Banking on nonbanks

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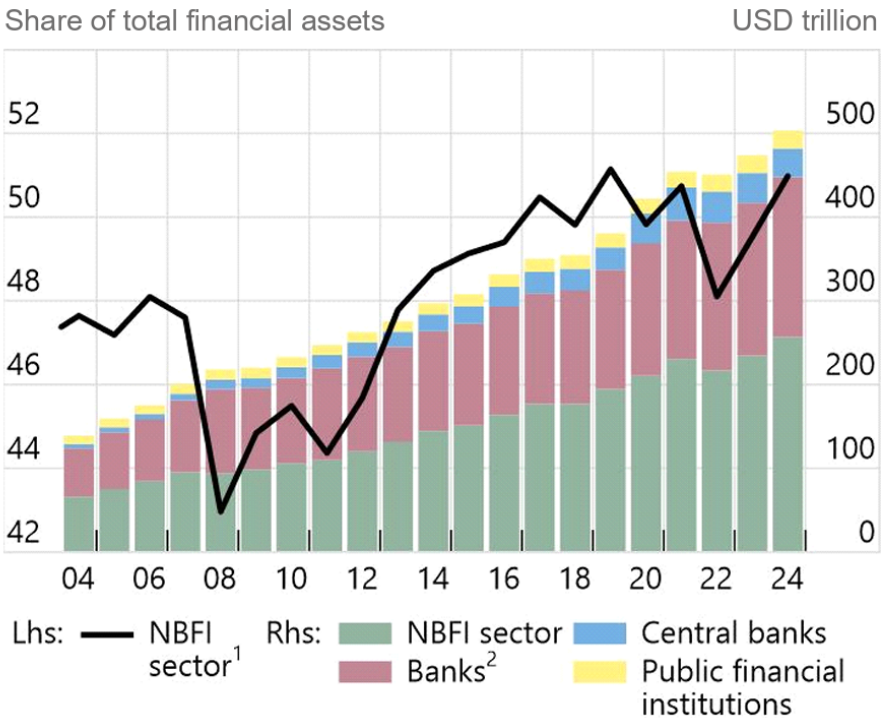
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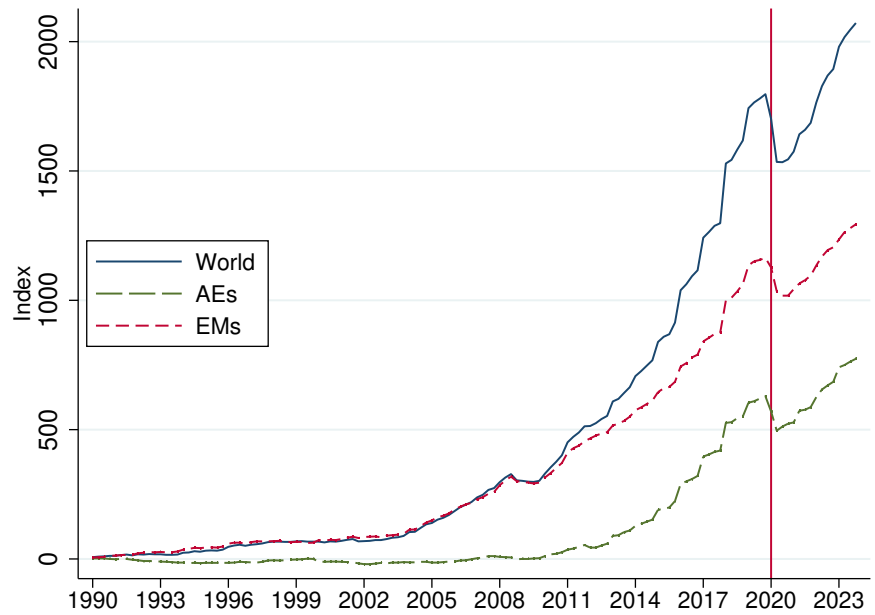
NBFIs play an increasing role in global finance amid tighter banking regulation

Fast expansion of the NBFI sector



Source: Financial Stability Board (2025).

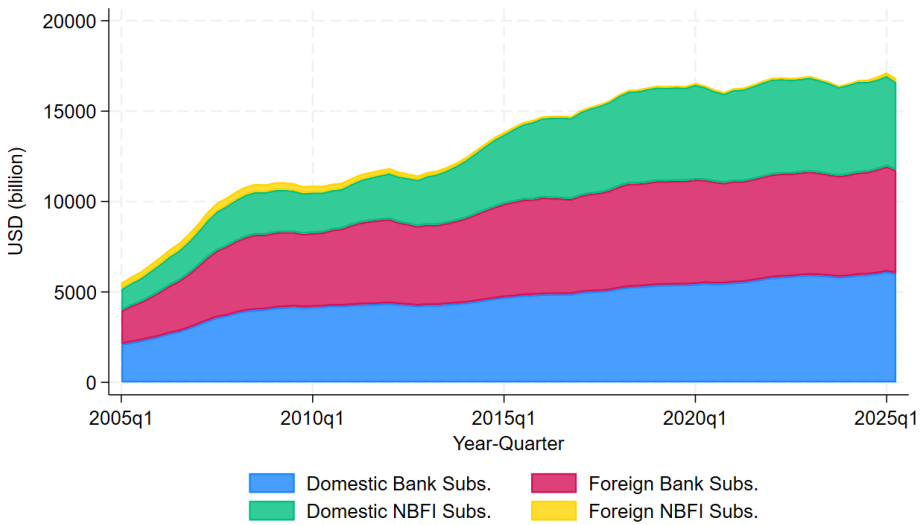
Increasing use of macroprudential measures



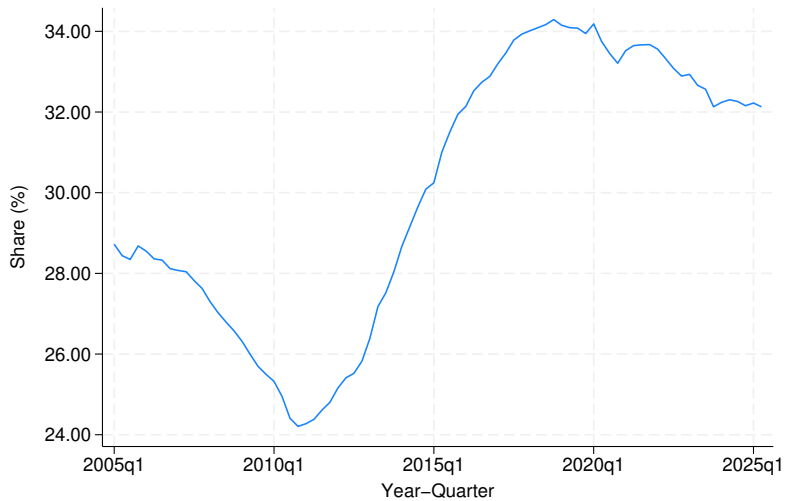
Source: Alam et al. (2025) iMaPP database and authors' calculations.

Banking groups increasingly use their NBFI subsidiaries to extend credit to NFCs

Outstanding stock of syndicated loans



NBFI subsidiaries' loan share in banking group



Notes: Left panel: volume of outstanding syndicated loans from banking groups to NFCs by domestic bank subsidiaries (blue area), foreign bank subsidiaries (red area), domestic NBFI subsidiaries (green area), and foreign NBFI subsidiaries (yellow area). Right panel: share of syndicated loans originated by NBFI subsidiaries in total banking group lending.

US | Non-US | All lender types

What we do

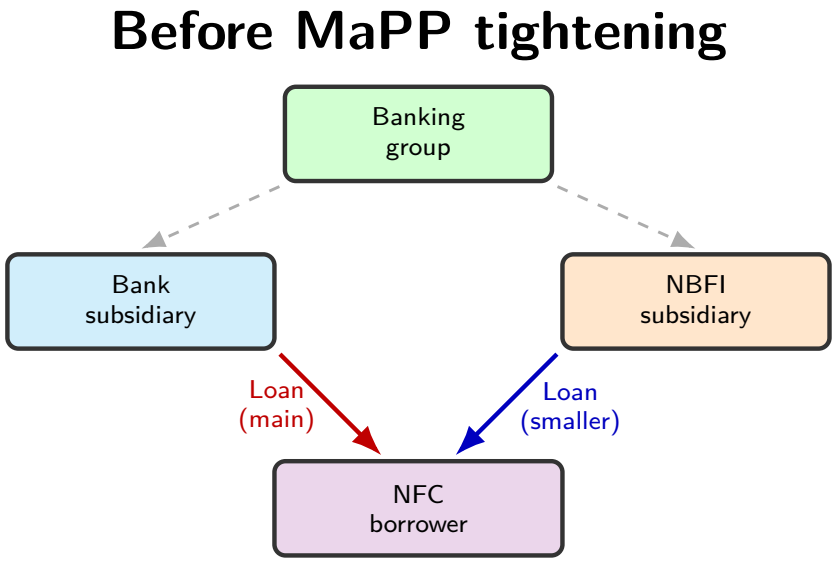
Research question

How do banking groups adjust corporate credit supply when **loan-supply macroprudential policy** tightens?

