

## Abstract

This thesis provides an analysis of systemic risk in the US banking sector. We use conditional value at risk ( $\Delta\text{CoVaR}$ ), marginal expected shortfall (MES) and cross-quantilogram (CQ) to statistically measure tail-dependence in return series of individual institutions and the system as a whole. Wavelet multiresolution analysis is used to study systemic risk in the time-frequency domain. Decomposition of returns on different scales allows us to isolate cycles of 2-8 days, 8-32 days and 32-64 days and analyze co-movement patterns which would otherwise stay hidden. Empirical results demonstrate that filtering out short-term noise from the return series improves the forecast power of  $\Delta\text{CoVaR}$ . Eventually, we investigate the connection between statistical measures of systemic risk and fundamental characteristics of institutions (size, leverage, market to book ratio) and conclude that size is the most robust determinant of systemic risk.