

# The Causes and Consequences of the Current Financial Turbulence

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# The Elements of the Crisis

- Excessive credit
- Excessive leverage
- Excessive “funding” illiquidity

What are the roots? What are the links?

# The roots of excessive credit

- The global mismatch between desired savings and realized investment
  - Emerging markets and developing countries
    - Philippines investment fell from 24% of GDP in 1996 to 17% in 2006, while its savings rose from 14% to 20%. From borrowing 10% of its GDP, it pumped out 2.5 percent as a current account surplus.
  - Corporate savings and subdued investment

=> Demand for high rated paper

=> Demand for short maturities

- Accommodative monetary policy
  - Low short term interest rates
  - Strong credit growth

=> Rise in asset prices, especially housing, and therefore construction.

- Not just US – Ireland, Spain, UK...

# Why problems first in US?

- Innovations went further to supply the highly rated paper foreigners wanted.
  - Kind of mortgages as well as process of refinancing
    - So long as the house price was rising...
  - Structured products : turning lead into gold
    - \$100 of sub prime mortgages into \$70 to \$80 of short maturity AAA securities
  - Evidence of shifts in the supply of credit as a result of the originate and distribute model.

# Where did credit evaluation breakdown?

- Buyer: “Dumb” money ? Regulatory arbitrage?
  - Bureaucratic (passive investors): search for yield in high rated securities
- Rating agencies
  - Structure to rating
- Original lender/packager
  - Breakdown of market discipline : selling toxic waste
- Home buyer – liar loans

# But why did banks hold the high rated structured securities?

- Competitive pressures at top
- Lack of full internalization of risks in banks (UBS)
  - Compensation structures
    - Rewards for origination
    - Tail risk seeking
  - Breakdown in risk management function
    - VAR assessments based on short histories
    - Endogenous volatility!
    - Distorted pricing for internal capital
  - Silos
    - Power of successful groups