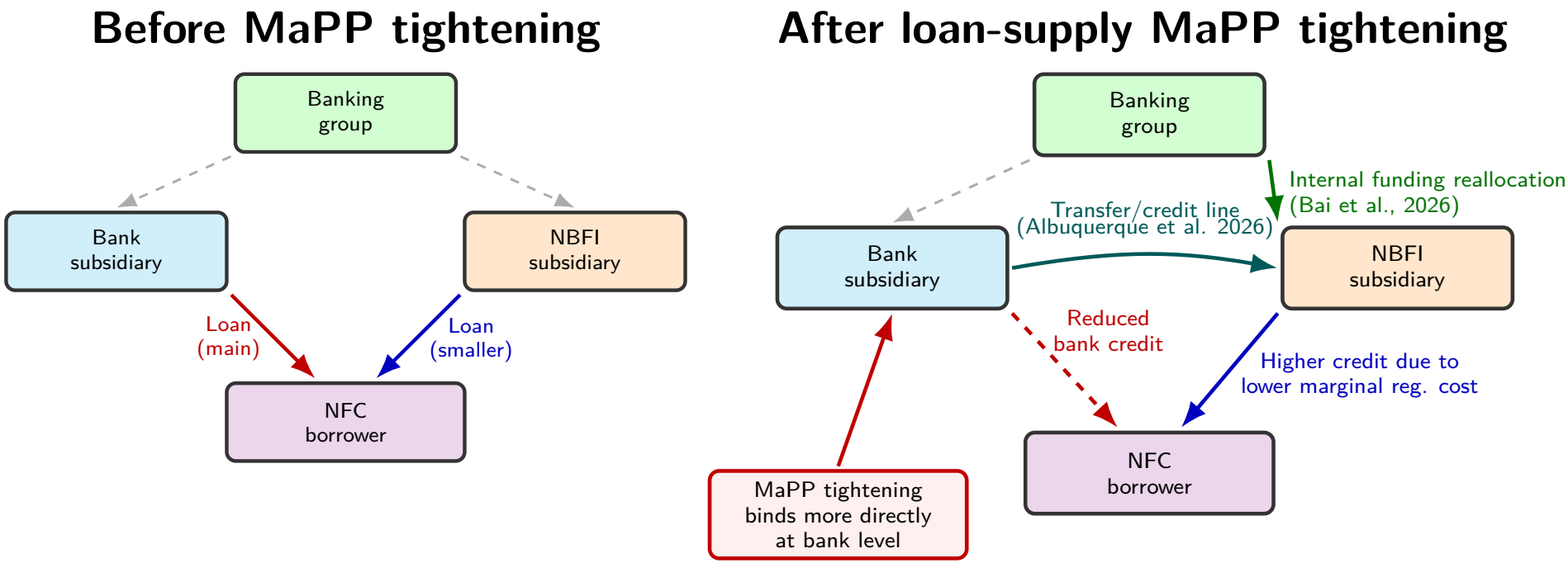
- Global syndicated loan data for 27 lender countries and 150 borrower countries, 2005q1–2023q4. Country list Summary Stats
- New parent–subsidiary ownership dataset: 963 banking groups, 4,871 subsidiaries (75% banks, 25% NBFIs). NBFI composition
- Compare bank and NBFI subsidiaries within banking groups after MaPP tightening.

- **Core mechanism:** regulation binds differently across affiliates inside the same organization.

Mechanism: regulatory perimeter and internal credit allocation



Mechanism: regulatory perimeter and internal credit allocation



- Loan-supply MaPP raises the marginal cost of lending through the bank subsidiary.
- Affiliated NBFIs are not necessarily bound by the same constraint, at the same entity level.
- Banking groups can preserve borrower relationships by reallocating lending across affiliates.

Regulatory perimeter across countries

BANK OWNERSHIP STRUCTURE

Banking group ownership structure

No information about bank ownership structure related to NBFI subsidiaries (Claessens and Van Horen, 2015; Schwert, 2018; Silva, 2019).

Contribution: Identify parents of both bank and NBFI subsidiaries.

1. Dealogic information of parent companies and their affiliates (static information).
2. Full history of ownership changes between 2000 and 2024 for top 250 NBFI lenders and top 250 bank lenders ($\sim$ 90% and 84% of all lending, respectively).
   - Document changes in control, mergers, restructurings, and liquidations using FINRA's BrokerCheck, SEC filings, Companies House, national business registries, and other regulatory disclosures.
   - LLMs reconcile naming inconsistencies across sources, and assist with missing ownership links.

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Examples:

- **Takeovers:** Bank of Scotland by Lloyds Banking Group in 2009
- **Restructurings following distress:** Fortis Bank into BNP Paribas Fortis in 2008
- **Merger/acquisition:** Credit Suisse First Boston owner is Credit Suisse International until 6/12/2023, but then absorbed by UBS group.

Ownership changes

Macroprudential policy shocks

Measures from iMaPP database (Alam et al., 2025) that affect loan supply:

- limits to credit growth, loan loss provisions, loan restrictions, limits to the loan to deposit ratio, limits to FX loans
- reserve requirements
- stress testing and structural measures

Macroprudential policy shocks

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- reserve requirements
- stress testing and structural measures

Shock identification following Albuquerque et al. (2026):

1. Construct stringency MaPP indices by summing up cumulative policy actions.
2. Purge the macroprudential index from the state of the economy.

$$MaPP_{c,t} = \beta_1 Macro_{c,t-1} + \beta_2 Financial_{c,t-1} + \alpha_c + \epsilon_{c,t}$$

Controls: real GDP growth, REER growth, yoy CPI inflation, 5-year ahead real GDP forecast, yoy real house price growth, yoy private sector credit-to-GDP growth, 10-year government bond yield, bond yield gap, Chinn-Ito index of financial openness, banks' average Z-score. Shocks IRFs

BANKS' REGULATORY SUBSTITUTION? LENDING THROUGH NBFIs

Empirical specification

Lender-borrower-quarter aggregation:

$$\begin{aligned} Log(Loans)_{l,j,i,t} &= \beta_1 MaPP_{c,t-1} + \beta_2 MaPP_{c,t-1} \times NBFI\ subs._{l,j} \\ &+ \beta_3 NBFI\ subs._{l,j} + \gamma_j + \mu_{i,t} + \epsilon_{l,j,i,t} \end{aligned}$$

- $\beta_1 < 0$: bank subsidiaries contract after MaPP tightening
- $\beta_2 > 0$: affiliated NBFIs expand relative to bank subsidiaries

$NBFI\ subs._{l,j}$: value of 1 for bank-owned NBFI subsidiaries
$MaPP_{c,t-1}$: banking group-country level macroprudential policy shocks
γ_j: Banking group FE
$\mu_{i,t}$: firm-quarter FE

Banks engage in regulatory substitution through higher lending to NFCs via their NBFI subsidiaries

- Banking groups reallocate corporate lending from bank to NBFI subsidiaries.

	(1) All	(2) All	
MaPP shock	-0.022***	-0.004***	
	(0.003)	(0.001)	
MaPP shock × NBFI subs.			
NBFI subs.			
Time FE	✓		
Banking group FE	✓	✓	
Firm × Time FE		✓	
Observations	719,874	696,913	
R^2	0.284	0.894	

Notes: Dependent variable is the log of new syndicated loans. Standard errors clustered by firm.

Spread | Group-Time FE | Extensive | NBFI type | Post-origination | MaPP borrower | MaPP cat. | Excl. SNC/large BHCs | Dom vs foreign | Alt. lags | ILST | Between | Time FE | Lead arr. | Clust.

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	(1) All	(2) All	(3) All
MaPP shock	-0.022*** (0.003)	-0.004*** (0.001)	-0.010*** (0.001)
MaPP shock × NBFI subs.			0.020*** (0.002)
NBFI subs.			0.039*** (0.003)
Time FE	✓		
Banking group FE	✓	✓	✓
Firm × Time FE		✓	✓
Observations	719,874	696,913	696,913
R^2	0.284	0.894	0.894

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Banks engage in regulatory substitution through higher lending to NFCs via their NBFI subsidiaries

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	(1) All	(2) All	(3) All	(4) US	(5) UK	(6) EA
MaPP shock	-0.022***	-0.004***	-0.010***			-0.003
	(0.003)	(0.001)	(0.001)			(0.003)
MaPP shock × NBFI subs.			0.020***	0.053***	-0.003	0.005*
			(0.002)	(0.004)	(0.011)	(0.003)
NBFI subs.			0.039***	0.067***	-0.072***	0.024***
			(0.003)	(0.005)	(0.016)	(0.007)
Time FE	✓					
Banking group FE	✓	✓	✓	✓	✓	✓
Firm × Time FE		✓	✓	✓	✓	✓
Observations	719,874	696,913	696,913	201,751	31,580	134,242
R^2	0.284	0.894	0.894	0.852	0.842	0.888

Notes: Dependent variable is the log of new syndicated loans. Standard errors clustered by firm.

