Abstract

In many financial markets, two distinct over-the-counter (OTC) trading networks are coupled through the decisions of traders who want to be active in both networks or neither. We provide a novel explanation for the fragility of such markets in terms of this coupling. Intermediaries’ decisions of whether to provide funding and market liquidity are modeled as the equilibrium outcome of a static game involving two directed networks—in our main application, an OTC repo and collateral market. We characterize the general structure of an illiquidity spiral in such a system: following an exogenous shock, a sequence of withdrawals occurs, corresponding to a contagion across the two networks. Furthermore, for a class of market structures associated with random graphs, liquidity changes discontinuously in the extent of an exogenous shock, in contrast to standard models of network contagion. Finally, when one of the two markets is replaced by a centralized exchange, post-shock liquidity is always greater than in the case of two decentralized OTC markets.

Keywords: market liquidity, funding liquidity, over-the-counter markets

JEL Classification: G21, G23, D85