

# Trading in Coupled Financial Networks

## Abstract

We develop a model of the financial system in which financial intermediaries are comprised of business units specialized in trading different types of assets. Assets are intermediated from sellers to buyers via exogenously fixed trading networks. The novelty of our model is that we allow intra-institutional spill-overs. The failure of one business unit exerts an externality on other business units of the same bank and *couples* trading networks for different assets. We study the resilience of such a system to exogenous random shocks. When there is only one type of asset the transition from a regime in which all banks intermediate to a regime in which intermediation breaks down is continuous in the size of the exogenous shock. When there are multiple types of assets, however, this break-down of intermediation occurs not only at smaller shock sizes, it happens *abrupt*. The abrupt break-down of intermediation is weaker when trading networks are correlated. If, however, an uncorrelated trading network is coupled with multiple coupled and correlated trading networks, the abrupt break-down of intermediation occurs for even smaller shock-sizes.

**Keywords:** Contagion, Financial networks, Multi-layer, portfolio diversification

**JEL classification:** G01, G20, D21, C63