Spread | Group-Time FE | Extensive | NBFI type | Post-origination | MaPP borrower | MaPP cat. | Excl. SNC/large BHCs | Dom vs foreign | Alt. lags | ILST | Between | Time FE | Lead arr. | Clust.

Reach-for-yield?

- **Reach-for-yield:** this behavior prioritizes riskier borrowers.

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$$Log(Loans)_{l,j,i,t} = ... + Risky_{i,t-1} \times \left(\beta_4 MaPP_{c,t-1} + \beta_5 MaPP_{c,t-1} \times NBFI_{l,j} + \beta_6 NBFI_{l,j} \right) + ...$$

  - If reallocation is regulatory-perimeter driven, β_5 should not be positive.
  - Test across PDs, spreads, leveraged loans, firm leverage, age, vulnerable firms, and zombies.

Credit not disproportionally channeled to financially weaker borrowers

	(1) PD	(2) Spread 5y	(3) Lev. loan	(4) Lev. ratio	(5) Age	(6) Vuln	(7) Zombie
MaPP shock	-0.005	-0.014***	-0.019***	-0.004	-0.014***	-0.006*	-0.009***
	(0.003)	(0.002)	(0.003)	(0.003)	(0.004)	(0.003)	(0.003)
MaPP shock × NBFI subs.	0.016***	0.034***	0.058***	0.021***	0.015***	0.019***	0.022***
	(0.005)	(0.003)	(0.005)	(0.005)	(0.006)	(0.005)	(0.005)
MaPP shock × Risky	-0.009	-0.003	-0.001	-0.010	0.009	0.001	0.022
	(0.007)	(0.004)	(0.004)	(0.007)	(0.008)	(0.007)	(0.016)
MaPP shock × NBFI subs. × Risky	-0.002	-0.014**	-0.012**	-0.015	0.001	-0.015	-0.006
	(0.010)	(0.006)	(0.006)	(0.010)	(0.010)	(0.014)	(0.020)
Banking group FE	✓	✓	✓	✓	✓	✓	✓
Firm × Time FE	✓	✓	✓	✓	✓	✓	✓
Observations	103,949	345,509	281,128	112,040	52,731	107,051	147,417
R^2	0.801	0.833	0.839	0.803	0.881	0.803	0.882

Notes: Each column refers to different time-varying proxies of Risky borrowers. *PD* captures firms with the two-year probability of default in the top quartile of the distribution; *Spread 5y* refers to firms with an average spread in the top quartile over the past five years; *Lev. loan* stands for leveraged loans, defined as firms with a spread over 150 bps; *Lev. ratio* captures highly leveraged firms, i.e., firms with total debt over assets in the top quartile of the distribution; *Age* refers to firm age falling in the first quartile of the distribution; *Vuln* refers to vulnerable firms with high debt and low liquid assets; and *Zombie* is a dummy variable capturing unproductive and unviable firms.

Role of banking group financial strength

- **Stronger when constraints bind:** Mechanism is stronger for weaker banking groups

	(1) PD	(2) NPLs	(3) T1R	(4) Size
MaPP shock	-0.015***	-0.017***	-0.001	0.013***
	(0.003)	(0.003)	(0.004)	(0.005)
MaPP shock × NBFI subs.	0.002	0.007**	-0.009*	-0.022***
	(0.003)	(0.003)	(0.005)	(0.005)
MaPP shock × Bank charact.	-0.007	-0.005	-0.019***	-0.040***
	(0.005)	(0.014)	(0.004)	(0.005)
MaPP shock × NBFI subs. × Bank charact.	0.025***	-0.013	0.025***	0.025***
	(0.006)	(0.018)	(0.005)	(0.008)
Banking group controls	✓	✓	✓	✓
Lender FE	✓	✓	✓	✓
Firm × Time FE	✓	✓	✓	✓
Observations	233,003	233,003	233,003	233,003
R^2	0.846	0.846	0.846	0.846

Notes: Each column refers to a specific bank characteristic: *PD* and *NPLs* refer to banks with a two-year PD (NPLs) in the top quartile of the sample distribution, while *T1R* and *Size* refer to banks with Tier 1 capital ratio (log of total assets) in the first quartile of the sample distribution.

Capital-based measures

- **Capital-based reversal:** channel weakens when regulation binds consolidated capital

The organizational response depends on where the regulatory constraint binds.

	(1) Baseline	(2) Base excl. RR	(3) Base excl. RR and ST	(4) Capital-based
MaPP shock	-0.010***	-0.008***	-0.017***	0.004
	(0.001)	(0.001)	(0.001)	(0.001)
MaPP shock × NBFI subs.	0.020***	0.018***	0.040***	-0.014***
	(0.002)	(0.002)	(0.002)	(0.002)
NBFI subs.	0.039***	0.039***	0.038***	0.039***
	(0.003)	(0.003)	(0.003)	(0.003)
Banking group FE	✓	✓	✓	✓
Firm × Time FE	✓	✓	✓	✓
Observations	696,913	696,913	696,913	696,913
R^2	0.894	0.894	0.894	0.894

Notes: Column (1) uses the baseline MaPP shocks; column (2) removes reserve requirements; column (3) removes reserve requirements and stress-testing; and column (4) focuses on capital-based measures, namely leverage limits, countercyclical buffers, conservation buffers, and capital requirements.

Bonds

HIGH-FREQUENCY IDENTIFICATION OF MAPP ANNOUNCEMENTS

MaPP shocks: HF surprises

- Nascent literature on high-frequency identification of MaPP shocks (Bluwstein and Patozi, 2024; Duprey and Tuzcuoglu, 2025; Drechsel and Miura, 2026).
- Draw on MP literature to estimate HF MaPP shocks for six countries: U.S., Japan, the U.K., Canada, Germany, and France.

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- Draw on MP literature to estimate HF MaPP shocks for six countries: U.S., Japan, the U.K., Canada, Germany, and France.

1. Extensive collection of 132 MaPP announcements from iMaPP database for each country (lender-based). Sample
2. Manually date the announcement date for each event.
3. Compute daily surprises in the excess return of bank stocks around MaPP *announcements*:

$$s_{a,c} = (\log p^{Bank}_{t_{a,c}} - \log p^{Bank}_{t-1_{a,c}}) - (\log p^{Mkt}_{t_{a,c}} - \log p^{Mkt}_{t-1_{a,c}})$$

$p^{Bank}_{t_{a,c}}$: bank stock price of country c at t following MaPP announcement a
$p^{Mkt}_{t_{a,c}}$: overall stock price index of country c at t following MaPP announcement a

