Where Do Banks End and NBFIs Begin?

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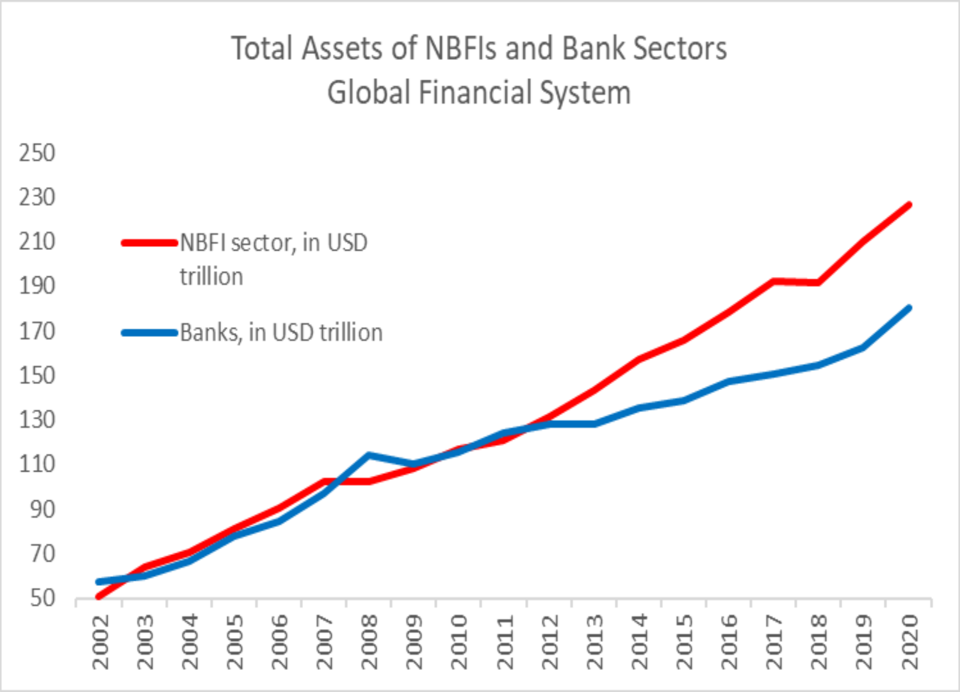
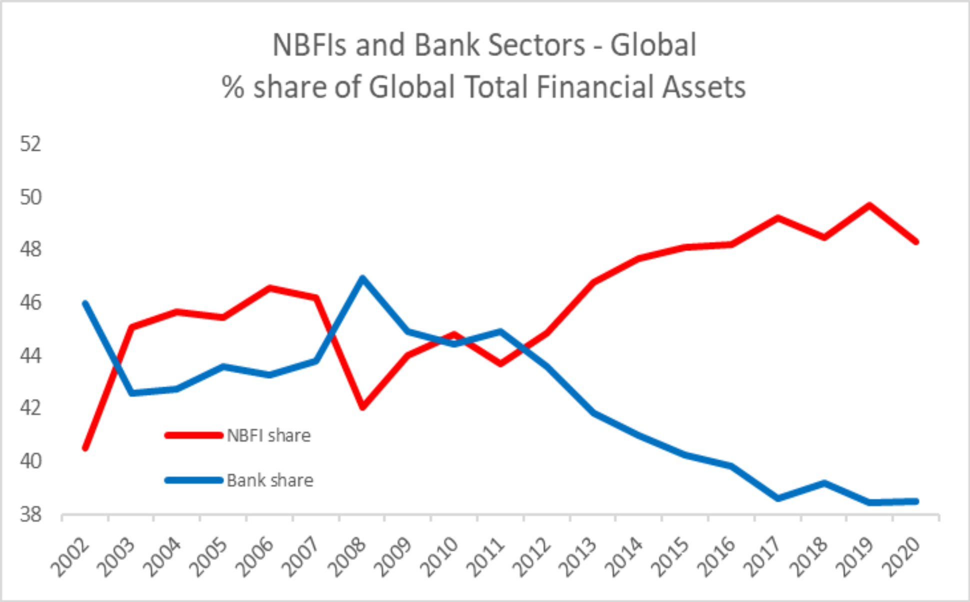
Spectacular growth of NBFIs and …



… (Apparent) Domination over banks post GFC



Are Non-Bank Financial Intermediaries (NBFIs) Displacing Banks and Becoming Truly Dominant in Financial Intermediation?