# The Elements of the Crisis

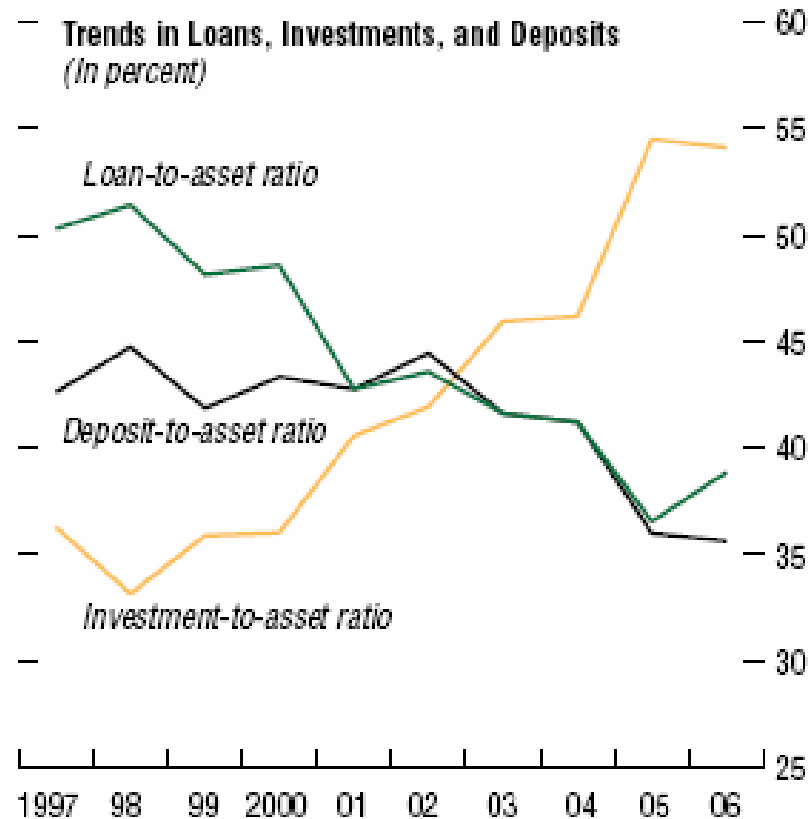
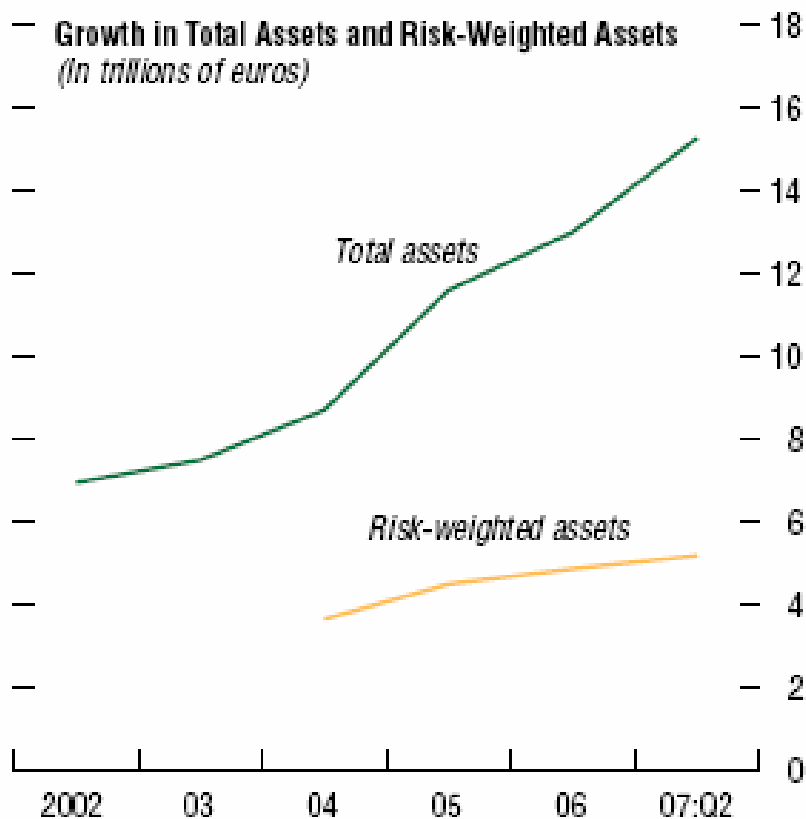
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What are the roots? What are the links?

# Excessive short term leverage

- Why is the financial sector attracted towards short term leverage like a moth to a flame?
  - Short term debt is genuinely cheaper when financial assets are not passively held?
    - Banks
    - Investment banks
    - Conduits/SIVs
  - When value added is so slender, perhaps optimizing financial structure becomes more important.
    - Risk of financial collapse small? Or not internalized?
  - Foreign investors wanted high rated short term paper.

## Balance Sheet Profiles for 10 Large Publicly Listed Banks



Sources: Thomson Financial; and IMF staff estimates.