HF surprises confirm banking groups' regulatory lending reallocation

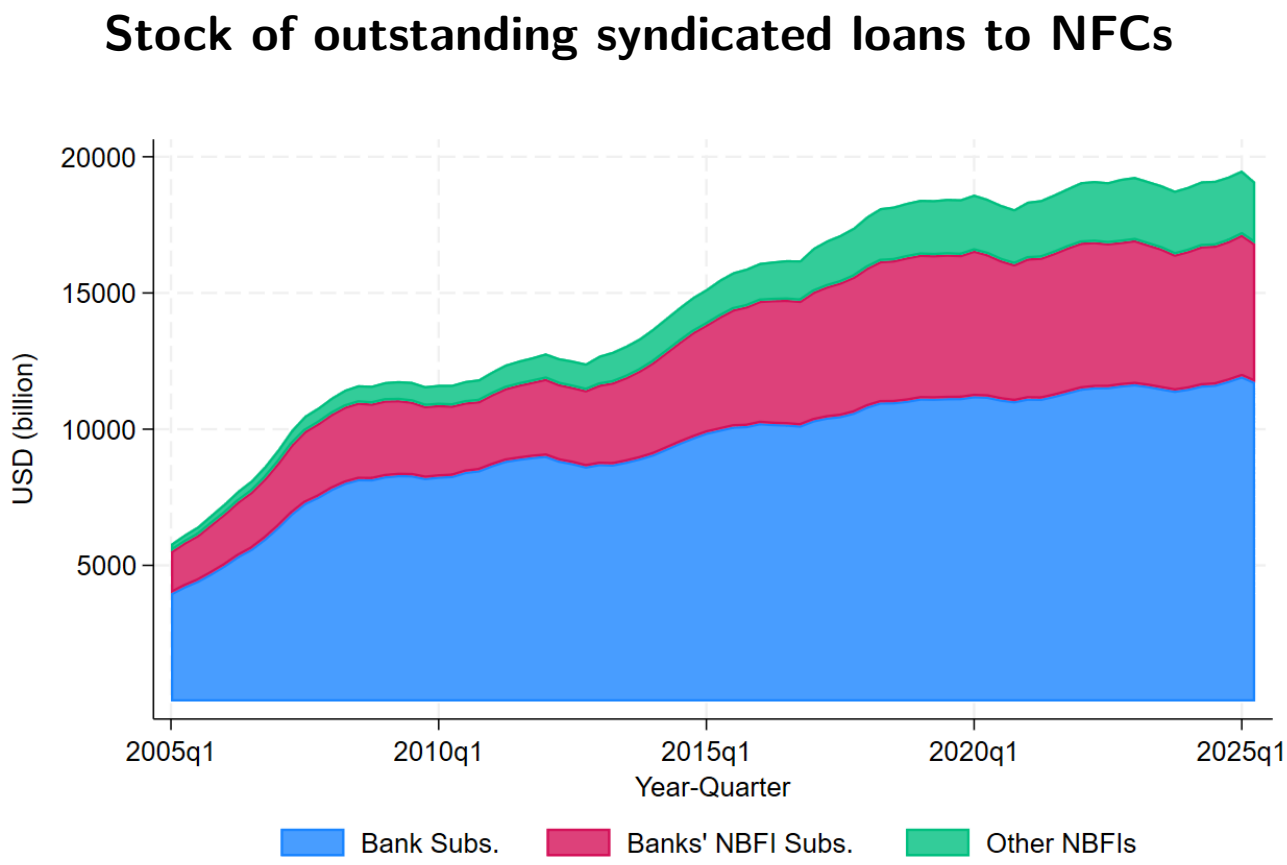
	(1) Base	(2) Base: HF smpl	(3) HF	(4) U.S.	(5) U.K.	(6) DE	(7) FR
MaPP shock	-0.010***	-0.016***	-0.009***				
	(0.001)	(0.002)	(0.002)				
MaPP shock × NBFI subs.	0.020***	0.022***	0.015***	0.039***	-0.007	-0.020	0.002
	(0.002)	(0.002)	(0.002)	(0.004)	(0.010)	(0.013)	(0.006)
NBFI subs.	0.039***	0.055***	0.019***	0.014*	0.032	0.013	-0.010
	(0.003)	(0.003)	(0.005)	(0.007)	(0.029)	(0.022)	(0.015)
Banking group FE	✓	✓	✓	✓	✓	✓	✓
Firm × Time FE	✓	✓	✓	✓	✓	✓	✓
Observations	696,913	534,142	332,712	134,723	15,815	11,337	16,989
R^2	0.894	0.899	0.910	0.860	0.884	0.885	0.932

Notes: Dependent variable is the log of new syndicated loans. Columns (1)-(2) use the baseline MaPP shocks, with column (2) restricting the sample to country lenders with HF shocks. Columns (3)-(7) use the HF shocks. The sample is restricted to selected country lenders in columns (4)-(7). Standard errors clustered by firm.

Robustness

BANK-OWNED NBFIs VS OTHER NBFIs

Extending the sample to independent NBFIs



Notes: Other NBFIs refer to NBFIs not owned by banking groups.

Back

Independent NBFIs cut lending after MaPP shocks

$$
\begin{aligned}
Log(Loans)_{l,j,i,t} &= \gamma_l + \mu_{i,t} + \beta_1 MaPP_{c,t-1} + \\
&+ NBFI_{l,j} \times (\beta_2 MaPP_{c,t-1} + \beta_3 MaPP_{c,t-1} \times BG\ subs_j + \beta_4 BG\ subs_j) + \epsilon_{l,j,i,t}
\end{aligned}
$$

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$$Log(Loans)_{l,j,i,t} = \gamma_l + \mu_{i,t} + \beta_1 MaPP_{c,t-1} +$$
$$+ NBFI_{l,j} \times (\beta_2 MaPP_{c,t-1} + \beta_3 MaPP_{c,t-1} \times BG\ subs_j + \beta_4 BG\ subs_j) + \epsilon_{l,j,i,t}$$

	(1) All	(2) All	(3) All	(4) U.S.	(5) U.K.	(6) EA
MaPP shock	-0.029***	-0.006***	-0.009***			
	(0.003)	(0.001)	(0.001)			
MaPP shock × NBFI			-0.007**			
			(0.003)			
MaPP shock × NBFI × BG subs.			0.018***			
			(0.003)			
NBFI × BG subs.			0.000			
			(0.016)			
Time FE	✓					
Lender FE	✓	✓	✓	✓	✓	✓
Firm × Time FE		✓	✓	✓	✓	✓
Observations	782,594	761,629	761,629	234,795	32,599	150,994
R^2	0.303	0.895	0.895	0.856	0.847	0.890

Notes: Dependent variable is the log of new syndicated loans. *BG* stands for Banking Group. Standard errors clustered by firm.

Ctry shr | NBFI types | Capital-based

Independent NBFIs cut lending after MaPP shocks

$$Log(Loans)_{l,j,i,t} = \gamma_l + \mu_{i,t} + \beta_1 MaPP_{c,t-1} +$$
$$+ NBFI_{l,j} \times (\beta_2 MaPP_{c,t-1} + \beta_3 MaPP_{c,t-1} \times BG\ subs_j + \beta_4 BG\ subs_j) + \epsilon_{l,j,i,t}$$

	(1) All	(2) All	(3) All	(4) U.S.	(5) U.K.	(6) EA
MaPP shock	-0.029***	-0.006***	-0.009***			-0.003
	(0.003)	(0.001)	(0.001)			(0.003)
MaPP shock × NBFI			-0.007**	-0.021***	0.013	0.003
			(0.003)	(0.007)	(0.036)	(0.004)
MaPP shock × NBFI × BG subs.			0.018***	0.062***	-0.019	0.002
			(0.003)	(0.007)	(0.037)	(0.004)
NBFI × BG subs.			0.000	-0.097**	-0.015	0.030
			(0.016)	(0.047)	(0.099)	(0.021)
Time FE	✓					
Lender FE	✓	✓	✓	✓	✓	✓
Firm × Time FE		✓	✓	✓	✓	✓
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Conclusion

- Banking groups respond to loan-supply MaPP tightening by reallocating syndicated lending from bank subsidiaries toward affiliated NBFIs.
- This offsets more than half of the contractionary impact of MaPP on bank-subsidiary lending.
- The channel reverses for capital-based measures.
- 'Banking on nonbanks': heightened bank-nonbank interconnectedness, weaker MaPP effectiveness, potentially hindering regulators' efforts to contain systemic risk.

Policy implication

Macroprudential policy can be attenuated when regulation binds unevenly across affiliated entities within the same financial group.

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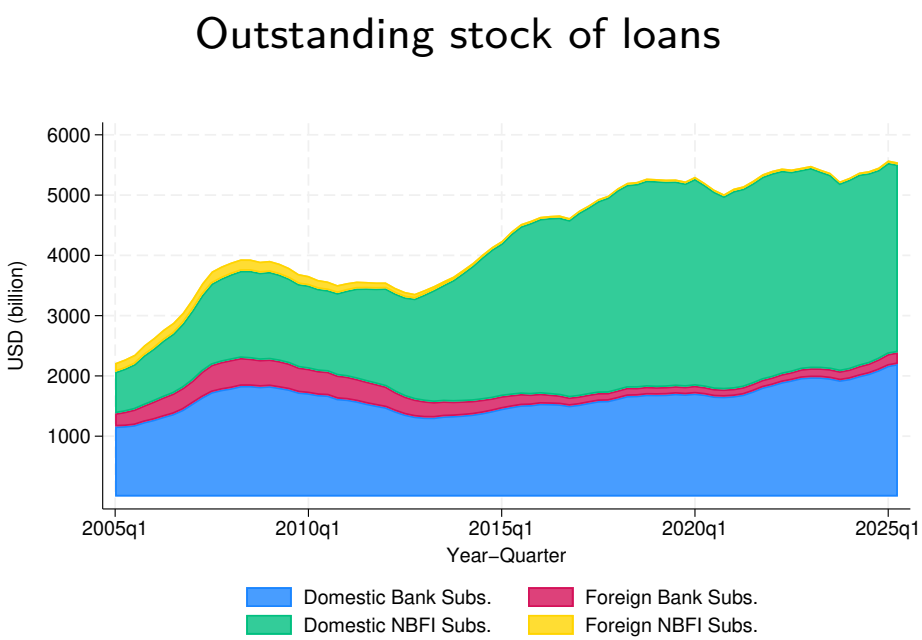
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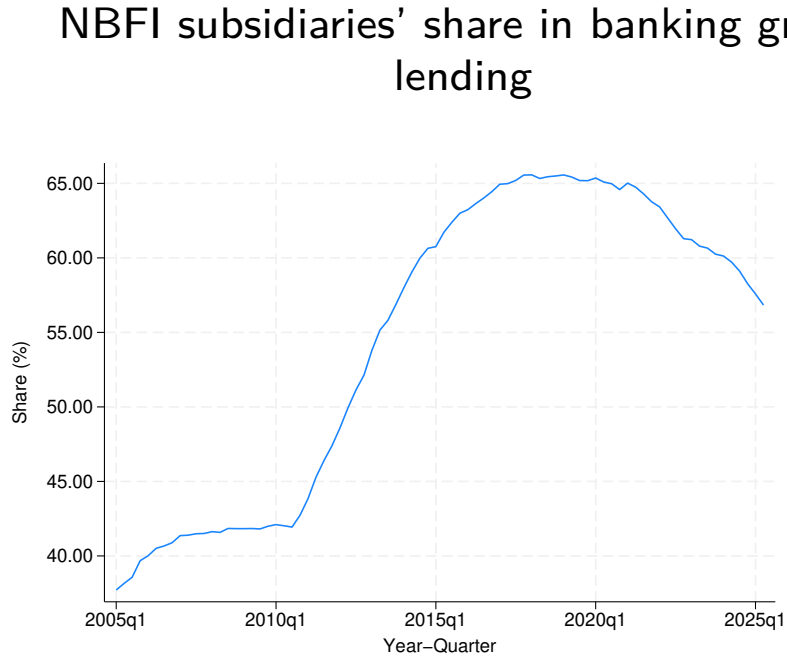
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RESERVE SLIDES

