Strategic Fire-Sales and Price-Mediated Contagion in the Banking System

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Abstract

We consider a price-mediated contagion framework in which each bank, after an exogenous shock, may have to sell assets in order to comply with regulatory constraints. Interaction between banks takes place only through price impact. We characterize the equilibrium of the strategic deleveraging problem and we calibrate our model to publicly-available data, the US banks that were part of the 2015 regulatory stress-tests. We then consider a more sophisticated model in which each bank is exposed to two risky assets (marketable and not marketable) and is only able to sell the marketable asset. We calibrate our model using the six banks with significant trading operations and we show that, depending on the price impact, the contagion of failures may be significant. Our results may be used to refine current stress testing frameworks by incorporating potential contagion mechanisms between banks.

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