Source: Financial Stability Board (2022)

Standard views explaining NBFI growth

- *Parallel* view
  - Banks do intermediation (deposit-taking and credit extension)
  - NBFIs provide other financial services (investment vehicles, risk management, trading, market making)
  - Let them be. Keep them separate (e.g., Volcker 2009)
- *Substitution* view
  - NBFIs replacing banks as intermediaries
  - Shift regulatory focus on NBFIs (e.g., Metrick and Tarullo (2021)'s "Congruence Principle")

We propose instead a *Transformation view*

- Banks are not dying. They are *transforming* their business model and risk taking

- Much of NBFIs activities, and their growth, *require* bank support

- Cannot understand NBFI growth in isolation from banks

- Significant systemic implications from discounting the existence of this symbiotic relationship

    - Underestimation of banks' true risk exposures

    - Underappreciation of risk propagation and amplification mechanisms between banks and NBFIs

Basic Elements of the Transformation View

1. Tightening of post-GFC bank regulations
    - Higher regulatory cost for riskier activities
    - Larger holdings of liquid buffers
2. Banks have natural advantage as intermediaries
    - Exclusive access to official backstops
    - Stable funding and liquidity risk management

Why do NBFIs require banks?

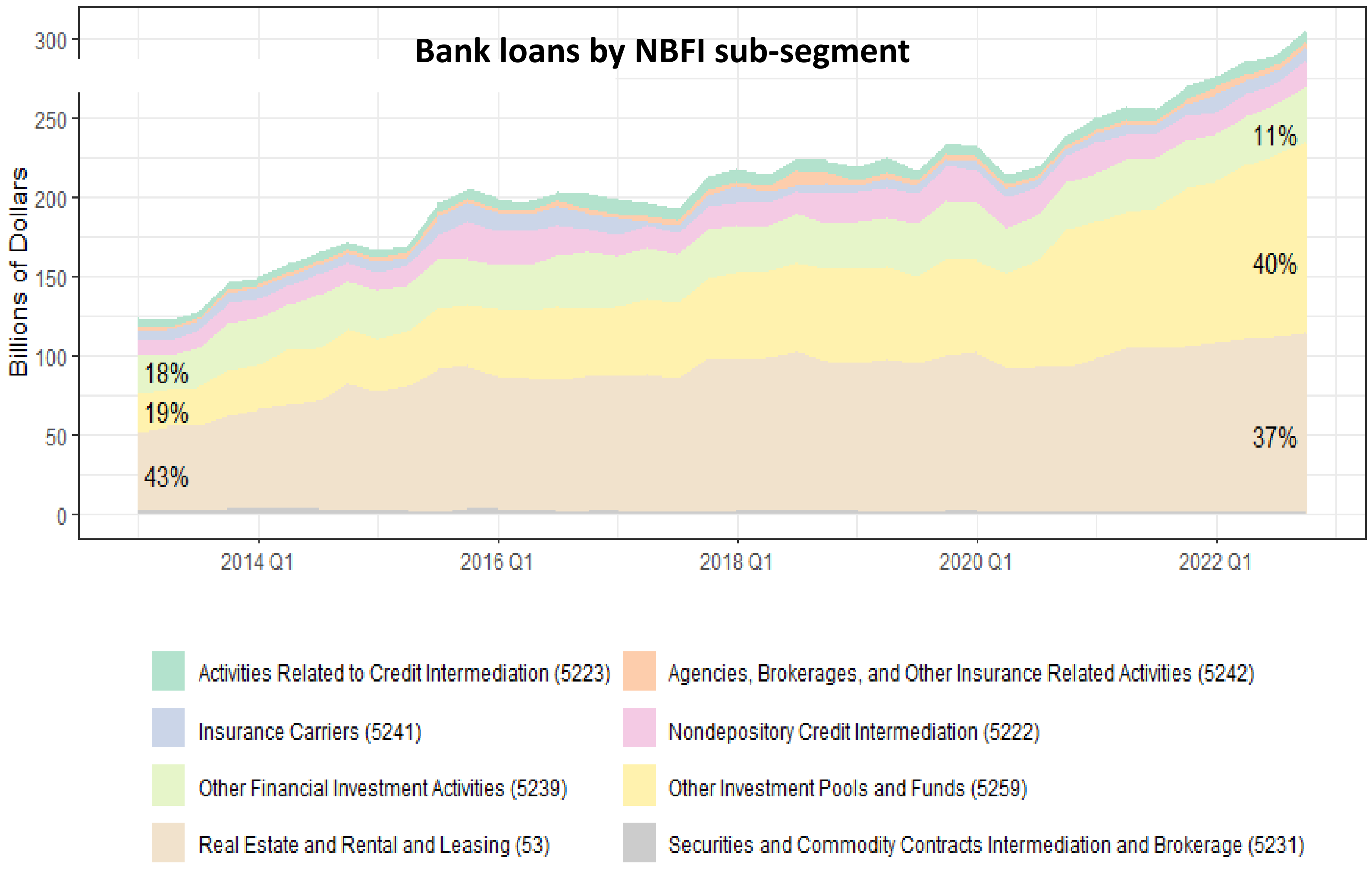
- Dependence should be expected if NBFIs activity of financial intermediation nature:
  - Liquidity/Maturity transformation
  - Management of liquidity risk essential component of business activity