Banking groups' increasingly use their NBFI subsidiaries to extend credit to NFCs: U.S. lenders



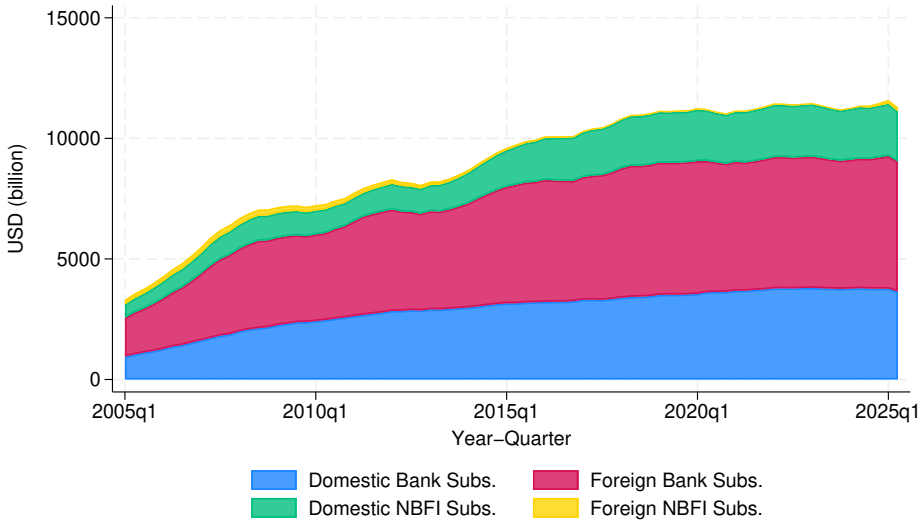


Notes: Left panel: volume of outstanding syndicated loans from banking groups to NFCs by domestic bank subsidiaries (blue area), foreign bank subsidiaries (red area), domestic NBFI subsidiaries (green area), and foreign NBFI subsidiaries (yellow area). Right panel: share of syndicated loans originated by NBFI subsidiaries in total banking group lending.

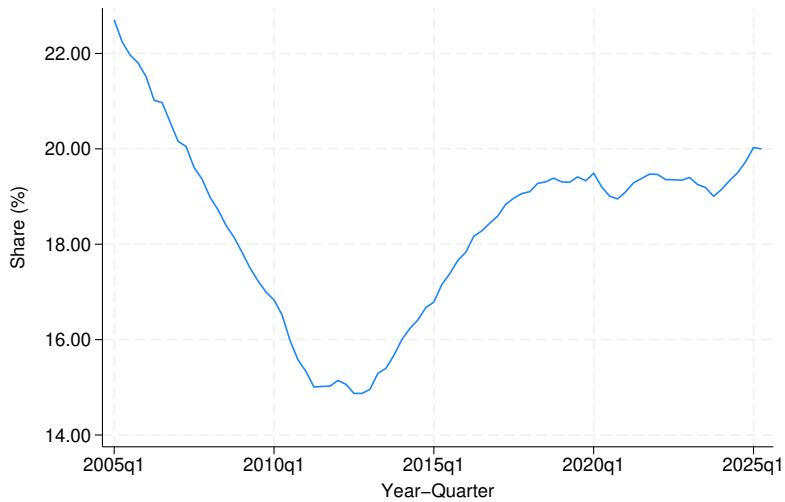
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Banking groups' increasingly use their NBFI subsidiaries to extend credit to NFCs: non-US lenders

Outstanding stock of loans



NBFI subsidiaries' share in banking group lending



Notes: Left panel: volume of outstanding syndicated loans from banking groups to NFCs by domestic bank subsidiaries (blue area), foreign bank subsidiaries (red area), domestic NBFI subsidiaries (green area), and foreign NBFI subsidiaries (yellow area). Right panel: share of syndicated loans originated by NBFI subsidiaries in total banking group lending.

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List of lender countries

Table: List of lender countries

Country	Share	Country	Share
AUS	1.90	IRL	0.30
AUT	0.40	ITA	2.37
BEL	0.30	JPN	12.16
BRA	0.19	KOR	0.18
CAN	8.40	MYS	0.22
CHE	2.52	NLD	3.03
CHN	3.09	NOR	0.51
DEU	5.65	PRT	0.12
DNK	0.31	SGP	0.86
ESP	3.16	SWE	0.71
FIN	0.63	THA	0.12
FRA	6.43	USA	35.13
GBR	10.29	ZAF	0.27
IND	0.76		

Notes: Loan share is the average loan share for each lender country in the estimation sample.

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Summary statistics

	Obs	Mean	STD	P25	P50	P75
Banks						
Term Length	220,526	5.19	4.15	3.00	5.00	6.00
Tranche Value (US million)	228,666	241.84	461.27	23.32	78.87	242.40
# Lender	231,400	5.86	5.33	2.00	4.00	7.00
Lender Share	916,147	0.18	0.19	0.06	0.12	0.25
All-in-Pricing (bps)	404,973	232.68	147.81	125.00	200.00	300.00
Margin-Pricing (bps)	285,307	225.72	142.56	125.00	200.00	300.00
Bank-owned NBFI subsidiaries						
Term Length	122,253	4.89	2.83	3.00	5.00	5.50
Tranche Value (US million)	126,270	351.44	558.34	48.22	143.75	393.77
# Lender	127,083	7.30	6.10	3.00	6.00	9.00
Lender Share	295,478	0.18	0.17	0.07	0.12	0.25
All-in-Pricing (bps)	200,189	249.63	152.96	140.00	225.00	325.00
Margin-Pricing (bps)	168,558	244.12	150.84	137.50	200.00	325.00
Other NBFIs						
Term Length	57,174	6.17	4.27	4.00	5.00	7.00
Tranche Value (US million)	61,044	270.79	475.07	31.98	96.48	286.72
# Lender	62,914	7.28	6.79	3.00	5.00	9.00
Lender Share	107,160	0.23	0.23	0.07	0.12	0.25
All-in-Pricing (bps)	70,058	386.80	183.72	250.00	375.00	500.00
Margin-Pricing (bps)	57,185	391.58	175.53	275.00	375.00	500.00

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Regulatory perimeter differs across jurisdictions

- **United States:** large regulatory wedge between insured banks and NBFI affiliates such as broker-dealers and investment banks.
- **Euro area:** capital and leverage regulation bind consolidated banking groups, but reserve requirements and several loan-supply tools mainly affect regulated bank entities.
- **United Kingdom:** PRA supervision and ring-fencing reduce internal flexibility across bank and nonbank affiliates.

Implication

The scope for bank-to-NBFI reallocation should be strongest where loan-supply regulation binds bank entities more directly than affiliated NBFIs.

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NBFI classification and composition

Nonbanks: non-deposit-taking financial intermediaries

- Most of SIC codes 61 to 67 and not classified as bank in Capital IQ.
- Text-based classification for lenders without assigned SIC codes (e.g.,'investment').
- Drop international financial institutions (e.g., World Bank), and development banks.