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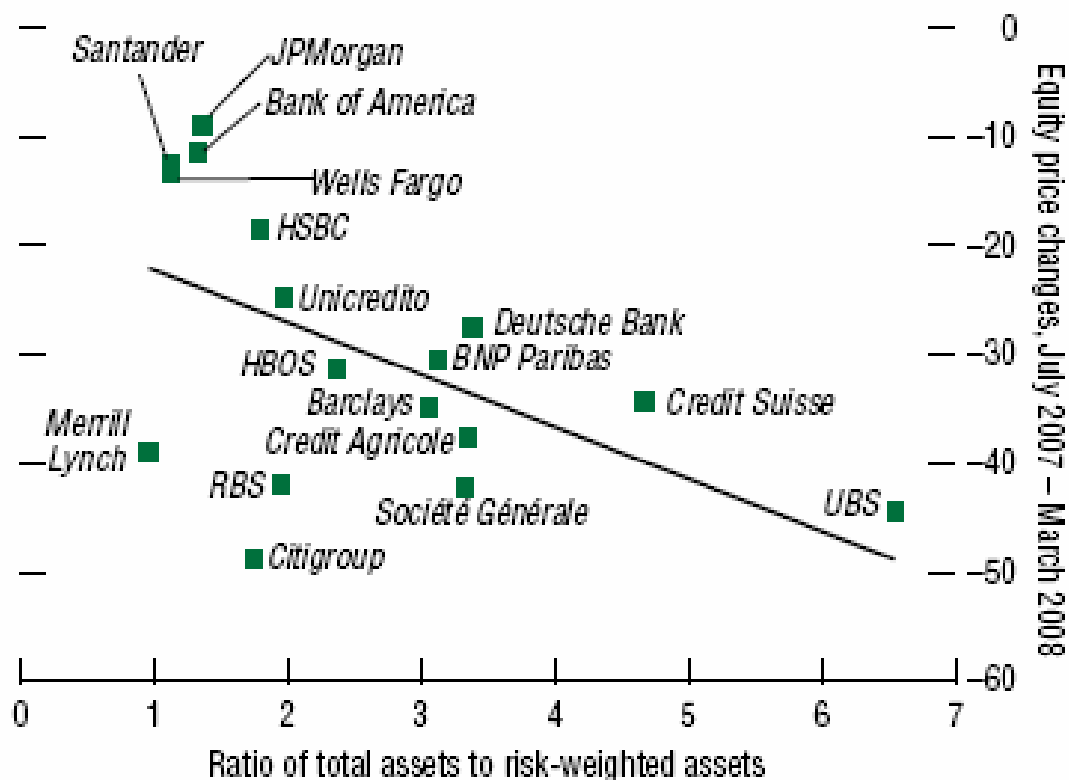
What are the roots? What are the links?

# Funding illiquidity

- Risk models have underestimated correlations in a crisis, and the fact that liquidity is a common factor in many prices.
  - Capital buffers start looking inadequate.
  - Even if some assets look cheap, they may get cheaper before their price recovers.
  - Low trading liquidity of financial assets
  - + maturing short term debt + low capital
- ⇒ Funding illiquidity.
- ⇒ Forced asset sales
- ⇒ Exacerbates trading illiquidity
- ⇒ Downward spiral

