Symposium
Macroprudential Stress Test and Policies:
A Framework

Report from the MCM-LSE Working Group

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December 15-16, 2016
International Monetary Fund

The future of macroprudential stress tests (MaPSTs)

- Collaboration between the Monetary and Capital Markets Department (MCM) of the IMF and the Systemic Risk Centre (SRC) of London School of Economics (LSE)

- Builds on a joint conference held in LSE October last year

- Aim:
  - present state-of-the-art MaPST methodologies discussing modelling and implementation challenges;
  - provide a roadmap for future research and practical implementations in stress testing and;
  - guide authorities on the use of MaPST to support macroprudential tool calibration.

External Collaborators

- Official sector
    - Bank of Japan — Hitoshi Mio
    - Bank of Mexico — Alan Elizondo
    - Hong Kong Monetary Authority — Cho Hoi Hui
    - Bank of Canada — Ian Christensen
    - Bank of England — Alexander Brazier
    - European Central Bank — Jerome Henry
    - Office of Financial Research — Mark Flood
    - Reserve Bank of India — Deepak Mohanty

- Academics
    - Charles Goodhart
    - Rama Cont
    - Itay Goldstein
    - Casper de Vries.

IMF and LSE collaborators

IMF

- Chikako Baba

- Udabir Das

- Heedon Kang

- Miguel Segoviano

LSE Systemic Risk Centre

- Ron Anderson

- Jon Danielsson

- Malcolm Knight

Stress testing

- Most stress testing is microprudential, focusing on individual institutions and their resiliency to exogenous shocks

- This is not informative about systemic risk

- Need to
  - model the interaction between the variety of financial institutions
  - model amplification mechanisms

Interactions

- A variety of financial institutions all interact
  - Banks GSIBs all the way to the smallest bank
  - Parallel banks
  - Insurance companies
  - Asset managers (mutual funds, hedge funds)
  - Pension funds
  - Sovereign wealth funds

- Each have their own cyclicality

- The cycles may coincide or cancel each other out

- Need a dynamic endogenous network structure

What is risk?

- Most existing microprudential stress tests treat risk as **exogenous**. It arrives from outside the financial system, like an asteroid might hit the earth, influencing banks but not influenced by banks

- Almost all stress events and crises are caused by **endogenous risk** — the interaction of all market participants in equilibrium
  - Each with their own information sets, objectives, abilities, prejudices

- One can think of crises as what happens when a latent process hits a latent trigger

- Before it is nonvisible, after, everybody says how stupid we were to miss it

Amplification mechanisms

- Because risk is endogenous we have to consider amplification mechanisms

- There is an infinite number of triggers and a very small number of amplification mechanisms

- The same shock could trigger a crisis today and whimper out into nothing tomorrow

Key Pillars of the Symposium

The Symposium will look at:

Conceptual and empirical frameworks

Implementing MaPST

Linking MaPST to Policy

Institutional frameworks

Broader macroprudential policy

Conceptual and Empirical Frameworks

Ideally, stress testing frameworks should account for multiple layers of amplification mechanisms.

Macrofinancial Feedback and Second-Round Effects

Leverage

Liquidity

Direct Contagion

Interbank loans (unsecured)

Other assets including securities, derivatives, foreign exchange

Other bank non-bank assets/liabilities

Indirect Contagion

Fire sales/information asymmetry **interbank loans**

Fire sales/information asymmetry **other bank assets/liabilities**

Fire sales/information asymmetry **non-bank assets/liabilities**

Conceptual and Empirical Frameworks

Currently these are being incorporated to varying degrees

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Implementing Macroprudential Stress Testing

Examples of frameworks being developed by policymakers

It will also look at..