Table: Types of bank-owned NBFIs

Type	Number	Share
Investment banks, broker-dealers	784	64.2
Business credit institutions	26	2.1
Insurance and pension funds	26	2.1
Investment funds & asset managers	152	12.4
Other NBFI subsidiaries	234	19.2
Total	1,222	100

Notes: Number and share of unique bank-owned NBFIs.

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Ownership changes of NBFI subsidiaries (first part)

Table A.2: Nonbank subsidiaries' parent changes over time

Nonbank Name	Parent Name	Year
ABN AMRO Capital USA LLC	ABN AMRO Holding NV	2000
ABN AMRO Capital USA LLC	RFS Holdings BV	2007
ABN AMRO Capital USA LLC	ABN AMRO Group NV	2010
ABN AMRO Capital USA LLC	ABN AMRO Bank NV	2019
Abbey National Treasury Services plc	Abbey National plc	2000
Abbey National Treasury Services plc	Banco Santander SA	2004
Alcentra Ltd	Bank of New York Mellon Corp	2000
Alcentra Ltd	Franklin Resources Inc	2022
Angelo Gordon & Co LP	Angelo Gordon & Co LP	2000
Angelo Gordon & Co LP	TPG Inc	2023
Antares Capital LP	Antares Capital LP	2000
Antares Capital LP	General Electric Co	2005
Antares Capital LP	Canada Pension Plan Investment Board	2015
Ares Management LP	Ares Management LP	2000
Ares Management LP	Ares Management Corp	2018
BB&T Capital Markets Inc	BB&T Corp	2000
BB&T Capital Markets Inc	Truist Financial Corp	2006
Banco Espirito Santo de Investimento SA	Banco Espirito Santo SA	2000
Banco Espirito Santo de Investimento SA	Guotai Haitong Securities Co Ltd	2015
Barings LLC	ING Groep NV	2000
Barings LLC	Massachusetts Mutual Life Insurance Co	2005
Bear Stearns & Co Inc	Bear Stearns & Co Inc	2000
Bear Stearns & Co Inc	JPMorgan Chase & Co	2008
BlueMountain Capital Management LLC	BlueMountain Capital Management LLC	2003
BlueMountain Capital Management LLC	Assured Guaranty Ltd	2019
BlueMountain Capital Management LLC	Sound Point Capital Management LP	2023
CIT Financial Services Inc	CIT Group Inc	2000
CIT Financial Services Inc	First Citizens BancShares Inc	2022
Credit Suisse (Singapore) Ltd	Credit Suisse International	2000
Credit Suisse (Singapore) Ltd	UBS Group AG	2023
Credit Suisse First Boston	Credit Suisse International	2000
Credit Suisse First Boston	UBS Group AG	2023
Credit Suisse First Boston (Cayman Islands)	Credit Suisse International	2000
Credit Suisse First Boston (Cayman Islands)	UBS Group AG	2023
Crescent Capital Group LP	Societe Generale SA	2001
Crescent Capital Group LP	Crescent Capital Group LP	2010
Crescent Capital Group LP	Sun Life Financial Inc	2021
Dresdner Kleinwort	Dresdner Bank AG	2000
Dresdner Kleinwort	Allianz AG	2001
Dresdner Kleinwort	Commerzbank AG	2009
Eaton Vance Management Inc	Eaton Vance Corp	2000
Eaton Vance Management Inc	Morgan Stanley	2021
Eaton Vance Prime Rate Reserves	Eaton Vance Management Inc	2000
Eaton Vance Prime Rate Reserves	Morgan Stanley	2021
Fortis Group	Fortis Group	2000
Fortis Group	BNP Paribas SA	2008
GMAC Inc	General Motors Co	2000
GMAC Inc	Cerberus Capital Management LP	2006
GSO Capital Partners LP	GSO Capital Partners LP	2000
GSO Capital Partners LP	Blackstone Inc	2008
Global Loan Agency Services Ltd	Global Loan Agency Services Ltd	2011
Global Loan Agency Services Ltd	Levine Leichtman Capital Partners LP	2022
HPS Investment Partners LLC	JPMorgan Chase & Co	2007
HPS Investment Partners LLC	HPS Investment Partners LLC	2016

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Ownership changes of NBFI subsidiaries (cont'd)

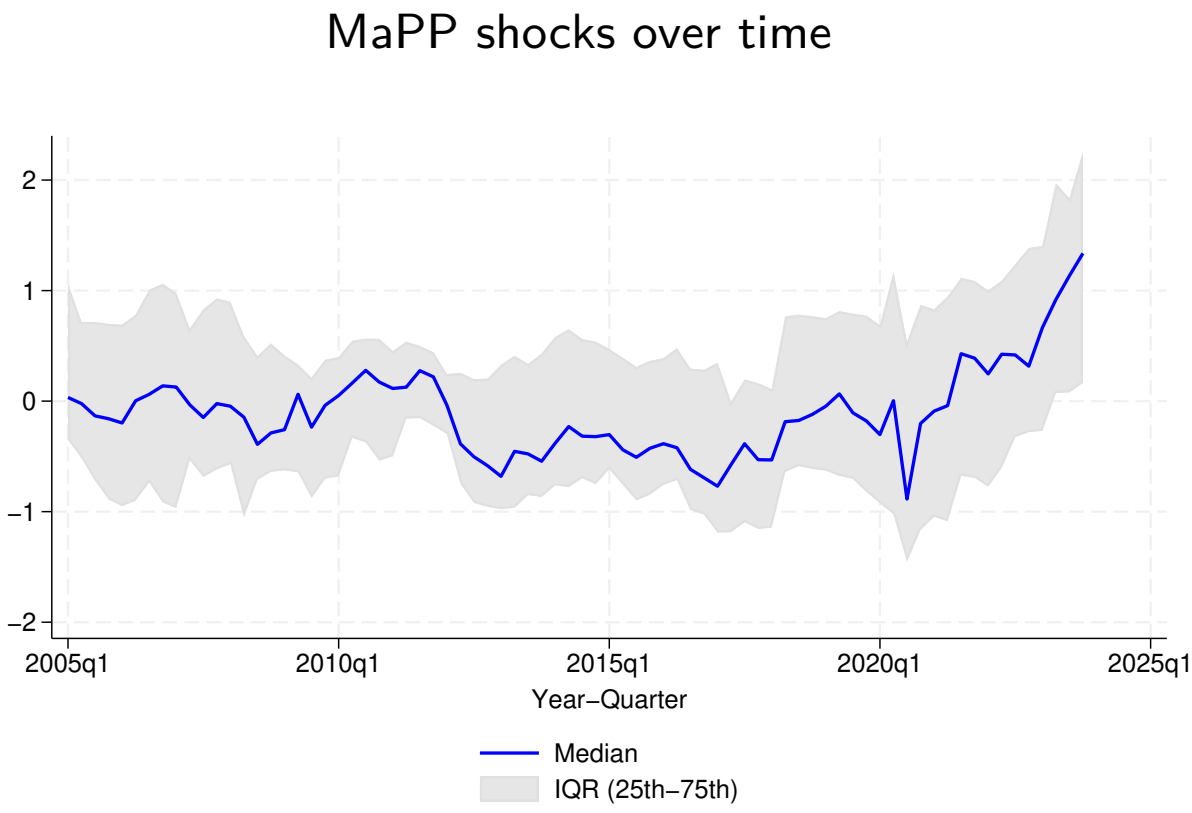
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Nonbank Name	Parent Name	Year
HPS Investment Partners LLC	BlackRock Inc	2025
Highbridge Capital Management LLC	Highbridge Capital Management LLC	2000
Highbridge Capital Management LLC	JPMorgan Chase & Co	2004
IXIS Corporate & Investment Bank	Caisse Nationale des Caisses d'Epargne et de Prevoyance SA - CNCE	2000
IXIS Corporate & Investment Bank	BPCE SA	2009
Jefferies & Co Inc	Jefferies Financial Group Inc	2000
Jefferies & Co Inc	Leucadia National Corp	2013
Jefferies & Co Inc	Jefferies Financial Group Inc	2018
Lehman Brothers International (Europe)	Lehman Brothers Holdings Inc	2000
Lehman Brothers International (Europe)	Nomura Holdings Inc	2008
Lehman Brothers North America	Lehman Brothers Holdings Inc	2000
Lehman Brothers North America	Barclays plc	2008
Lloyds TSB Capital Markets	Lloyds TSB Group plc	2000
Lloyds TSB Capital Markets	Lloyds Banking Group plc	2009
Merrill Lynch Pierce Fenner & Smith Inc	Merrill Lynch & Co Inc	2000
Merrill Lynch Pierce Fenner & Smith Inc	Bank of America Corp	2009
Merrill Lynch & Co Inc	Merrill Lynch & Co Inc	2000
Merrill Lynch & Co Inc	Bank of America Corp	2008
MidCap FinCo Ltd	MidCap Financial LLC	2000
MidCap FinCo Ltd	Apollo Global Management Inc	2013
MidCap Financial Trust	MidCap Financial LLC	2008
MidCap Financial Trust	Apollo Global Management Inc	2013
Monroe Capital LLC	Monroe Capital LLC	2004
Monroe Capital LLC	Wendel SE	2025
NXT Capital LLC	Stone Point Capital LLC	2010
NXT Capital LLC	ORIX Corp	2018
Napier Park Global Capital LLC	Citigroup Inc	2000
Napier Park Global Capital LLC	Napier Park Global Capital LLC	2013
Napier Park Global Capital LLC	First Eagle Holdings Inc	2022
NewStar Financial Inc	NewStar Financial Inc	2004
NewStar Financial Inc	First Eagle Holdings Inc	2017
Oaktree Capital Management LP	Oaktree Capital Group LLC	2000
Oaktree Capital Management LP	Brookfield Corp	2019
Oppenheimer & Co Inc	Canadian Imperial Bank of Commerce - CIBC	2000
Oppenheimer & Co Inc	Oppenheimer Holdings Inc	2003
Owl Rock Capital Corp	Owl Rock Capital Corp	2016
Owl Rock Capital Corp	Blue Owl Capital Inc	2021
Seix Investment Advisors LLC	Seix Investment Advisors LLC	2000
Seix Investment Advisors LLC	SunTrust Banks Inc	2004
Seix Investment Advisors LLC	Virtus Investment Partners Inc	2014
SunTrust Robinson Humphrey Inc	SunTrust Banks Inc	2000
SunTrust Robinson Humphrey Inc	Truist Financial Corp	2019
Truist Securities Inc	Citigroup Inc	2000
Truist Securities Inc	SunTrust Banks Inc	2001
Truist Securities Inc	Truist Financial Corp	2019
Voya Financial Inc	ING Groep NV	2000
Voya Financial Inc	Voya Financial Inc	2014
Wachovia Capital Markets LLC	Wachovia Corporation	2000
Wachovia Capital Markets LLC	Wells Fargo & Co	2008
Wachovia Securities Inc	Wachovia Corporation	2000
Wachovia Securities Inc	Wells Fargo & Co	2008
Wells Fargo Securities LLC	Wachovia Corporation	2000
Wells Fargo Securities LLC	Wells Fargo & Co	2008
Western Asset Management Co	Legg Mason Wood Walker Capital Markets	2000

