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Network topology of the interbank market

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Abstract

We provide an empirical analysis of the network structure of the Austrian interbank market based on Austrian Central Bank (OeNB) data. The interbank market is interpreted as a network where banks are nodes and the claims and liabilities between banks define the links. This allows us to apply methods from general network theory. We find that the degree distributions of the interbank network follow power laws. Given this result we discuss how the network structure affects the stability of the banking system with respect to the elimination of a node in the network, i.e. the default of a single bank. Further, the interbank liability network shows a community structure that exactly mirrors the regional and sectoral organization of the current Austrian banking system. The banking network has the typical structural features found in numerous other complex real-world networks: a low clustering coefficient and a short average path length. These empirical findings are in marked contrast to the network structures that have been assumed thus far in the theoretical economic and econo-physics literature.

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