Shadow Banking—
What are We Really Worried About?

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Recent shadow banking observations (I)

- During the crisis we observed … runs
- Runs on banks from wholesale funding sources:
  - Repo funding of U.S. investment banks
  - MMMF funding of commercial and universal banks
  - ABCP funding (backed by mortgages)
- Runs on banks from retail depositors
- Runs on MMMFs from corporate cash pools and then retail investors

Recent shadow banking observations (II)

- During the crisis we observed … leverage
- Risks in non-banks insufficiently backed by “capital”
  - MMMFs
  - Non-traditional insurance activities
  - SIVs/Conduits
- Lately we observe … leverage and maturity mismatches
  - Wealth management products (“trusts”) in China
  - M-REITs in the United States

Basic typology of systemic risk

- Time-series component
  - Buildups of leverage
  - Maturity mismatches between assets and liabilities
  - Procyclicality of margin/collateral valuation
- Cross-section (interconnectedness) component
  - Knock-on effects of shocks, potentially through long chains of intermediaries, often leading to runs (or "flight to quality"—types of contagion)
  - Interactions between funding and market liquidity (funding difficulties + fire-sales)

WHAT are we worried about?

- Uncontrolled, or hidden, leverage in non-banks that adversely affect the financial system (and the real economy)
- Non-linear, amplified responses in market prices and quantities
- Bank-like maturity mismatches and deposit-like features that are unsupervised and/or unprotected by a safety net
  - Products where investors expect to be able to make instant withdrawals (often at face value) but assets are longer-term
  - Examples: MMMF, WMP (China), M-RIETs

What are we NOT worried about?

- Growth of market-based financing of credit
- Financial access: savers and borrower using alternative means or institutions to execute utility enhancing transactions.
- Unleveraged transactions and investments (e.g., pass-through mutual fund with variable net asset value)
- “Pure” payment systems with well-constructed infrastructures

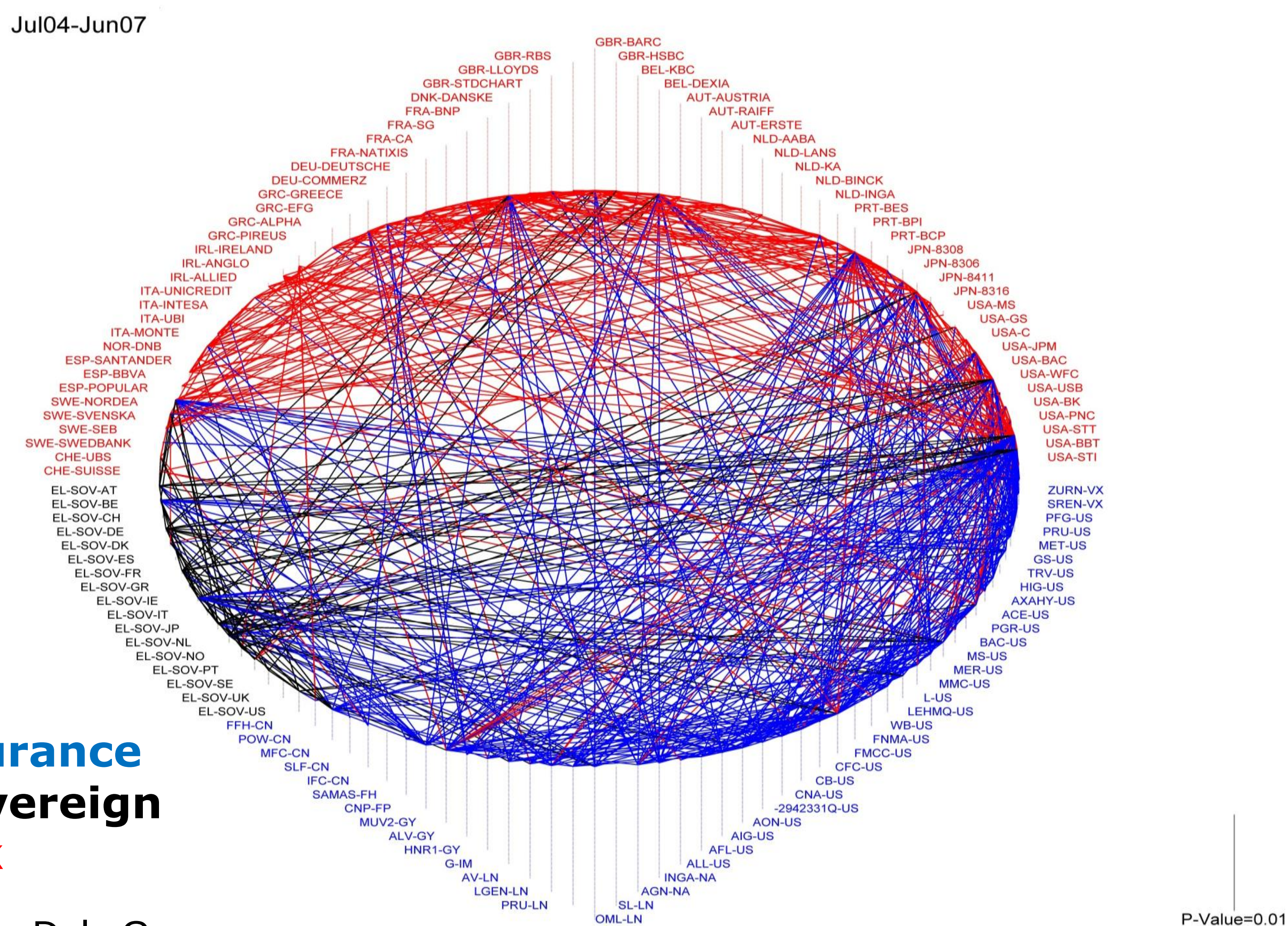
How do we know WHEN to be worried?