Challenges that are being faced (specifically regarding measurement, data and timeliness)

Paths to overcoming these challenges and examples of research agendas

Linking Macroprudential Stress Testing to Macroprudential Policy
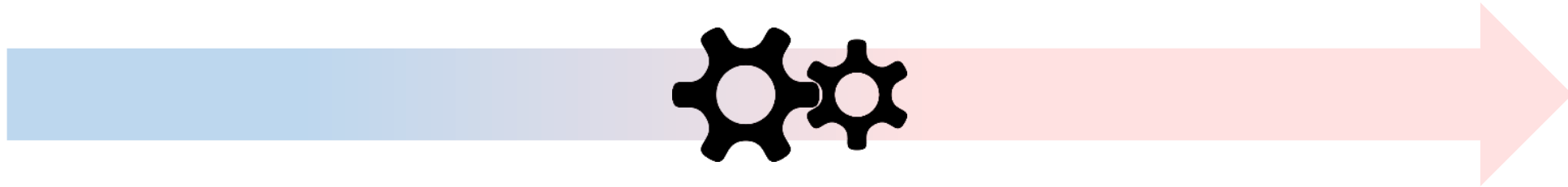
Macroprudential prudential stress tests can be useful to the calibration of macroprudential tools. Therefore we hope to explore..

What challenges policymakers face in calibrating MaPP instruments?

What **information** from macroprudenital stress tests might be **useful?**

Specific examples of how instruments could be calibrated with MaPST

Institutional Frameworks, Governance, and Communication

Some relevant questions to ask when considering institutional issues

How can we best ensure **proper accountability and governance structures** surrounding macroprudential policy?

How do we **assess the cost and benefits** of macroprudential policy?

What are the essential frameworks required to **counter inaction biases** and increase accountability?

How do we best **communicate** stress test results?

Fitting Macroprudential Stress Tests into the Broader Policy Framework

How can we avoid inconsistencies and ensure the coordination of macro- and microprudential policy tools?

Are there interactions of MaPP that should be assessed via MaPST?

Macroprudential Stress Tests

Microprudential Stress Tests

Going Forward
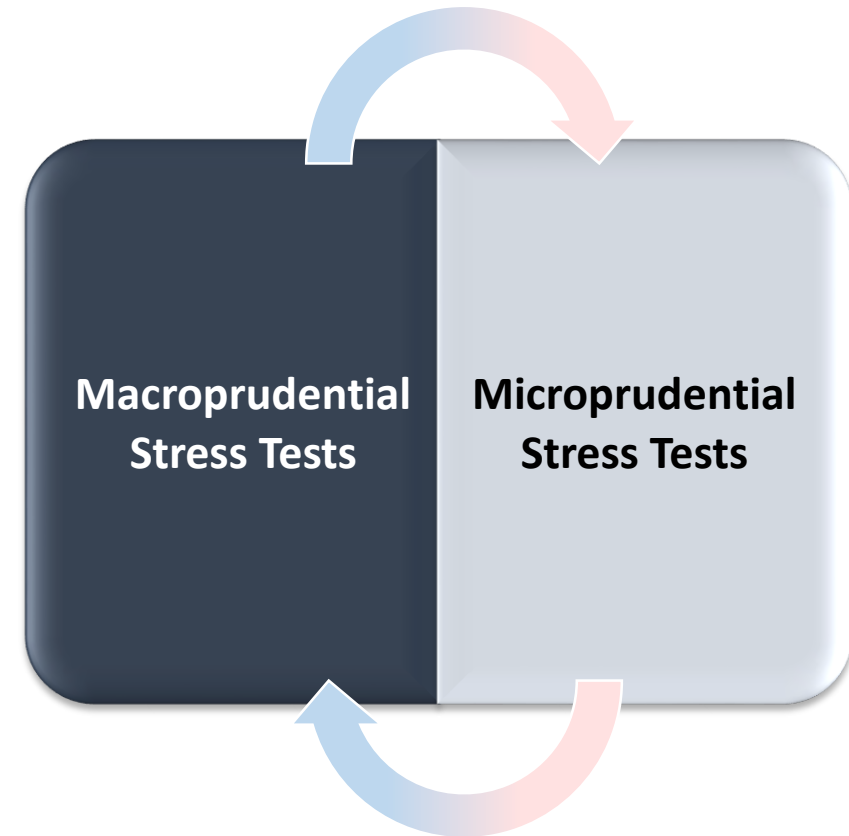
2016   2018   2020   ...

Where do we go from here?

What have we gained from the Symposium?

... and what does the future work agenda look like?

Key issues for the future

Data Collection
Development of Models
Implementation of Macroprudential Policy,
Role of the IMF, etc.