The financial crisis: Initial conditions, basic mechanisms, and appropriate policies.

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1. Introduction

• Much too early to give a definitive assessment.

• Not too early to think about the basic mechanisms, and whether/how we can prevent similar events in the future.

• A first pass, in the midst of the action. With thanks to the IMF team.
The basic question: How could such a small trigger have such enormous effects on world output?
Organization

- Initial conditions
- Two amplification mechanisms
- Interconnections and dynamics
- Implications for policy now and in the future
Setting the stage: Initial conditions

- The trigger: The issuance of risky assets, with undervaluation of risk. Subprime mortgages (but not only).
  Causes? Large world demand for safe assets, and bad regulation.

- The determinants of amplification.
  - Complexity and opacity of assets on balance sheets of financial institutions, so low liquidity.
    Causes? Better risk allocation, and bad regulation.
  - Increased leverage (lower capital relative to assets).
    Causes? Bad, and sometimes perverse regulation.
A visual sense of the complexity. From mortgages to securities
Amplification mechanism 1. Runs

- Bad (or doubtful) assets on balance sheets
- Runs (not only by depositors, but by other investors)
- Need to sell assets.
- Not enough deep pocket investors to buy (or investors waiting for the right moment to buy).
- Firesale prices. $P < ENPV$.
- Worse balance sheets. More incentives to run, etc
Amplification mechanism 2. Capital

- Bad (or doubtful) assets on balance sheets
- Decrease in capital ratio (Assets minus liabilities, over Assets)
- Need to sell assets (deleverage)
- Not enough deep pocket investors to buy. (id)
- Firesale prices. $P < ENPV$.
- Lower capital ratio. More incentives to sell assets, etc
The two mechanisms: Conceptually separate but strongly interacting

- Run on financial institution 1
- Cut credit to financial institution 2
  - Sale of assets at depressed prices
    - Low capital, so further sales
  - Or cut credit to financial institution 3

Examples. From US banks to Hungary. From subprimes to other assets.
The dynamics in real time

- Increase in probability of insolvency.
- Increase in counterparty risk.
- Decrease in volume and maturity of interbank lending.
- Contagion across institutions. From direct exposure to subprime onwards.
- Contagion across countries. From the US to Europe, to emerging market countries.
- Increasing effects on the ultimate borrowers: households and firms.
Contagion across institutions, assets, and countries

Heat Map: Developments in Systemic Asset Classes

- Emerging markets
- Corporate credit
- Prime RMBS
- Commercial MBS
- Money markets
- Financial institutions
- Subprime RMBS

Counterparty risk: Difference between the lending rate between banks and the riskless rate

Ted Spreads: 3-month Libor Rate minus T-bill Rate (in percent)

Sep 15, 2008
Lehman Files for Bankruptcy
Emerging market spreads

Emerging Markets Sovereign Spreads - Composite Index
(1/2/06 - 11/12/08)
Bank lending standards

Change in the Balance of Respondents Between “Tightened Considerably-Tightened Somewhat” and “Eased Somewhat-Eased Considerably” in Percent of Respondents. Source: Haver Analytics.
Financial policies for the short run

Need to dampen/eliminate the two amplification mechanisms.

- Runs: Provide liquidity to a broader set of institutions.
  Done. Still problem with institutions, countries without access to lender of last resort (Iceland).

- Capital.
  - Buy bad assets. For two reasons: Clarify price. Move price closer to EPDV.
  - Increase capital.
    Many institutions may still need recapitalization. So need to add capital (buy shares).

- Second leg takes time to implement. May need guarantees for depositors, and for interbank claims. To start interbank lending.
Basic financial architecture in place in advanced countries

- A crucial weekend in October, but:
- Problems with speed/scope of recapitalization
- Coherence across countries
- Still hidden land mines. for example: CDS positions.
- Problems in emerging market countries.
  Sudden stops. Need access to international liquidity provision.
Counterparty risk since September

3-month Libor Rate

Ted Spreads: 3-month Libor Rate minus T-bill Rate

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Sovereign spreads since September

Current account deficit larger than 5% of 2007 GDP
Current account surplus, or small deficit

Sovereign CDS Spreads
(index 7/2/07=100)
From the financial crisis to the economic crisis

• Not a side show.
  Direct effects: Credit growth, stock prices, exchange rates
  Indirect effects, through confidence, and wait and see

• A Keynesian recession
  Worsens the financial crisis
  Back to fiscal and monetary policy (in addition to financial policies)
Decrease in stock prices

Source: Bloomberg and IMF staff estimates.
Decrease in confidence

Manufacturing PMIs
(Values greater than 50 indicate expansion)

Consumer Confidence
(United States, 1985 = 100; Euro Area, percent balance)
Growth forecasts

Real and Potential GDP Forecasted Growth Rates for 2009; in percent

-0.7 -0.4 -0.2 5.2
-1 -2 0 1 2 3 4 5 6 7 8
United States Euro Area Japan Emerging & Developing Economies

Real GDP Potential GDP

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Looking forward. How to avoid a repeat?

- Back to the trigger and the two mechanisms:

- To limit the build up of systemic risk.
  Broader regulation and monitoring systemic risk.
  Limit leverage.
  More transparent pricing and tracing of assets. Centralized trading rather than over the counter.

- For runs: Broader liquidity provision.
  Across institutions, in exchange for regulation,
  Across countries, for runs on claims in foreign currency.

- For capital: Procyclical capital ratios.
  A public fund to purchase illiquid assets at $ENPV - x$?
The international dimension

- Need to coordinate regulation, national policies. Ireland and unilateral guarantees.
- Need to monitor risk at a global level.
  Exposure of Austria and Belgium to Hungary, of France to Belgium.
  Exposure of emerging markets to sudden stops.
- Need to organize multilateral liquidity provision. Swaps, and the new IMF facility.
- Need for burden sharing rules if recapitalization. National approaches have large spillovers.