How can NBFIs manage liquidity risk?

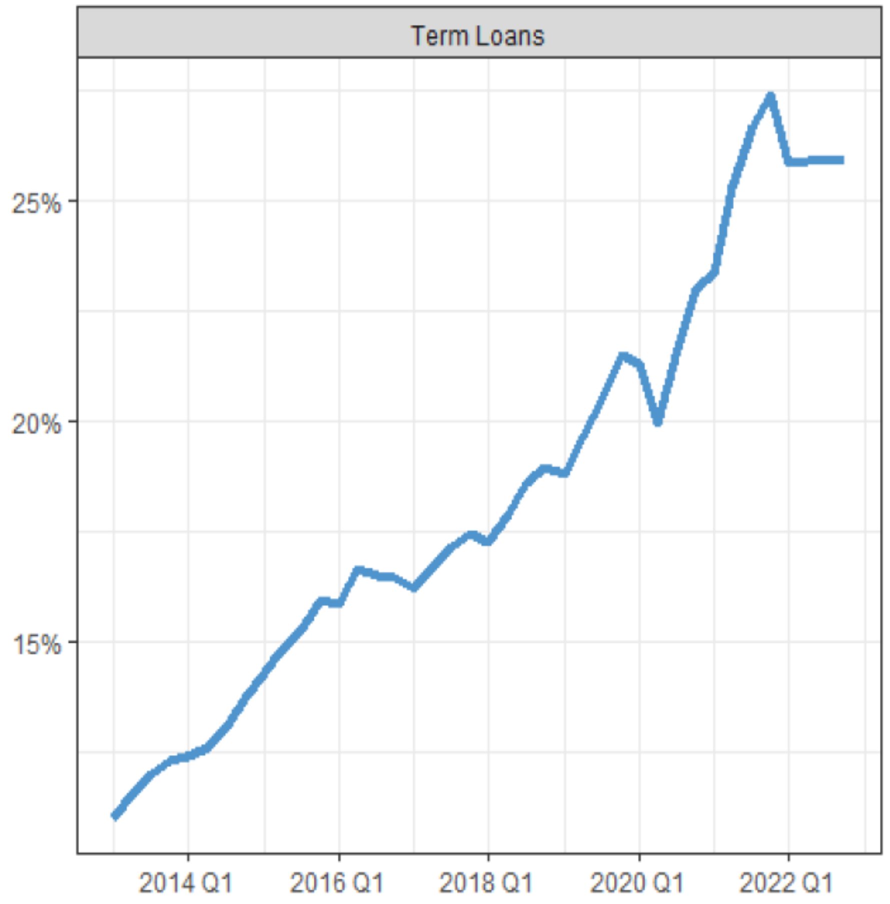
- NBFIs do not have standard access to liability guarantees, nor to liquidity facilities
- Need to “buy” liquidity insurance
- Banks the natural providers of such services