- Degree of leverage (capital adequacy)
- Degree of maturity mismatch
- Cash holdings for redemptions
- Operational risk measurement;
  - Legal documentation
  - Clearing/settlement/custody security
  - Client disclosures and customer protections
- Other, yet devised, measures in accordance with conceptual advances

Challenges in assessing systemic risks

- Data on size of exposures (not AUM) from non-bank institutions (data collection expanded to include those outside regulatory perimeter)
- Judging what is acceptable risks (how much leverage can shadow banks take on without risking the system)
  - E.g., financial companies
- How to tell if investors understand the risks they have incurred
  - Are disclosures adequate?
  - Are investors "sophisticated"? Able to absorb losses?
- Data/information about interconnectedness
  - Collection of raw data
  - Transparency (To whom? When? How much?)

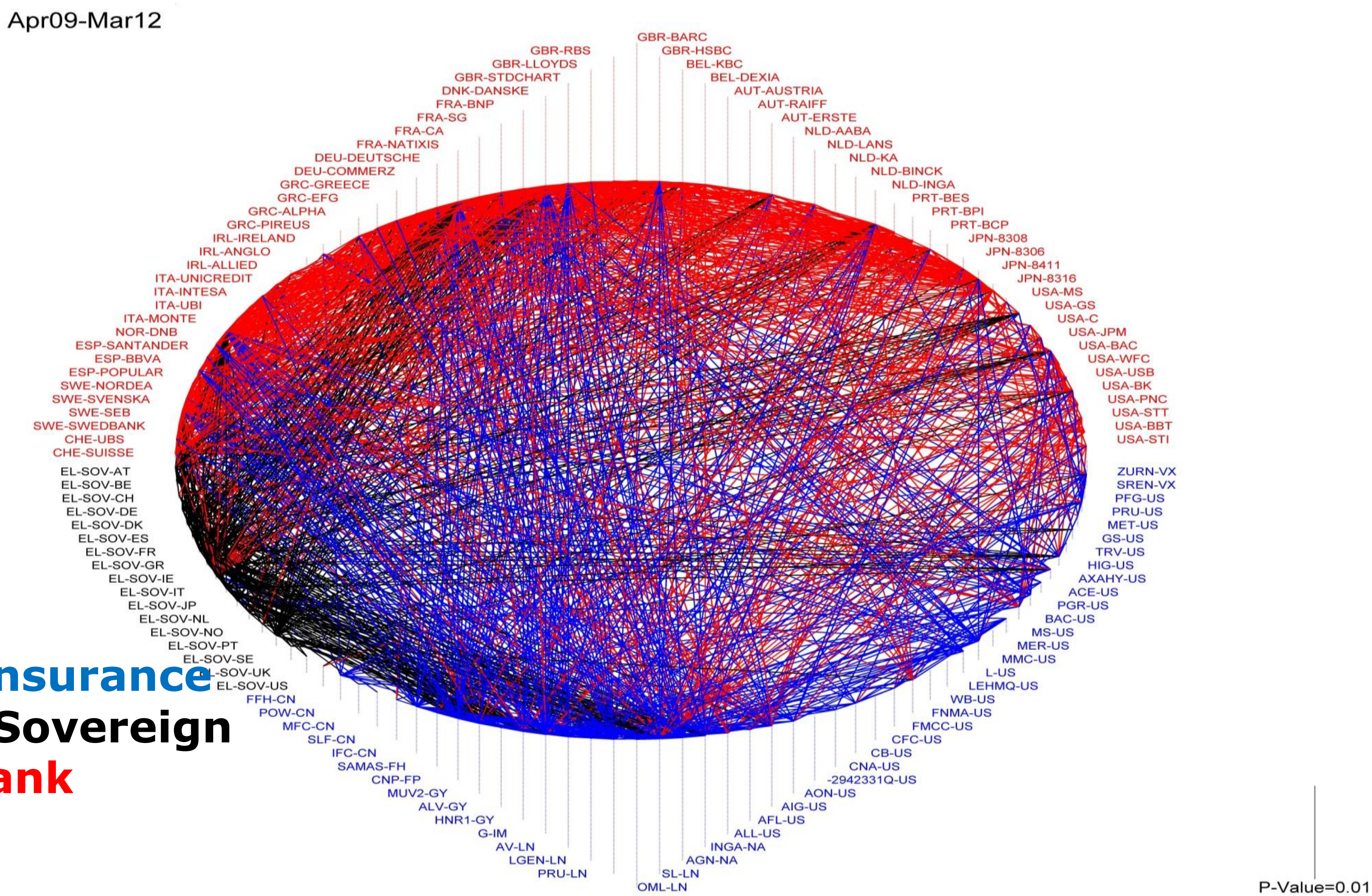
