

Abstract

The thesis presents a network model, where financial institutions form linkages at various investment horizons through their interdependence measured by volatility connectedness. Applying the novel framework of frequency connectedness measures Baruník & Křehlík (2018), based on spectral representation of variance decomposition, we show fundamental properties of connectedness that originate in heterogeneous frequency responses to shocks. The newly proposed network models characterize financial connections and systemic risk at the short-, medium- and long-term frequency. The empirical focus of this thesis is on the interdependence structure of US financial system, specifically, major U.S. banks in the period 2000 - 2016. In the light of frequency volatility connectedness measures, we argue that stocks with high levels of long-term connectedness represent greater systemic risk, because they are subject to persistent shocks transmitted for longer periods. When we assess institutions' risk premiums in asset pricing model, the model confirms the significance of volatility connectedness factor for asset prices.

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