechanism and, as such, may lead to positive externalities and aggregate leverage reduction.

In the second part of the project, I will study interactions of capital structure, liquidity and equilibrium prices in consumption and capital markets. The interaction of inside and outside liquidity determines firms' optimal financing and production policies, which in turn feedback into the liquidity in both financing capital and final goods markets. These equilibrium feedback loops will for the first time in the literature allow studying both real and financial sides on the economy in a fully dynamic continuous time model.

The topic of the third part of the project is the links of leverage and liquidity to securitization. Despite its obvious potential benefits, securitization was to a large extent responsible for the propagation of systemic shocks from the real to the financial sector during the last financial crisis. The disastrous meltdown of the structured securitization market during the subprime crisis has been largely attributed to insufficient regulation and misalignment of incentives between market participants. In this project, I will study how natural market reputation mechanisms are able to provide necessary liquidity-driven incentives and how they interact with leverage choice.

Research Team

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Fields of Research

Financial Institutions
Capital Markets
Corporate Finance
Financial Regulation