Financial Stability Risk Assessment and Monitoring: Conceptual Approach

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Outline

1. Definitions
2. Sources of financial system risk
3. Approaches to assessing financial system risk
4. Conclusions

1. Definitions: Financial stability

- Many attempts—financial stability notoriously difficult to define—a complex notion with multiple dimensions, unlike inflation
- Perhaps easier to recognize “financial instability”

Financial stability “…can be defined as a condition in which the financial system – comprising of financial intermediaries, markets and market infrastructure – is capable of withstanding shocks and the unravelling of financial imbalances, thereby mitigating the likelihood of disruptions in the financial intermediation process which are severe enough to significantly impair the allocation of savings to profitable investment opportunities.”

Source: ECB Financial Stability Review, 2012

Definitions: Systemic risk

- **Systemic risk** is "a risk of disruption to financial services that is caused by an impairment of all or parts of the financial system and has the potential to have serious negative consequences for the real economy."
  Source: Committee on the Global Financial System, 2010
- "The received wisdom is that risk increases in recessions and falls in booms. In contrast, it may be more helpful to think of risk as increasing during upswings, as financial imbalances build up, and materialising in recessions. The length of the horizon here is crucial."
  Source: Crockett, 2000

Definitions: Procyclicality and interconnectedness

- **Procyclicality** is "…mechanisms that operate within the financial system and between it and the macro-economy and that can generate outsize financial cycles and business fluctuations."

  Source: Borio (2010)

- **Interconnectedness** is "…common exposures and interlinkages in the financial system, that result in joint failures of financial institutions by making them vulnerable to common sources of risk."

  Source: Borio (2010)

Definitions: Contagion

- **Contagion** is "…the transmission of an extreme negative shock in one country to another country (or group of countries). This definition is broader than the terminology used in much of the academic literature and includes the spread of crises through trade, banks, and other fundamental linkages between countries that exist in stable as well as crisis periods. It also includes examples in which a shock to one country evolves into a global shock—such as a contraction in global liquidity or increase in risk aversion."

  Source: Forbes, 2012

2. Sources of Financial System Risk

Procyclicality

- Financial sector
  - Bank capital/lending feedback loop
  - Asset value/bank lending feedback loop
  - Exchange rate/balance sheet interactions (currency mismatches)
  - Liquidity—interbank and other money markets (maturity mismatches)
  - Leverage
  - Interest rates/credit risk
- Private sector
  - Leverage
  - Currency and maturity mismatch
- Sovereign risk
  - Interest rates
  - Bank asset holdings

Sources of Financial System Risk (2)

Interconnectedness—common exposures

- Financial sector
  - Common exposures to similar asset classes
    - Interbank lending
    - Macroeconomic risks
    - Sovereign debt
  - Indirect exposures through counterparty risks
    - Derivative counterparties
    - Clearing exchanges for derivatives
  - Ownership structure
  - Systemically important financial institutions (SIFIs)
  - Infrastructure-based risks
    - Payments and settlement systems
    - Accounting practices
  - Level of financial development

Sources of Financial System Risk (3)

Macroeconomic risks

- Domestic
  - Inflation (or stability—i.e., Great Moderation?)
  - Sovereign debt—dependence on bank purchases
  - Policy imbalances/errors
  - Political
  - Natural disasters
- External
  - Current account imbalance
  - Foreign currency liabilities (volatility)
  - Shocks in lending countries
  - Contagion effects

Sources of Financial System Risk (4)

Regulatory framework and capacity

- Financial sector supervisors/regulators
  - Interventionist or laissez-faire?
  - Aggressive prompt corrective action or allow forbearance?
  - Regulatory gaps
  - Central bank has financial stability mandate?
  - Multiple mandates: Access to data, decision-making process and authority
  - Availability of macroprudential and capital flow management tools
  - Resolution regime
  - Regulatory capacity
  - Political support
- Legal system
  - Property rights (in case of resolution)
  - Enforcement efficiency

3. Approaches to risk assessment

Procyclicality and macroeconomic

- “Early warning indicators” with deviation limits
  - Financial sector
    - Credit growth (relative to GDP, etc.)
    - Sectoral exposure
    - Capital adequacy and leverage
    - Funding mismatches
  - Macroeconomic
    - Growth, inflation
    - Current account imbalance
    - External liabilities versus fx reserves
    - Leverage and funding of non-financial sector
    - Currency valuation
  - Markets
    - Equity market, real estate prices
    - Risk premia

Approaches to risk assessment (2)

Procyclicality (cont'd)