Large increase of bank loans to NBFIs post GFC

Source: FR Y-14Q



NBFI loans as share of total bank loans



“From Whom To Whom” Flow of Funds

MATRIX OF DEPENDENCE

HOLDERS

ISSUERS	ABS	Banks	B/Ds	eREITs	FCs	GSEs	Life Ins.	MMMFs	mREITs	MFs	OFB.	PC Ins.	PFs	Real	RoW	TOTAL
ABS	0	10	0	0	0	1	40	3	0	3	5	8	2	3	26	100
Banks	0	10	2	0	0	4	2	1	0	1	1	0	1	62	15	100
Broker/Dealers	0	25	24	0	0	2	0	9	0	1	0	0	-1	11	30	100
Equity REITs	3	25	0	1									7	19	18	100
Finance Companies	0	15	0	0									6	22	33	100
GSE and Agency	0	35	1	0									4	21	15	100
Life Ins.	2	4	0	0									11	73	2	100
MMF	0	0	0	0									5	77	4	100
Mortgage REITs	0	8	13	0									5	7	38	100
Mutual Funds	0	0	0	0									27	59	6	100
Other Fin. Bus.	0	3	54	0									4	25	2	100
PC Ins.	0	1	0	0									2	74	13	100
Pensions	0	0	0	0									0	100	0	100
																100
Real Sector	1	14	1	0	1	9	3	1	0	3	0	1	11	37	19	100
Rest of World	0	22	3	0	3	1	7	3	0	5	1	3	4	48	0	100

HOLDERS

For the first time we can see funding interconnections across banks and NBFIs (and real sector)

ISSUERS

The figures represent (in %) the composition of liabilities for each segment issuer (on each row), by each corresponding holder (on each column).

Banks holders of NBFI liabilities

MATRIX OF DEPENDENCE

HOLDERS

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10% of ABS Issuers liabilities

25% of B/Ds'

25% of eREITs'

15% of FCs'

35% of GSEs' ...

Most nonbanks substantially dependent on banks

The figures represent (in %) the composition of liabilities for each segment issuer (on each row), by each corresponding holder (on each column).

