

Correspondent Banking Network Topology (Hub-and-Spoke Pattern: Few Banks Handle Most Connections)

Network Metrics:

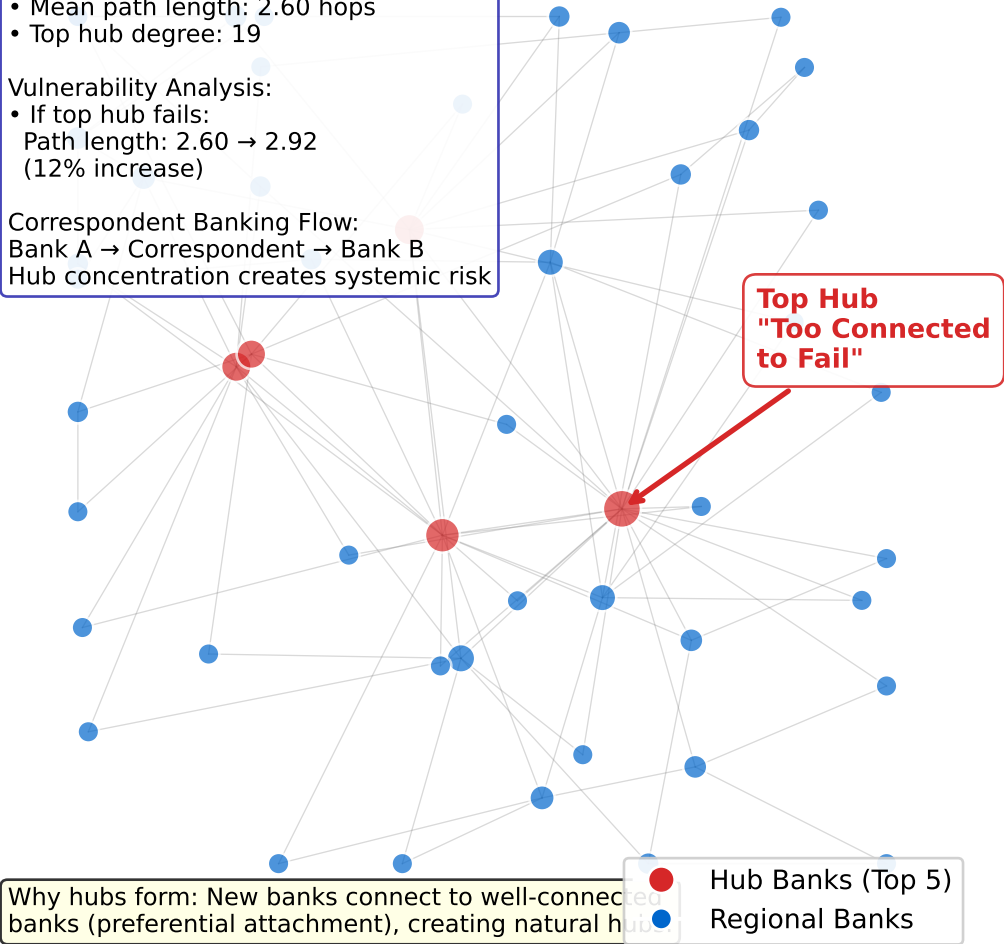
- Nodes: 50 banks
- Mean path length: 2.60 hops
- Top hub degree: 19

Vulnerability Analysis:

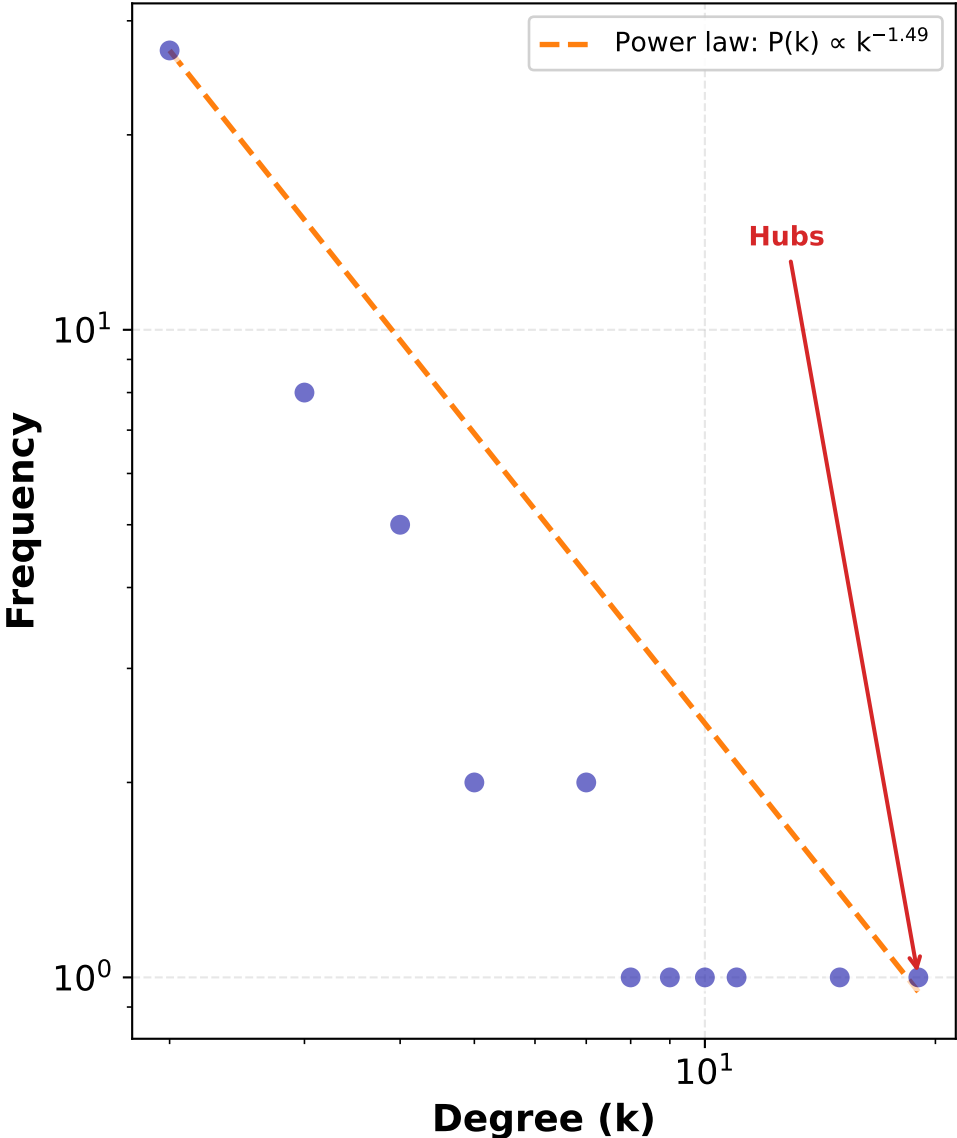
- If top hub fails:
Path length: 2.60 → 2.92
(12% increase)

Correspondent Banking Flow:

Bank A → Correspondent → Bank B
Hub concentration creates systemic risk



Degree Distribution (Hub-and-Spoke Pattern)



Theory: Barabási & Albert (1999), "Emergence of Scaling in Random Networks", Science