Banking System Resilience: Time for a New Paradigm?

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Definition of Resilience

- Banking system resilience has primarily been characterized from the perspective of financial stability, or, absence of systemic risk.

- Newer definitions discuss its *"ability to withstand shocks and to continue providing essential financial services without resorting to taxpayer support."*

- Core banking functions include, credit extension and credit allocation, maturity and liquidity transformation, risk management services, payment and transaction services, and money creation.

Measuring and Modeling Resilience – Resiliency Attributes

- Best way to measure or model resilience is through a collection of measurable characteristics or attributes

Table 1   CLASSIFICATION OF RESILIENCE ATTRIBUTES

Financial Stability Attributes	Attributes for Economic Functions' Aspect of Resilience

• Buffer Metrics (Capital):
   o Total capital ratio
   o Tier 1 leverage ratio / supplementary leverage ratio
   o Common Equity Tier 1 ratio
 	
• Buffer Metrics (Liquidity):
   o Liquidity coverage ratio
   o Net stable funding ratio
   o Maturity mismatch ratio
 	
• Interconnectedness Metrics (simple):
   o Banks exposures to other banks
   o Banks exposures to similar industries (concentration risk)
   o Share of a few largest exposures in total exposures
   o Share of derivatives cleared through the clearing house
 	
• Interconnectedness Metrics (Return Co-movement):
   o Share of return volatility attributed to the largest principal component
   o Degree of Granger causality
   o Numbers of "in" and "out" connections
   o Closeness
   o Eigenvector centrality
 	
• Interconnectedness Metrics (Interbank Exposures):
   o Default impact
   o Contagion index
	• Credit Availability Metrics:
	   o Total credit and bank credit to the non-financial private sector
	   o Mortgage Credit Availability Index
	   o Net percentage of domestic banks that indicate tightening in lending standards
	   o Outstanding loans to individuals
	   o Share of bank debt as a percentage of total corporate debt
	
	• Costs of Credit Metrics:
	   o Credit spreads
	   o Costs of Funds Index
	
	• Bond Liquidity Metrics:
	   o Quoted bid-ask spread
	   o Effective bid-ask spread
	   o Realized bid-ask spread
	   o Trading volume
	   o Number of days with recorded trades
	   o Yield spread between RefCorp and U.S. Treasury bonds
	
	• Derivatives Trading
	   o Volume of trading associated with banks
	   o Overall volume of derivatives trading
	   o Amount of required collateral
	
	• Economy's productivity and growth metrics
	   o Nominal and real Gross Domestic Product
	   o Nominal and real GDP per capita
	   o Unemployment rate

Modeling Resilience

- **Modeling Financial Stability**

  - Credit VaR

  - Network Models

- **Models that Measure the Contribution of Banks' Economic Functions to Economic Growth and Productivity**

  - DSGE

  - Others?

- **How to Integrate the Two: A Measure of the Tradeoff Between Stability and Growth**