But banks not as dependent on nonbanks

MATRIX OF DEPENDENCE

HOLDERS

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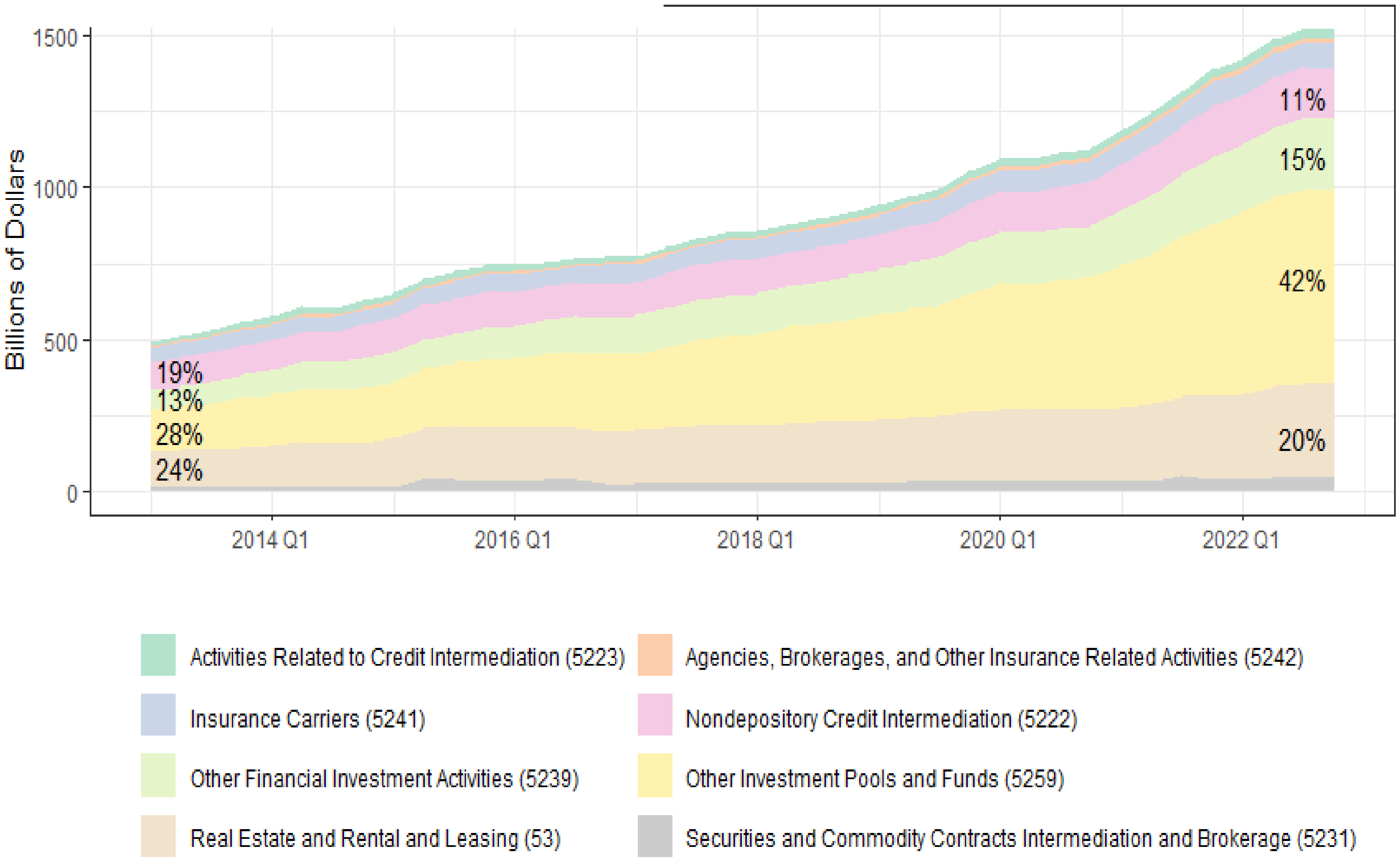
Banks largely dependent on the real sector for their funding

The figures represent (in %) the composition of liabilities for each segment issuer (on each row), by each corresponding holder (on each column).

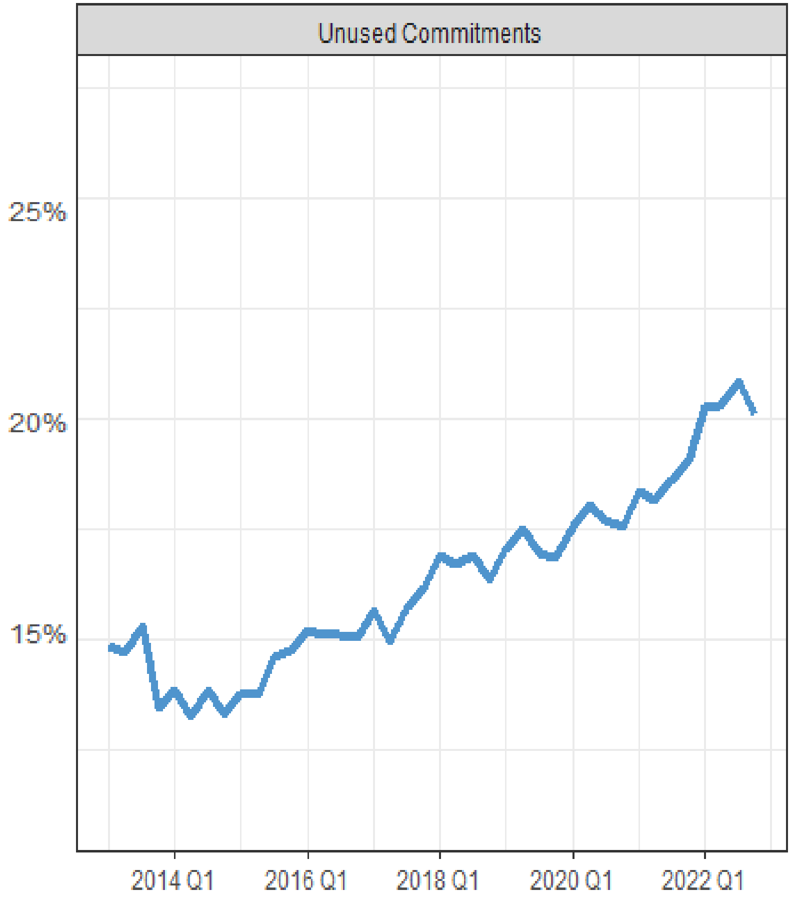
Large increase in credit lines to NBFIs as well

