Liquidity: Connecting Theory and Policy

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Main Points

- "Liquidity" is difficult to define and model
  - Multiple "concepts" of liquidity
  - Relates to institutions/investors, markets, and instruments in different ways depending on "type" of liquidity
  - Data to "test" models even less ideal than for some other economic/financial problems

- Designing policies to reduce systemic liquidity problems even more difficult
  - Connecting theory to policy tools is not straightforward
  - Practical considerations limit ability to match theoretical insights to policies
  - Multi-dimensional systemic liquidity risk makes prioritizing policy responses hard
Liquidity Theory (I)

- **Insights from theoretical work**
  - Basic notion of liquidity is as a “service” to make payments or readjust portfolio choices
  - Liquidity and safety are often confused
    - Safety in terms of market risk—little loss of value in a given time period—market liquidity.
    - Safety in terms of rollover risk—ability to continuously “fund” a set of trading positions or assets—funding liquidity
    - Safety often considered a low credit risk instrument (default-free)
  - Problems arise in liquidity services when there are “market failures” or externalities.
    - Transaction costs
    - Moral hazard
    - Asymmetric (or incomplete) information
    - Counterparty risk/default risk/coordination externalities
Liquidity Theory (II)

More insights from theoretical work

- Demand for money-like services to make payments is dependent on several factors
  - Investor’s risk-aversion – (grandma wants DD; grandson goes for MMMF)
  - Monetary policy conditions (“search for yield”)
  - Accounting features (MMMF holdings are cash-like on corporate balance sheets)
  - Regulatory influences (from deposit rate caps to capital requirements or their absence)

- Innovation influences types of money-like offerings (lower transaction costs, illusion of safety)
  - Securitized assets backing ABCP appeared “money like”
  - Constant NAVs still appear “money like”
  - China’s wealth management products (WMPs) appear “money like”
Features of the Crisis That Models Try to Explain

- Fire sales and defaults become “efficient” ex post
- Short-term maturity assets no more “safe” than long-term maturity assets
- Counterparty risks perceived (or are) high leading to market freezes
- Role of innovation to satisfy higher demand for liquidity services led to poor quality instruments (or poorly understood ones)
- Role of regulatory arbitrage and poor oversight
- Role of incentives (e.g., securitization, credit rating agencies)
Private Solutions

- Hold more loss-absorbing capital to protect against fire sales and defaults
- Self-insure against funding shocks by issuing longer-term liabilities (including possibly deposits, if a bank) or holding liquid assets that can be liquidated easily
- Be transparent about risks held and funding structures
- Have only super-safe counterparties (e.g., central banks, clearing facilities, trade with institutions with a government back-stop)
- Note: Private solutions do not necessarily deal with systemic liquidity events
Public Policy Solutions

- Provide insurance against liquidity shocks or runs
  - Lender of last resort facilities
  - Clearing/settlement facilities
  - Deposit insurance

- Influence short-term liquidity buffers
  - Central banks reserve requirements
  - Regulatory (liquidity) requirements

- Require more loss-absorbing capital to protect against fire sales and defaults, become “buyer-of-last resort”

- Expand and/or intensify regulatory perimeter to other (non-bank) institutions influencing liquidity conditions

- Require disclosure and exposure data transparency
Progress Report on Public Policy Solutions

- By central banks
  - Lender of last resort facilities expanded and renamed (more eligible collateral, longer-term liquidity support (LTROs))
  - FX swap facilities in place (partially)
  - Some countries using reserve requirements aggressively

- By government
  - Deposit insurance (some countries putting in place now)
  - Discussion of depositor preference (in liquidation)

- By international standard setters: Basel III
  - Require more loss-absorbing capital to protect against fire sales and defaults
  - Require larger liquidity buffers (LCR) and less maturity transformation (NSFR)
Progress Report on Public Policy Solutions (cont’d)

- Expand and/or intensify regulatory perimeter to other (non-bank) institutions influencing liquidity conditions

- Require disclosure and exposure data transparency
Shadow Banks: FSB Regulatory Approach

- Shadow banks are those institutions that:
  - Engage in maturity transformation
  - Engage in liquidity transformation
  - Take on leverage
  - Assist in credit risk transfer

- Based on monitoring, decide which activities/entities have the potential to pose systemic risks or, due to regulatory arbitrage, undermine benefits of financial regulation.
  - Working on a method to determine which ones pose of systemic risk
Current FSB Work Streams on Shadow Banks

Post crisis: Five regulatory work streams were deemed important

- Mitigate spillover effects between regular banks and shadow banking entities
- Reduce susceptibility of money market mutual funds to runs
- Assess and mitigate systemic risks posed by other shadow banking entities
- Assess and align incentives associated with securitization
- Dampen risks and pro-cyclicality associated with securities lending and repos
Progress of Implementation for Shadow Banks (I)