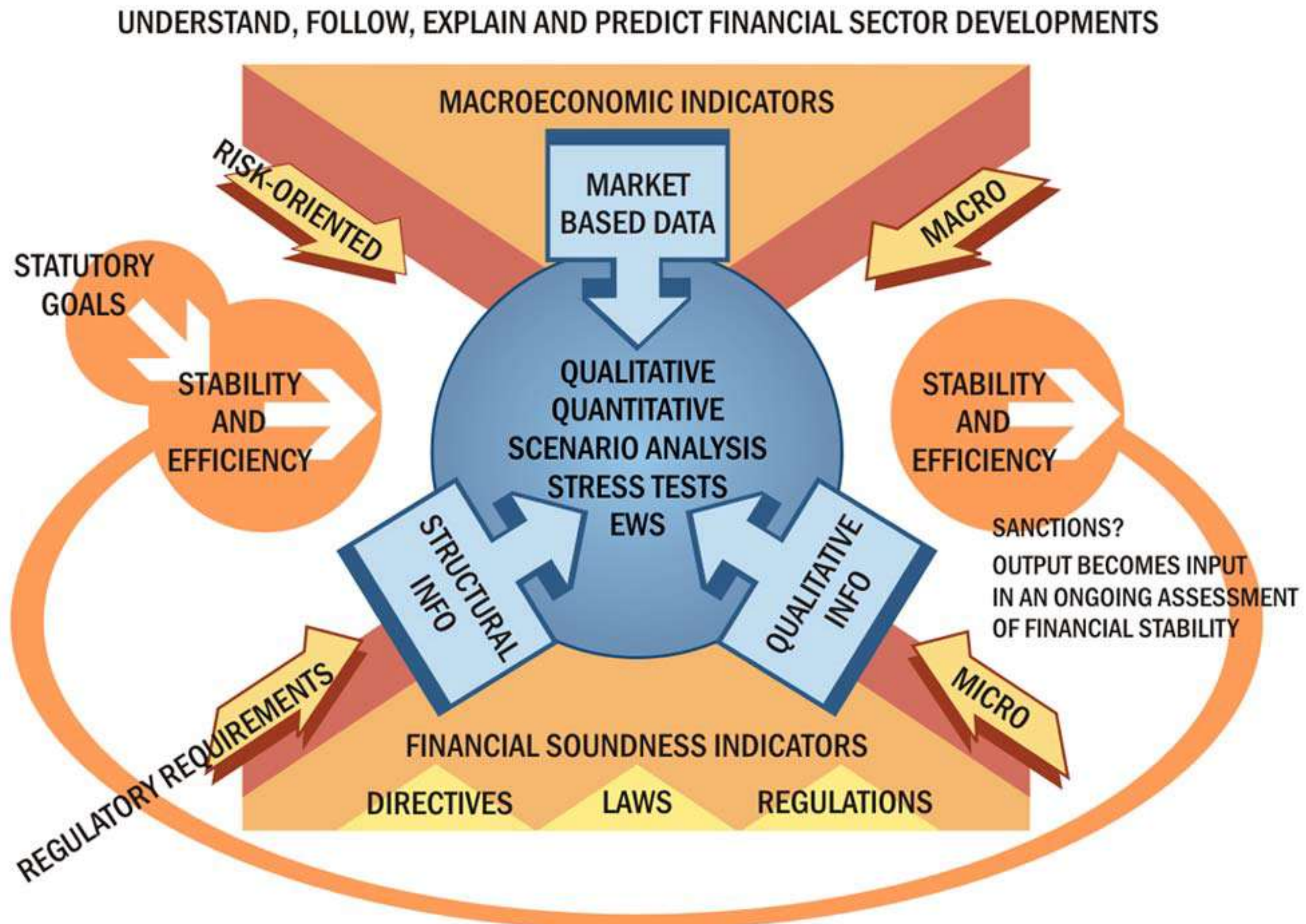
- Macro stress tests (with financial sector feedback loops)
- Assessments of lending behavior
  - Lending standard surveys
- Problems
  - Type I vs. Type II error: in-sample always works better than out-of-sample!
  - Financial development in emerging economies means areas of risk and benchmarks are evolving
  - Stress tests need to be monitored strictly—subject to gaming (see Haldane 2009)
  - Financial risks are building even while many indicators remain benign
  - Limited resources: focus on financial sector or macro risks?

Approaches to risk assessment (3)

Interconnectedness

- Common exposures
  - Financial sector
    - Externalities of one institution on others (Conditional Value-at-risk (CoVaR)); network analyses based on bilateral and common (similar) exposures
    - Systemic expected shortfall (SES)
    - Distressed insurance premium (DIP)
    - Global SIFIs
- Infrastructure
- Problems
  - Inherently difficult to measure
  - Financial sector always evolving, risk of fighting “last war”

Approaches to risk assessment (4)



Source: ADB staff (from Schou-Zibell, Albert and Song (2010)).

Approaches to risk assessment (5)

Some important simplifying assumptions for emerging economies

- Financial sectors less complex than in advanced economies, primarily bank-led
  - Bank exposure to real estate the single biggest risk area
  - Data quality and regulatory capacity less developed
  - “Sophisticated” financial assets less of a worry—for now
  - Legal system can be a weak point
- Macroeconomic and external risks relatively important
  - Exposure to volatile capital flows increases risks related to financial and macro cycle, balance sheets and contagion
  - Bias toward under-valued exchange rate may increase inflation risk
  - Adequate fx reserves and/or financial safety nets needed
  - Cross-border information sharing needed
- Regulatory and legal infrastructure needs critical examination

4. Conclusions

- Financial stability assessment encompasses multiple dimensions and aspects
  - Buildup of imbalances in the financial and real economy
  - Buildup of interconnectedness risks
  - Resilience of the financial sector
  - Vulnerability to external shocks (contagion)
  - Estimate of economic impact of manifestation of risks
  - Assessment of strengths and weaknesses of regulatory system
- Financial stability assessment has multiple methodologies; must be tailored to situation of emerging economies
  - "Early warning signals" of procyclical imbalance relatively easy to identify, but harder to assess in dynamic environment of EMEs
  - Measures of interconnectedness more difficult—require greater analytical- and data-intensivity
  - Need to identify and focus on the major risks, e.g., bank real estate lending, capital flows

Thank you
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