Sovereign, Bank, Insurance Connections



Blue Insurance
Black Sovereign
Red Bank

Graphic from Dale Gray

Sovereign, Bank, Insurance Connections



Blue Insurance
Black Sovereign
Red Bank

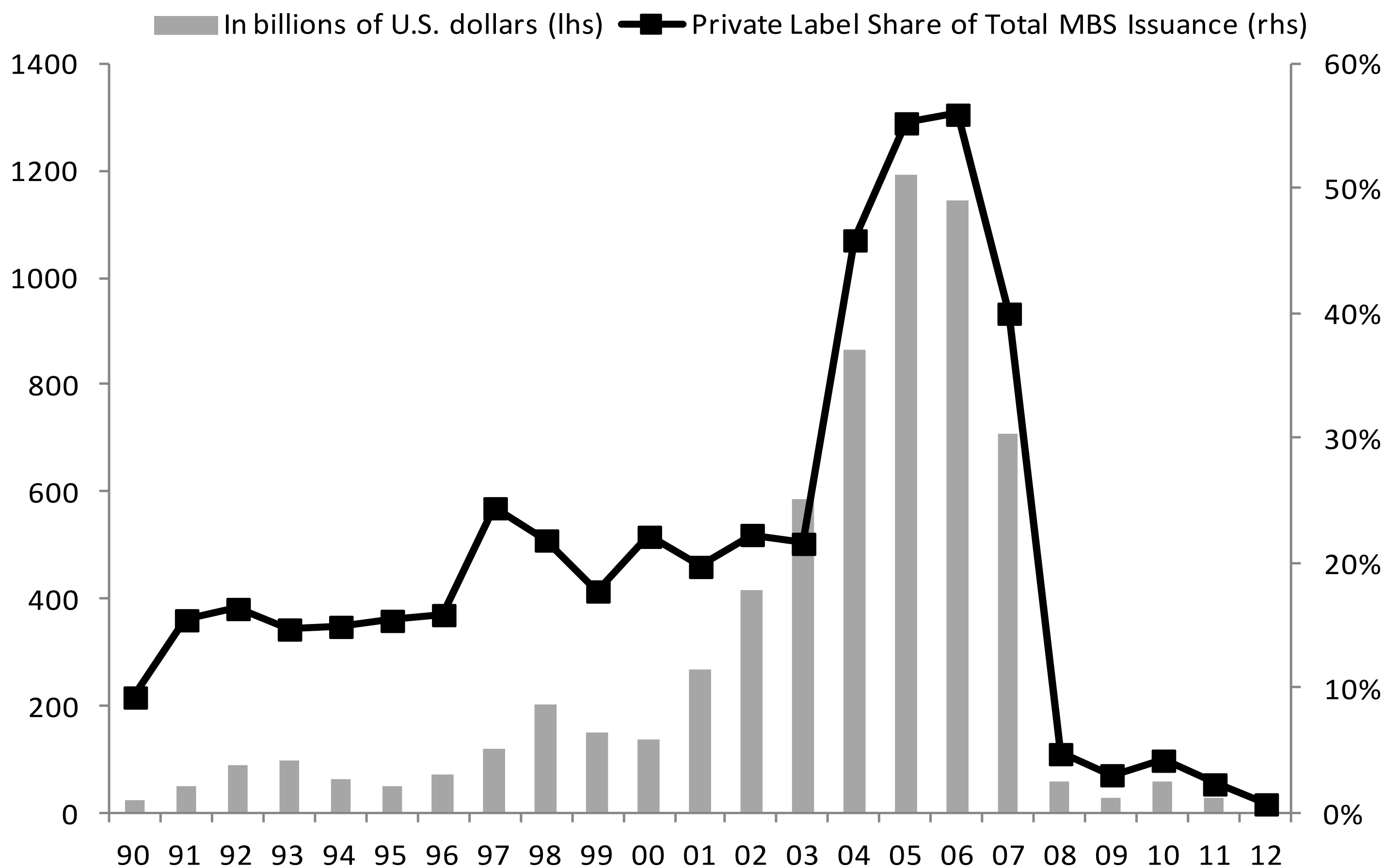
Ex: Yu'E Bao—should we worry or not?

- China's first on-line investment fund for individuals (automated transfers between bank checking/Alibaba account/Yu'E Bao)
- Connected to Alipay, China's 3rd largest third-party payment platform with 800 m. customers
- Now largest MMF—RMB 55.7 billion ($9.2 billion)
- 13 million customers at end-Sept (launched in June)
- Interest rate is ~5% (vs 0.35% in bank deposits)
- Redemptions can be made at any time
- Apparently, investments are in government and corporate money markets

What do we do if systemic risk is too high?

- Bring within regulatory perimeter/observe
- Lower leverage (impose "capital requirements")
- Lower maturity mismatches through regulation or incentives
- Build liquidity (redemption) buffers
- Educate customers
- Make activities too expensive to execute
- Reduce interconnectivity (using?)
- Outlaw activities?

U.S. Private-Label MBS Issuance



Source: Inside Mortgage Finance and IMF staff estimates

Underpinning steps: incentives

- Adjust private sector compensation to cover long-run risks, not just short-run returns
- Ensure empowerment of supervisors and regulators
- Resurrect “incentive compatible regulation”

Incentive Compatible Regulation - NOT!

"These new regulations will fundamentally change the way we get around them."

Underpinning steps: information

- Provide basic information to prevent panics
  - Provide granular information to supervisors and regulators
  - Remove some types of confidentiality to be able to provide more information to the public
- Balance systemic risk with protection of competition to produce efficient and effective economy

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