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Non-Bank Financial Institutions and Financial Stability in a Regional Context
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Criteria for Determining Systemically Important NBFIs

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OUTLINE

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BACKGROUND

- Banking sector at the center of financial crisis, but NBFIs played important role in risk buildup and transmission
- A growing awareness about potential risk from NBFIs to financial stability, and a need for tailored regulation and policy response (GFSR coverage, The Financial Stability Oversight Council designation of 4 insurance conglomerates…)

NBFIs and risks to financial stability

Assets	Liabilities
Investments	**Benefits to pensioners/insured**
- Share equity	
- Debt instruments	**Reserves/Capital**
- Derivatives	
- Bank deposits	**current liabilities**
Cash	
Other receivables	

NBFIs AND RISKS TO FINANCIAL STABILITY

- Insurance companies and pension funds play similar roles in financial intermediation, acting as large institutional investors and purchasers of fixed income securities.
- International Association of Insurance Supervisors (IAIS) states that "there is little evidence of ***traditional*** insurance either generating or amplifying systemic risk within the financial system or the real economy".
- However, the nature of the role in financial intermediation has changed over time. Over the years activities with potentially increasing systemic features have emerged.

NBFIs AND RISKS TO FINANCIAL STABILITY

		Traditional ⟵	⟶	Non-traditional
Insurance	Underwriting	Most life and non-life insurance business lines	Life insurance and variable annuities Mortgage guarantee insurance Trade credit insurance	Alternative risk transfer (e.g., insurance-linked securities) Financial guarantee insurance Finite reinsurance
	Investments and funding	Proprietary investment function (ALM) Hedging for ALM proposes Funding through equity and debt issues, also securities lending	Proprietary and derivatives trading (non-ALM) Property management (related to investment portfolio)	Purely synthetic investment portfolios Cascades of repos and securities lending Scope and scale of activities beyond insurance remit
Non-insurance		CDS/CDO underwriting Capital market business Banking, including investment banking and hedge fund activities Third-party asset management Industrial activities		

NBFIs and risks to financial stability

Underlying causes	**Excessive risk-taking** by insurance undertakings and pension funds due to: ■ Pension fund sponsor faced with investment risk, e.g., in defined benefit schemes ■ Insurance undertakings faced with investment risk by carrying out non-traditional/non-insurance activities **Liquidity risk** of insurance undertakings and pension funds financial derivatives activity. **Regulatory requirements** that may lead to correlated sales of assets as a result of asset downgrades.
Multipliers	**Size** of insurance undertakings and pension funds **Inter-connectedness** of insurance undertakings and pension funds to banks and other NBFIs (due partly to their size)

WHAT'S SYSTEMICALLY IMPORTANT? DEFINITION

- No formal definition, but FSB/IMF/BIS define systemic risk as **a risk of disruption to financial services (markets, institutions, and instruments) that is (i) caused by an impairment of all or parts of the financial system and (ii) has the potential to have serious negative consequences for the real economy.**
- Assessments of systemic importance will necessarily involve a high degree of judgment, will likely be time-varying and state-dependent, and will reflect the purpose of the assessment.

WHAT'S SYSTEMICALLY IMPORTANT? ASSESSMENT ISSUES

- Assessment does not lend itself to binary outcomes, but rather requires graduated scoring.
- Systemic importance is partly “endogenous”: depends on the structure of the financial system and the rules of the game and the presence of mitigants/amplifiers.
- The assessment is likely to be time-varying depending on the economic environment.
- The nature of the assessment may be conditioned by its purpose: defining the regulatory landscape, calibrating the intensity of oversight, or guiding decisions during a crisis?

WHAT'S SYSTEMICALLY IMPORTANT? MAIN ASSESSMENT CRITERIA

- **Size**: The importance of a single component for the working of the financial system increases with the amount of financial services that the component provides.

- **Lack of substitutability**: The systemic importance of a single component increases in cases where it is difficult for other components of the system to provide the same or similar services in the event of a failure.