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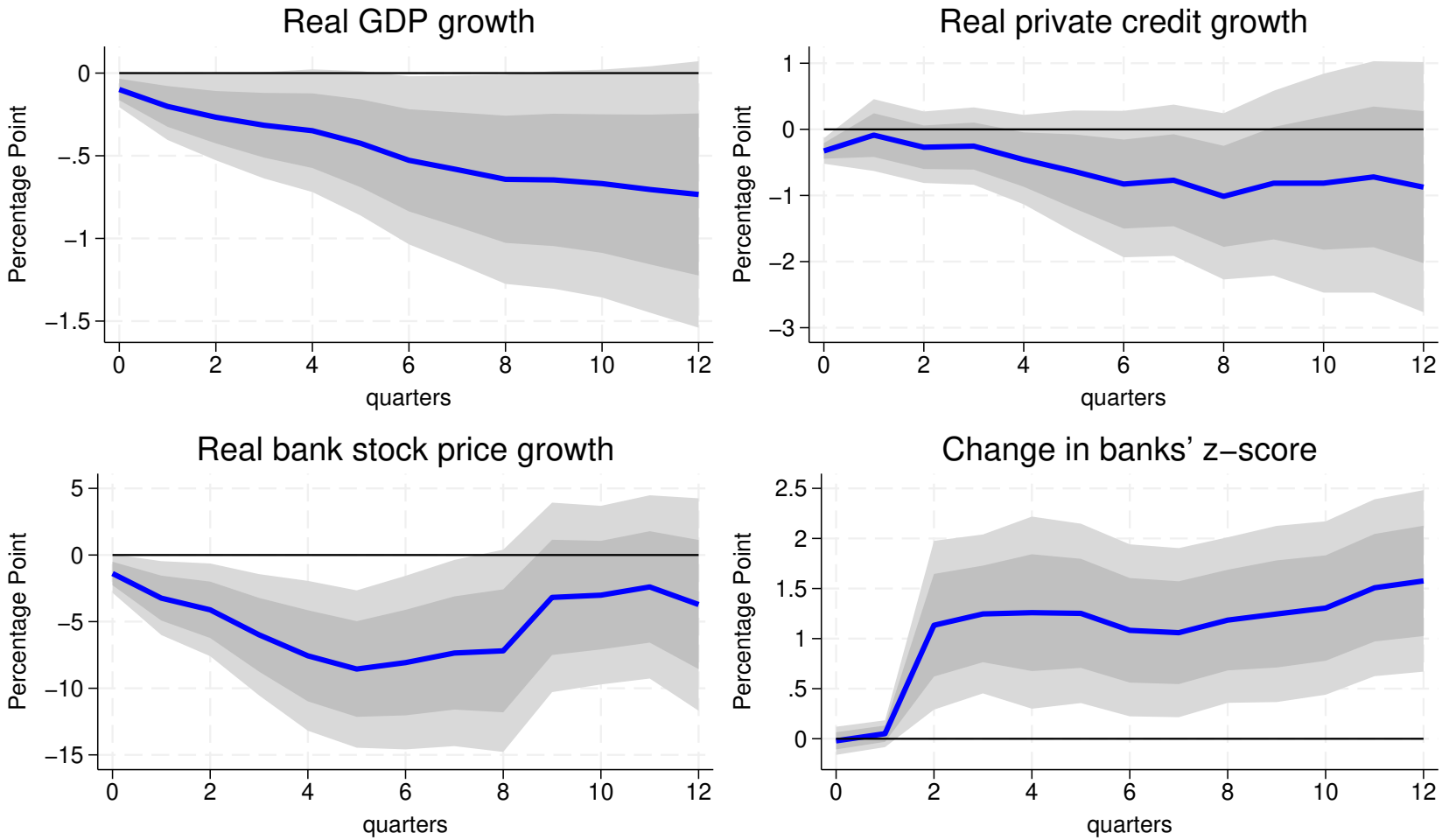
Macroprudential policy shocks



Notes: Blue line is the median sample value, and the grey area the interquartile range.

Back

Country-level responses to MaPP shocks



Notes: Cumulative impulse responses over 12 quarters following a one-standard deviation increase in MaPP shocks. Blue line is the point estimate, and dark (light) grey areas refer to the associated 68% (90%) confidence bands. Standard errors clustered by country.

Back

Larger increase in spreads for borrowers that rely more heavily on NBFI lenders

	(1) All	(2) All	(3) All	(4) U.S.	(5) U.K.	(6) EA
MaPP shock	7.239***	10.166***	-2.745	10.609***	5.902	-6.450
	(2.710)	(3.250)	(2.992)	(3.525)	(17.533)	(12.458)
MaPP shock × NB shr.	18.711***	20.715***	9.932**	20.223***	43.490	42.105*
	(4.264)	(4.434)	(4.095)	(4.588)	(30.115)	(21.666)
NB shr.	22.822***	20.953***	3.254	21.908***	37.065	16.027
	(4.425)	(4.595)	(4.994)	(4.763)	(24.909)	(19.930)
Facility controls	✓	✓	✓	✓	✓	✓
Borrower country FE	✓					
Sector FE	✓					
Borrower country × Sector × Time FE		✓	✓	✓	✓	✓
Firm FE			✓			
Observations	56,099	54,402	51,311	43,088	1,274	4,239
R^2	0.227	0.332	0.721	0.268	0.497	0.578

Notes: Data aggregated at the facility-borrower-quarter level. Dependent variable is the all-in drawn spread (in bps). *NB shr.* is the share of borrower-level syndicated loan volume originated by nonbanks over the previous five years. Facility controls refer to years to maturity, the log of the facility amount, and the loan type (term loans, credit lines, and other). Standard errors clustered by borrower.

Back

NBFI affiliates increase lending relative to bank entities accounting for time-varying group characteristics

	(1) All	(2) All	(3) All	(4) All	(5) U.S.	(6) U.K.	(7) EA
MaPP shock	-0.010***		-0.013***				
	(0.001)		(0.003)				
MaPP shock × NBFI subs.	0.020***	0.018***	0.014***	0.007*	0.027***	0.022	0.028***
	(0.002)	(0.002)	(0.003)	(0.004)	(0.007)	(0.028)	(0.008)
NBFI subs.	0.039***	0.054***	0.107***	0.117***	0.195***	-0.011	0.051***
	(0.003)	(0.003)	(0.005)	(0.004)	(0.007)	(0.022)	(0.008)
Banking group controls			✓				
Banking group FE	✓	✓	✓				
Country BG × Time FE		✓					
Banking group × Time FE				✓	✓	✓	✓
Firm × Time FE	✓	✓	✓	✓	✓	✓	✓
Observations	696,913	696,912	233,330	688,870	199,133	31,473	132,460
R^2	0.894	0.895	0.841	0.898	0.861	0.845	0.893

Notes: Dependent variable is the log of new syndicated loans. Sample restricted to selected countries in columns (5) to (7). Standard errors clustered by firm. Asterisks, *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels.