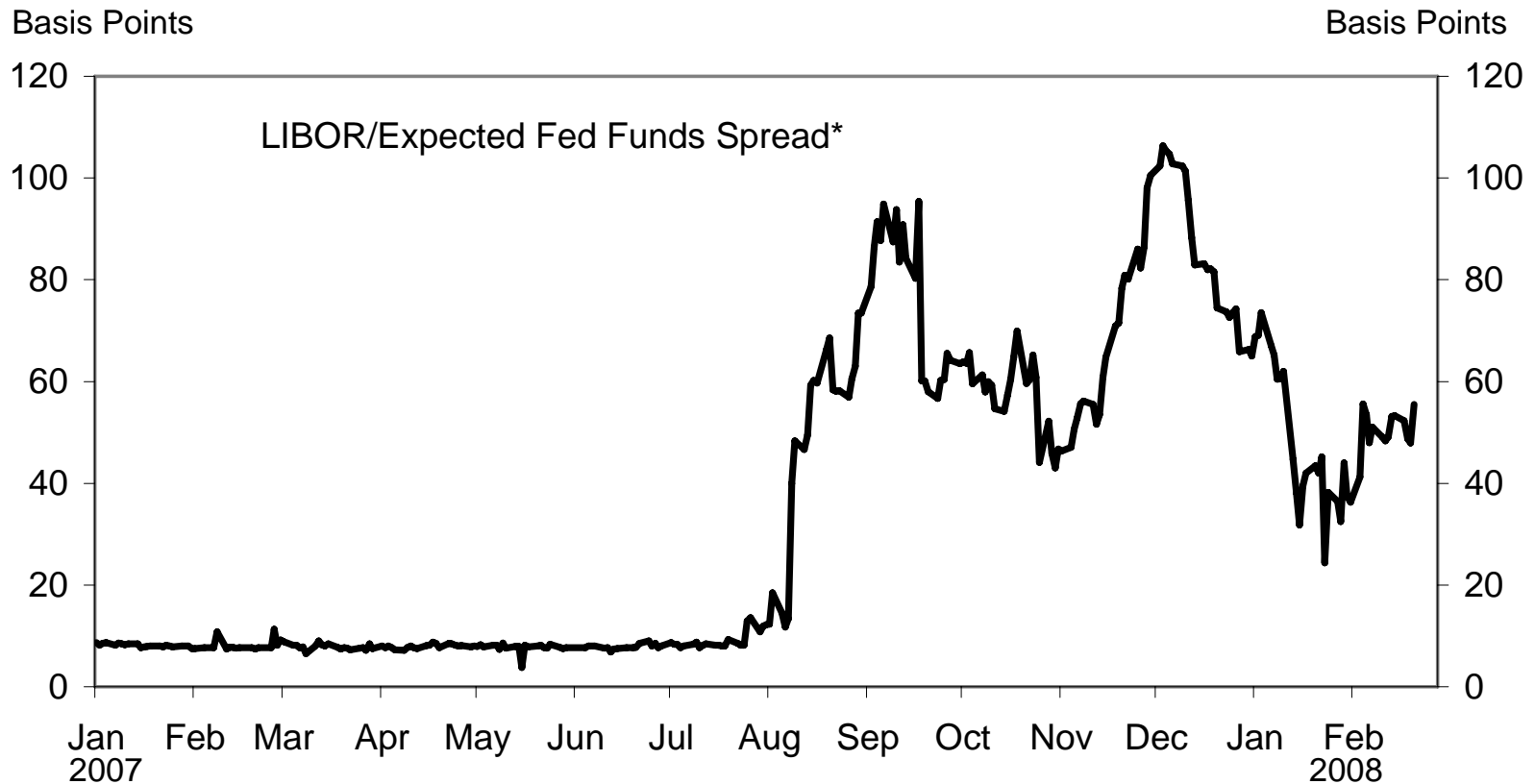
## Figure 1.17. Bank Equity Price Changes and Balance Sheet Leverage

(In percent)



Sources: Bloomberg L.P.; and IMF staff estimates.

# Signs of Severe Stress in the Interbank Funding Market



\*Spread of 3-Month LIBOR over 3-Month OIS.  
Source: Financial Times. Wall Street Journal.

# Lessons learned (or to be learned)

- Excessive credit growth can emerge from anywhere in the system and impinge on the entire system. Illiquidity is contagious.
  - Unregulated brokers
- Regulators often are focused on the wrong places in monitoring risks
  - Hedge funds
  - Credit default swaps
- Ever stricter regulation of the regulated part will push activity into the unregulated part.
  - SIVs and Conduits
- Too much of our regulation assumes management has control and cares about the long run.
- Having a variety of markets and institutions can help the system regain equilibrium more quickly
  - Hedge funds, private equity, Buffet, and sovereign wealth funds
- It is important to strengthen the infrastructure to deal with disaster because periodic disaster is inevitable.

# How will regulations change?

- Closing the stable door/Fighting the last war
- Longer term and financial architecture

# Closing the stable door.

- Fix the mortgage brokers
- Fix the rating agencies
- Fix the banks
- Modify central bank practice and regulatory coordination

# The bigger picture: Aberration or structural?

- Is the financial sector excessively competitive so that the only way it appears to make money is by
  - Levering to the hilt
  - Taking new risks that are not recognized as such, and that seem to make money as everyone crowds in
  - But blow up periodically
  - Leaving financial sector players who have taken their bonuses and walked richer
  - And the tax payer footing the bill as authorities intervene to prevent collateral damage
- How much of a role did arm's length foreign finance play?
- So we close the old stable doors and the financial sector will open new ones.