- **Interconnectedness**: Systemic risk can arise through direct and indirect interlinkages between the components of the financial system so that individual failure or malfunction has repercussions around the financial system, leading to a reduction in the aggregate amount of services.

What's systemically important? Contributing factors

- **Leverage** is a measure of vulnerability (a proxy for default risk). It is also a proxy for an institution's ability to propagate distress in the system.
- **Liquidity** risks and large mismatches. This could potentially trigger systemic risk if the institution faces difficulties to roll over its funding and needs to liquidate large amount of assets to which other institutions also have exposure.
- **Complexity**: (a) operates diverse types of activities through numerous legal entities (e.g., simultaneously operating banking, insurance and securities subsidiaries); (b) operates across borders (c) has exposures to new and complex products.

QUANTITATIVE INDICATORS - SIZE

- ***Clearing and settlements:*** volume of financial services.
- ***Financial intermediation:*** large market share in liabilities and claims (lending, securities holdings, etc.) Ratio of assets to GDP and market shares per business segment.
- ***Risk control and management:*** contingent claims and exposures to OTC derivatives.

QUANTITATIVE INDICATORS - LIMITED SUBSTITUTABILITY

- It is difficult to quantitatively capture
- Simple indicators of concentration: **Hirschman-Herfindahl Index** which is based on the distribution of market shares across all market.
- Supplement with qualitative analysis on institutions that provide systemically important infrastructure services, such as clearing, payment and settlement of trades, or custodial services .

QUANTITATIVE INDICATORS - INTERCONNECTEDNESS

- Such indicators require information on institution-specific exposures and cross ownership/cross-institution linkages.
- Information to assess such interconnectedness remains a key challenge as comprehensive information on individual financial institution’s bilateral exposures is limited in many cases.
- The degree of interconnectedness can also be proxied by extracting information from market indicators such as CDS spreads and equity prices on correlation in exposures.
- However, the latter analysis may provide limited information on interconnections in normal times, and correlations are known to change between normal and crisis times.

QUANTITATIVE INDICATORS - INTERCONNECTEDNESS

- Share of domestic and foreign subsidiaries' assets to total assets (by domicile)
- Share of intra-group exposure (including derivatives) as a percentage of both assets and liabilities
- Cross ownership, exposure and custody of own and other financial institutions' assets or liabilities
- Foreign subsidiaries as a percentage of host country financial sector
- Credit spreads, bond spreads and price to book value (level and correlation)
- Cross border derivatives exposures (notional and net)

Quantitative Indicators - More Sophisticated Measures

- **Network analysis**: This suite of methods and related measures can be used to describe the degree of interconnectedness within financial systems and hence to assess the systemic importance of individual components.
- **Portfolio models of risk based on market data**: Methodologies developed for the measurement of risk in portfolios of securities have been adapted to the measurement of systemic risk for a "portfolio" of institutions.
- **Stress testing and scenario analysis**: One way to address the potential state-contingent nature of systemic importance

ASSESSMENTS IN PRACTICE

- **In practice, countries use a range of techniques,** from simple quantitative and qualitative indicators and assessments of market developments to more sophisticated techniques.
- Most countries rely on more than one methodology to assess systemic linkages but differ on the degree to which they integrate them.
- Ultimately, the choice of the appropriate methodology depends largely on the characteristics of each country's financial system and the availability of data.

Towards a comprehensive assessment framework - Basic elements

- The definition of systemic importance
- Roles and responsibilities of the agencies involved in the assessments, with appropriate arrangements for information sharing and confidentiality
- The independence, accountability, resources and powers of the agencies responsible for assessing systemic importance
- The frequency of the assessments
- Periodic review of the assessment framework to keep it up to date

CONCLUSION

- Priorities countries between countries (stages of financial maturity) and implementation of framework depend first and foremost on data availability and supervisory capacity.

- Assessment and identification is important, but more important is upgrading supervision and regulation, and (in the worst of cases) working on resolution regimes and crisis management frameworks.