The Impact of Collateral and Stays on Financial Stability*

Samim Ghamami†

August 18, 2020

Abstract

We study the spread of losses and defaults in financial networks with two features: collateral requirements and resolution and bankruptcy stay rules. When collateral is committed to a firm's counterparties, a solvent firm may default if it lacks sufficient liquid assets to meet its payment obligations. Collateral requirements can thus increase the risk of contagion. Moreover, one firm may benefit from the failure of another if the failure frees collateral committed by the surviving firm, giving it additional resources to make other payments. Contract termination at default may also similarly improve the ability of other firms to meet their obligations. As a consequence of these features, the timing of payments and collateral liquidation must be carefully specified to establish the existence of payments that clear the network. Using this framework, we show that committed collateral in the form of initial margin in over-the-counter derivatives markets can increase contagion and financial instability. We also compare networks under different stay rules in OTC markets. Our analysis shows that when firms are not highly leveraged in terms of derivatives transactions, full contract termination can reduce contagion. This indicates that derivatives stays may not improve financial stability.

*This presentation is mainly based on a recent paper titled "Collateralized Networks," joint with Paul Glasserman at Columbia Business School and Peyton Young at the London School of Economics. We also focus on economic and finance policy implications of the paper, some of which have been discussed in two recent *Risk* articles, "Ghamami (2020a)" and "Ghamami (2020b)".

†University of California, Berkeley, Center for Risk Management Research, New York University, and the Financial Services Forum, email: samim_ghamami@berkeley.edu. The work on an earlier version of the paper was carried out at Goldman Sachs before Ghamami moved to the FSF through Goldman Sachs last year. The views expressed in this presentation do not necessarily reflect those of the FSF and Goldman Sachs.