Source: FR Y-14Q

Bank credit lines by NBFI sub-segment



NBFI credit lines as share of total bank credit lines

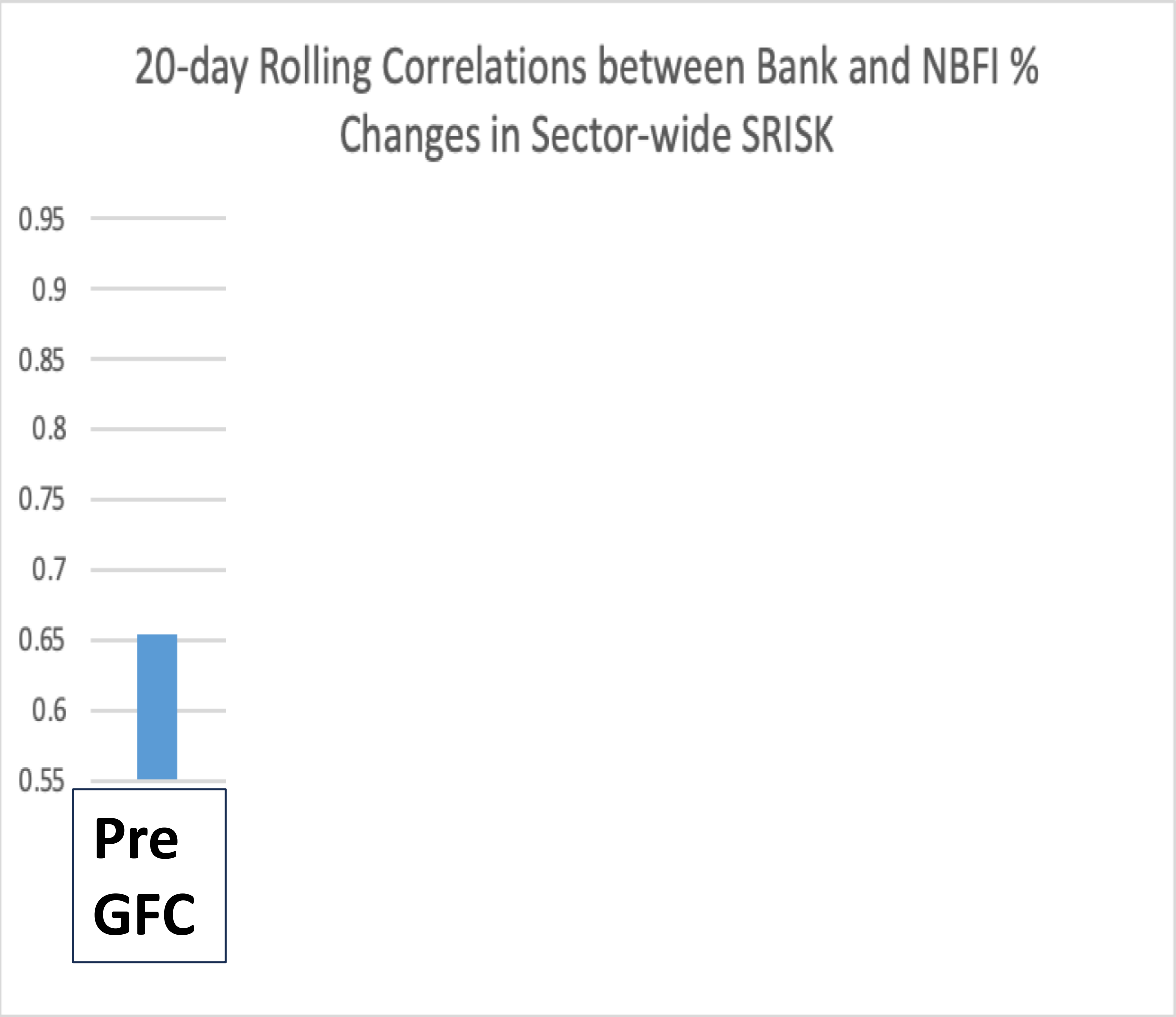


Empirical Implications

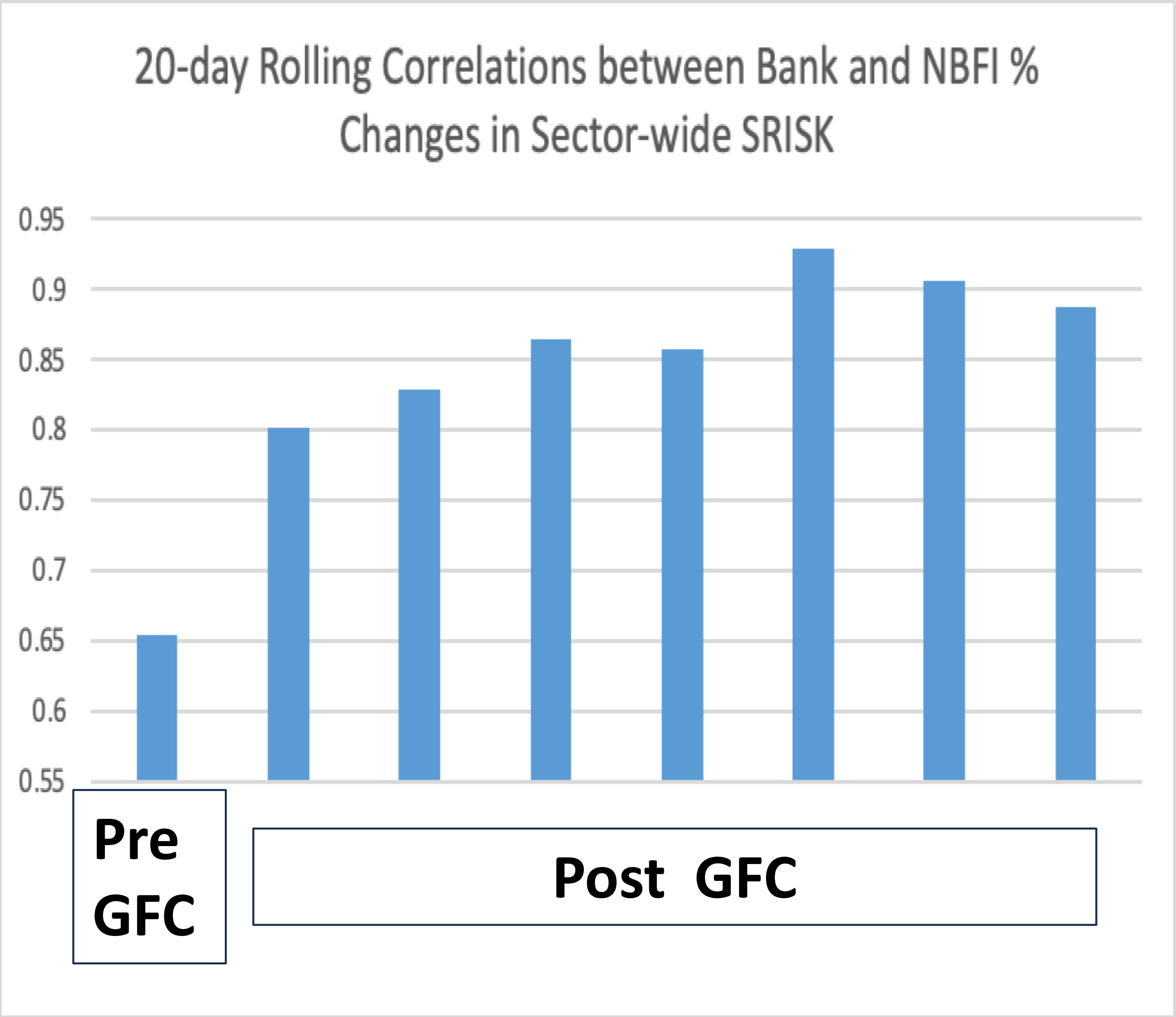
- Conventional views (parallel and substitution) predict greater insulation of banks from NBFIs and from credit risks in general
- Transformation view implies an *increasing* level of exposure of banks
- Credit line exposures especially difficult to regulate: reg constraints based on obligors’ own characteristics, but likely *correlated* drawdown in stressed states
- Systemic risk spillovers across banks and NBFIs should be on the rise
  - Testable as an increase over time in SRISK cross correlations
  - SRISK : a measure of systemic vulnerability of a financial firm