# How to limit the fallout from the next crisis?

- Rethinking liquidity buffers and interventions
- Rethinking capital requirements
- Rethinking compensation
- Rethinking regulatory architecture
  - Principles/objectives
  - Distinction between regulated institutions

# Rethinking liquidity buffers

- The current crisis is not an aggregate liquidity shortage (not too little cash as in Vietnam recently, or too high interest rates).
- Financial institutions with little capital and high short term leverage find it hard to roll over borrowing.
  - Illiquid assets no longer serve as adequate collateral for short term loans
  - Not enough assets (capital) to over-collateralize borrowing
  - Borrower/customer run
- Real problem is shortage of capital/excessive short term leverage, given potential or actual losses
- Should all systemically important financial institutions funded by short term debt have access to liquidity facilities at times of stress?
- Should they be subject to supervision and capital requirements ?

# Are capital requirements working effectively?

- Buffers rest of system from bank losses and gives regulators time to act
- Serves as a license for continuation -- need to raise capital (renew license from market) if losses
  - Works well when assets are illiquid loans, less well when bank can shrink balance sheet by selling riskier assets
  - Asset sales weigh on market prices – losses are shared by the system
  - True of all leveraged financial institutions, not just banks
- Serves as a budget for the risk the institution can take
  - But because banks perceive capital as costly
    - Off balance sheet entities
    - Incentive to take highest risk consistent with capital norms
- Top down: Assumes top management has full control of risks and is knowledgeable
  - NOT!

# Bottom line on liquidity and capital

- ⇒ Competition, the profitability of leverage, the lack of internalization of firm losses within profit centers in the firm, and the socialization of losses in downturns means that large systemically important institutions have an incentive to keep too little capital.
- ⇒ They risk becoming illiquid and insolvent
- ⇒ Attempts to force much higher capital norms could hamper financing, drive it into unregulated entities, or increase hidden risk taking.

What is the answer?

# Can better compensation practices help?

- Traders who knowingly take tail risks should face the downside.
- Do not pay out past bonuses till their strategy has played out/been through a cycle.
  - Not equivalent to paying in company stock that vests over time (already common practice, and has incentive effects only if the trader feels he will have firm wide effects)
- “Own” capital at stake.
- Requires good measurement, and strong compensation/risk managers
- Requires industry consensus and action by leading firms, or regulatory intervention.
- Don’t hold your breath for sensible reform! Politicians may intervene – level, not pattern.

# Rethinking regulatory architecture

- Move towards principles rather than rules, especially for largest entities
  - Regulator as confessor
  - Ex post evaluation rather than ex ante stipulation – can lower regulator induced correlation and improve best practice
  - Unlikely in current environment!
- Distinction between systemically important levered financial institutions (banks, investment banks, hedge funds) diminishing
  - Levered active vs unlevered passive
  - Systemically large levered active will have access to the discount window/auction facilities/Fed resolution
  - They will be regulated
  - But if access is a net source of advantage, should non-systemically important entities also be regulated to offer a level playing field?  
What will the costs be?

# Bottom line

- Less innovation and more implicit or explicit capital requirements across the board (including for entities that are currently more lightly regulated) => profitability and return to capital of active levered financial institutions is likely to decline even after accounting for losses.
- Less reliance on short term financing, term premia and credit premia likely to go up. Profitability of passive long term financial institutions likely to go up.
- Foreign investors are likely to move towards assets other than short term paper. Political frictions likely to increase.
- Regulatory architecture will evolve to treat levered active financial institutions more uniformly.
- Concerns about financial liberalization will slow pace of financial sector reform in emerging markets.
- Monetary policy will be more open to leaning against the wind when asset prices ramp up too fast. (Less worried about goods price inflation today).
- Are we doomed to lurch into the next crisis? Where will it be?