- Banks/non-bank linkages
  - Still little progress on banking risk of excessive reliance on short-term funding from shadow banks.
  - Limitations on equity exposures and connections to SIVs

- MMFs
  - In U.S., still maintain constant NAV (net asset value) with no effective backup plan for runs (though less maturity mismatch)
  - Accounting treatment still encouraging “money like” features
  - Disclosure to market participants still inadequate for them to see risks
  - New U.S. rules make some (incremental) progress on “capital” buffers but don’t eliminate “run” risk.
Progress of Implementation on Shadow Banks (II)

- **Other non-bank risks**
  - Data still insufficient; some jurisdictions not even allowed to collect data from unregulated entities

- **Repo and securities lending**
  - Tri-party repo markets have lowered time frames in which intra-day risks are most acute, but have not eliminated them
  - No agreement on how to mitigate procyclicality of margin in repo activities—proposed haircut floors not taken up yet

- **Securitization**
  - Many aspects “cured”; SIVs/conduits consolidated on balance sheets; capital held against vehicles; better reporting by credit ratings; risk retention of underlying assets
2012 FSB Monitoring Exercise: OFIs

Sub-sectors of non-bank financial intermediaries (OFIs)

25 jurisdictions; at end-2011

Exhibit 4-1

Decomposition by sub-sector

Other investment funds by type from ICI statistics

1 Sample: 25 jurisdictions minus Indonesia, Saudi Arabia, Hong Kong, Singapore, for which data is not available.

Progress of Implementation on Commercial Banks

- Capital regulation
  - More and better capital; fire sales less damaging
  - Leverage ratio backstop
  - G-SIB and D-SIB capital surcharges

- Liquidity regulation
  - LCR: Hold more “high quality liquid assets” to withstand expected cash withdrawals over a 30-day period
  - NSFR: Reduce funding rollover needs by lengthening maturity of liabilities (or shortening maturity of assets)
Attention to Symptoms not Causes

- Central banks probably best equipped with policies to forestall liquidity difficulties, but …
  - New innovation for money-like instruments only indirectly influenced by central bank’s control of “real” money.
  - If risk aversion is a key component determining the efficient production of liquidity services, what can a central bank hope to do to influence risk aversion?
  - Should LOLR facilities or “buyer of last resort” role be (almost) “free”—ad hoc policies and no ex ante charge. [encourages moral hazard issues].
  - If central bank become intermediary during crises, does not address coordination externalities.
Attention to Symptoms not Causes

- Shadow banking much less addressed
  - Disconnecting banks from shadow banks may insulate banks, but liquidity provision then goes further into the shadows. [counterparty risks still present]
  - Regulation of MMF is consumer protection oriented, not financial stability oriented when issues are now with corporate cash pools and run risks. [not dealing with asymmetric information and moral hazard]
  - Repo and securities lending still have (some) operational and counterparty and market risks [not dealing with coordination externalities, moral hazard, asymmetric and incomplete information].
Attention to Symptoms not Causes

- Even commercial banking, reforms not adequate
  - Capital and liquidity risks aimed at protecting individual banks, not preventing systemic events (though with higher buffers will lower the chances) [coordination externalities, fire sales as even HQLA will become illiquid in a crisis]
  - G-SIB and D-SIB charges not really tied to meaningful measures of the problem [coordination externalities, counterparty risks, asymmetric information, moral hazard]
Progress Inhibited by Lack of Analysis

- Even if (some) data were available, limited ability to take the models to the data to see which tools work best.
  - Would more information on exposures be sufficient to mitigate systemic problems? What are the benefits of confidentiality? Is the invisible hand too invisible?
  - Why do investors want new products that are money-like? Why are the old ones insufficient? How do existing regulations influence their liquidity (money-like) desires?
  - If risk aversion plays such an important role, why aren’t we more concerned with measuring it directly.
Next Steps (A Personal View)

- **On data**
  - Move away from Flow of Funds
  - Collect exposure information (present and future); share it (at least among supervisors), possibly publish it (masked or aggregated?)
  - Engage in more market intelligence (especially on OFIs and new products)
  - Change laws to allow data collection to proceed and allow data sharing across and within borders

- **On analysis**
  - Conduct more analyses of tools, their calibration, and their effectiveness
  - Formulate better models for understanding systemic liquidity risks that are "measurable" and "testable" with data
  - Consider more about "behavior" in liquidity modeling—liquidity is a slippery concept—employ other techniques (surveys?) and insights (herding?)

- **On regulation**
  - Focus on root causes not superficial ones
  - Pay attention to regulatory arbitrage and "spillovers" across regulations
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