Rising Bank-NBFI *SRISK* Correlation Over Time

SRISK : expected capital shortfall of a financial firm conditional on a large market downturn



Rising Bank-NBFI *SRISK* Correlation Over Time



Summary and Policy implications

- Raising regulatory burden on banks do not necessarily reduce exposures; only changes their nature. (At least part of) observed NBFI growth an artifact of reg arbitrage

- Transformation of risks may lead to higher levels of risk taking in the system
  - Higher likelihood of shock transmission and amplification
  - And reduce transparency overall

- Need for integrated monitoring/regulation of bank-NBFI interdependences
  - Good recent examples in this direction (BoE SWES ; Fed Board incorporation of NBFI credit line drawdowns in stress testing)

- Internalizing of systemic externalities. Collateral prepositioning requirements on banks
  - Committed Liquidity Facilities (Nelson, 2023)
  - Pawnbroker for All Seasons (King, 2016)
  - Federal Liquidity Options (Tuckman, 2012).

- Ex post commitments – Conditional on receiving LOLR services:
  - Stricter prudential regulation(Acharya 2022)
  - Imposing deleveraging/increase in liquidity buffer (Acharya and Tuckman, 2014)

How do *banks* manage liquidity risk?

- Access to stable short-term funding (deposits). Deposit insurance important factors behind stability

- Access to contingent liquidity facilities (Discount Windows and/or emergency facilities as needed – TAF in 2008, BTFP in 2023)

Is Every NBFI just a Special Purpose Vehicle (SPV) of Banks?

- Regulation shifts activity to non-banks but banks retain a significant role
  - Financiers and/or ultimate risk-bearers
  - Contractually or otherwise, risks ultimately return to banks
  - Akin to the pre-GFC Asset-backed Commercial Paper (ABCP) conduits and SIVs (Acharya, Schnabl and Suarez, 2013)
  - History repeating itself an indication of underlying fundamental forces

Takeaways

- NBFIs an important – growing – component of financial intermediation ecosystem
- Big changes and yet much seems to remain the same
- Banks do not seem to be substituted away from NBFIs
- Observed dynamics consistent with a transformation view
  - Banks front and center in backing NBFI growth
  - Banks remain deeply on the hook as intermediation activities move “in the shadow”
  - Credit risk moving from banks to NBFIs – Liquidity risk moving from NBFIs to banks
- Cannot look at balance sheet of nonbanks and banks separately

Takeaways

- Transfer of activities and risks likely not “neutral” from a systemic perspective
  - NBFIs not subject to the same level of prudential monitoring and regulation → higher likelihood of distress events
  - And no access to backstops → more likely transmission of distress to rest of the system
  - Inefficiently pushing activities out of banks/BHCs sacrifices cross-business synergies (Cetorelli and Prazad, “The Nonbank Footprint of Banks”, 2024)
- Call for *integrated* monitoring of banks and NBFIs
- Enhanced bank stress testing to better capture NBFI exposures one possible improvement