Credit Risks to NBFI, Liquidity Risks to Banks: A Conceptual Framework

Comment on Acharya, Cetorelli and Tuckman

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Post-GFC: Rapid Growth of NBFI

Benefits

- Broadening Access to Finance
- Diversifying Funding Sources
- Stronger Competition
- Improved Pricing
- Enhanced Financial Services
- Product Innovation
- Risk Sharing
  - Capacity to absorb shocks

Financial Stability Concerns

- Liquidity Mismatches
  - Illiquid assets/runnable liabilities
- Hidden Leverage
  - Not just hedge funds
- Margin and Collateral Calls
  - Amplification of liquidity demand
- Disruptions to Core Bond Mkts
- Private Credit

NBFI is Quite a Heterogeneous Space

TABLE 1: Conceptual framing and examples of systemic risk related to NBFI

	SOURCES OF SYSTEMIC RISK		
	Within NBFI		
Manifestations	Leverage (defaults)	Liquidity (shortfalls)	Spilling over to the main system through interconnections
Channels of systemic impact	• Large NBFI defaults, leading to credit losses at banks.	• IFs' liquidity needs. • HFs' PFs, ICs, and other NBFIs' margin and collateral calls.	• Losses at banks and public finance impact. • Market dysfunction.
Past examples	• Shadow banking. • Greensill, Archegos, First Brand, other NFCs, some NBFCs.	• IFs (GFC, March 2020). • PFs (UK LDI crisis). • HFs (various). • Margins (March 2020, March 2022)	• Shadow banking (GFC). • Various core market dysfunctions (GFC, March 2020, March 2022).
Potential future examples	• Losses of ICs, PFs, and NBFCs. • Large NFC losses.	• Large redemptions and liquidity shortfalls (IFs). • Margins, collateral calls (HFs, PFs, ICs).	• Private credit, other large defaults leading to credit losses at banks. • Liquidity needs of IFs, HFs, ICs, and PFs.

Note: HFs = hedge funds; ICs = insurance corporations; IFs = investment funds; NBFCs = nonbank financial corporations; NFCs = nonfinancial corporations; PFs = pension funds.

FSB Roadmap to Strengthen NBFI Resilience

Liquidity Management Practices

- Money Market Fund Resilience (2021)
- Liquidity in Open Ended Funds (2023)

➢ Importantly: Little Focus on Interaction with Banks!

Cross-Cutting Issues

- Liquidity Preparedness for Margin and Collateral Calls (2024)
- Mitigating NBFI Leverage (2025)
- Non-Bank Data Challenges (2025)

Banks and NBFI: A Rather Symbiotic Relation

TABLE 2: Three broad NBFI forms: examples, main drivers, and sources of systemic risk

Form	Parallel	Substitute	Transformation
Examples	PF and IC traditional products (e.g., pensions, annuities).	IFs (e.g., MMFs investing mainly in sovereign securities).	Private credit, shadow banking. HFs' basis trade.
Likely most important driver(s)	Overall economic and financial conditions.	Technology, financial conditions, and regulations.	Regulations and supervisory practices, technology.
Main type of systemic risk	Leverage (underfunding) to banks, public finance. Sometimes liquidity.	Liquidity, through interconnections to core bond markets.	Interconnections, notably, to banks, via leverage and liquidity.

Source: Based on Acharya, Cetorelli, and Tuckman (2026a; 2026b).

Note: HFs = hedge funds; IC = insurance corporation; IFs = investment funds; MMFs = money market funds; PF = pension fund.

Risk Transformation rather than Risk Migration

Reasons Behind Rapid Growth NBFI

- Traditional thinking dominated by Substitute Form
  - Low-for-long saving rates
  - Waterbed effect of Basel 3

- Acharya ea: Transformation Form
- Credit risk warehoused by NBFI
- Liquidity risk remains with the bank since banks enjoy
  - Deposit funding advantage
  - Role of natural liquidity providers
  - 'Coarse' capital requirements

Paper's Central Insight 1

- Reflecting relative cheapness, banks seek to maximize deposit funding
- 'Coarse' capital requirements create incentives to shift first loss credit risks to NBFI through subordinated claims
- Constitutes a form of regulatory arbitrage that increases attractiveness of Bank-NBFI partnerships where subordination is mirror image of deposit funding

➢ And where higher capital requirements induce more subordination providing capital relief thru a higher first-loss buffer

Transfer of Credit Risk Creates New Problem

Paper's Central Insight 2

- NBFIs unable to provide liquidity support to underlying borrowers during stress events
- Absent liquidity support, even solvent borrowers may default
- Banks therefore provide credit lines to NBFI, recreating credit risk to the banks

➢ On-balance-sheet subordination therefore overstates true amount of first-loss protection during stress

Paper's Central Insight 3

- Optimal capital requirements must account not only for direct bank lending but also NBFI liquidity committments
  - Regulators should focus on the entire intermediation chain rather than on the solidity of individual institutions
- Financial Stability not only depends on where credit risk formally resides, but on the network of liquidity relationships connecting banks and NBFI

➢ NBFI growth may not reduce but rather amplify risks concentrated in the banks

A few Comments and Suggestions to Conclude

- Nature of the ‘coarse’ capital requirements
  - Exogeneously given, or more risk-sensitive solutions available?
- Assumption that banks always have access to liquidity
  - What about bank funding stress like in GFC?
  - Robustness to partial or limited liquidity support?
- Rather extreme treatment of liquidity shocks
  - No explicit modeling of borrower liquidity needs or transmission to default
  - Liquidity needs to increase default *probabilities* rather than causing certain default?
- Richer modeling of NBFI incentives, behavior and dynamics
  - NBFIs are modeled as passive holders of junior claims earning a fair return
  - All residual profit accrues to bank equity, which abstains from NBFI-bargaining / market power
- Assumption of full NBFI-default on drawn credit lines
  - In a severe liquidity state, drawn credit line can fully eliminate the protection from subordination
  - In reality, partial defaults and recoveries on credit-line drawdowns are common

But these comments should not distract from the general observation that this is a great paper that will also continue to have an impact on regulatory discussions around NBFI and Banks

Thank you!