Back

Extensive margin: bank-owned NBFI subsidiaries also more likely to extend lending to new borrowers

	(1) All	(2) U.S.	(3) U.K.	(4) EA
MaPP shock	0.000			-0.007***
	(0.001)			(0.002)
MaPP shock × NBFI subs.	0.005***	0.035***	-0.051***	-0.011***
	(0.001)	(0.002)	(0.008)	(0.003)
NBFI subs.	0.019***	0.036***	0.061***	-0.023***
	(0.002)	(0.003)	(0.011)	(0.005)
Banking group FE	✓	✓	✓	✓
Firm × Time FE	✓	✓	✓	✓
Observations	696,913	201,751	31,580	134,242
R^2	0.625	0.613	0.695	0.658

Notes: Dependent variable is a dummy variable equal to one in the quarter that we observe a specific lender-borrower lending relationship for the first time.

Back

Regulatory substitution primarily driven by broker-dealers and other NBFI subsidiaries

	(1)	(2)	(3)	(4)	(5)	(6)
MaPP shock	-0.010***	-0.010***	-0.010***	-0.010***	-0.010***	-0.010***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
MaPP shock × NBFI subs.	0.004	0.020***	0.020***	0.020***	0.020***	
	(0.006)	(0.002)	(0.002)	(0.002)	(0.002)	
MaPP shock × NBFI subs. × Investment banks, broker-dealers	0.016**					0.020***
	(0.006)					(0.002)
MaPP shock × NBFI subs. × Business credit institution		0.001				0.021
		(0.035)				(0.035)
MaPP shock × NBFI subs. × Investment funds & asset managers			-0.047***			-0.028**
			(0.014)			(0.014)
MaPP shock × NBFI subs. × Insurance and pension funds				0.005		0.025
				(0.047)		(0.047)
MaPP shock × NBFI subs. × Other NBFI subsidiaries					-0.006	0.014**
					(0.007)	(0.007)
Banking group FE	✓	✓	✓	✓	✓	✓
Firm × Time FE	✓	✓	✓	✓	✓	✓
Observations	696,913	696,913	696,913	696,913	696,913	696,913
R^2	0.894	0.894	0.894	0.894	0.894	0.894

Notes: Dependent variable is the log of new syndicated loans.

Back

Results robust to imputing post-origination loan shares

	(1) All	(2) All	(3) All	(4) U.S.	(5) U.K.	(6) EA
MaPP shock	-0.025***	-0.002	-0.005***			-0.001
	(0.004)	(0.001)	(0.002)			(0.004)
MaPP shock × NBFI subs.			0.010***	0.016***	0.016	0.003
			(0.002)	(0.004)	(0.015)	(0.005)
NBFI subs.			0.042***	0.069***	-0.035	0.023**
			(0.004)	(0.006)	(0.022)	(0.009)
Time FE	✓					
Banking group FE	✓	✓	✓	✓	✓	✓
Firm × Time FE		✓	✓	✓	✓	✓
Observations	719,874	696,913	696,913	201,751	31,580	134,242
R^2	0.170	0.873	0.873	0.841	0.858	0.861

Notes: Loans are allocated based on the regression results of Blickle et al. (forthcoming).

Back

Increased lending by domestic NBFIs when MaPP tighten in the borrower country

	(1)	(2)	(3)
MaPP shock (host)	-0.029***		
	(0.005)		
MaPP shock (host) × NBFI subs.		0.021***	0.014***
		(0.002)	(0.002)
MaPP shock (host) × Host subs.		0.001	-0.004
		(0.006)	(0.006)
MaPP shock (host) × Host subs. × NBFI subs.		-0.005	0.005
		(0.013)	(0.014)
MaPP shock (host) × Foreign subs.		0.016***	
		(0.005)	
MaPP shock (host) × Foreign subs. × NBFI subs.		-0.055***	
		(0.014)	
MaPP shock			-0.011***
			(0.001)
MaPP shock × NBFI subs.			0.013***
			(0.002)
MaPP shock × Host subs.			0.036***
			(0.005)
MaPP shock × Host subs. × NBFI subs.			-0.036***
			(0.012)
Time FE	✓		
Banking group FE	✓	✓	✓
Firm × Time FE		✓	✓
Observations	692,625	672,537	667,861
R^2	0.275	0.896	0.897

Notes: MaPP shocks at the country-borrower level (columns 1-2) and adding country-lender level (column 3).

Back

Results robust to excluding SNC loans and large bank holding companies

	(1) Excl. SNC loans All	(2) Excl. SNC loans U.S.	(3) Excl. large BHCs All	(4) Excl. large BHCs U.S.
MaPP shock	-0.008***		-0.008***	
	(0.002)		(0.002)	
MaPP shock × NBFI subs.	0.018***	0.043***	0.005*	0.060***
	(0.003)	(0.005)	(0.003)	(0.016)
NBFI subs.	0.080***	0.146***	0.029***	-0.079***
	(0.005)	(0.008)	(0.005)	(0.022)
Banking group FE	✓	✓	✓	✓
Firm × Time FE	✓	✓	✓	✓
Observations	255,756	53,064	410,309	21,128
R^2	0.869	0.864	0.913	0.890

Notes: The sample excludes loans above USD 100 million (columns 1-2) or subsidiaries of major bank holding companies with total consolidated assets above USD 100 billion in 2023Q4 operating in the U.S. (columns 3-4).

Back

Regulatory substitution materializes through foreign bank subsidiaries and domestic NBFIs

	(1) All	(2) All	(3) All	(4) Cross-border	(5) Cross-border	(6) Cross-border
MaPP shock	-0.004***	-0.006***	-0.013***	-0.005***	-0.008***	-0.008***
	(0.001)	(0.001)	(0.001)	(0.001	(0.001)	(0.002)
MaPP shock × Foreign subs.		0.013***	0.024***		0.019***	0.018***
		(0.004)	(0.004)		(0.004)	(0.004)
MaPP shock × NBFI subs.			0.021***			0.001
			(0.002)			(0.003)
MaPP shock × Foreign subs. × NBFI subs.			-0.036***			0.005
			(0.009)			(0.010)
Banking Group FE	✓	✓	✓	✓	✓	✓
Firm × Time FE	✓	✓	✓	✓	✓	✓
Observations	696,913	696,909	696,909	258,743	258,742	258,742
R^2	0.894	0.894	0.894	0.854	0.854	0.854

Notes: Sample is restricted to cross-border lending in columns (4) to (6).

Country share Back

Results robust to alternative lag choice

	(1) Lag 1	(2) Lag 2	(3) Lag 3	(4) Lag 4
MaPP shock	-0.010***	-0.012***	-0.013***	-0.015***
	(0.001)	(0.001)	(0.001)	(0.001)
MaPP shock × NBFI subs.	0.020***	0.024***	0.027***	0.029***
	(0.002)	(0.002)	(0.002)	(0.002)
NBFI subs.	0.039***	0.039***	0.040***	0.041***
	(0.003)	(0.003)	(0.003)	(0.003)
Banking group FE	✓	✓	✓	✓
Firm × Time FE	✓	✓	✓	✓
Observations	696,913	695,838	694,967	693,963
R^2	0.894	0.894	0.895	0.895

Notes: Column (1) uses the baseline MaPP shock lagged one quarter. In columns (2), (3), and (4) we lag the MaPP shock by respectively two, three, and four quarters.

Back

Results robust to ILST fixed effects

	(1) All	(2) All	(3) All	(4) U.S.	(5) U.K.	(6) EA
MaPP shock	-0.022***	-0.003***	-0.011***			-0.002
	(0.003)	(0.001)	(0.001)			(0.003)
MaPP shock × NBFI subs.			0.022***	0.049***	-0.006	0.004
			(0.002)	(0.004)	(0.012)	(0.004)
NBFI subs.			0.048***	0.066***	-0.039**	0.024***
			(0.004)	(0.006)	(0.017)	(0.007)
Time FE	✓					
Banking group FE	✓	✓	✓	✓	✓	✓
Firm FE		✓	✓	✓	✓	✓
ILST FE		✓	✓	✓	✓	✓
Observations	719,874	707,017	707,017	211,056	42,319	145,998
R^2	0.284	0.824	0.824	0.708	0.787	0.848

Notes: Dependent variable is the log of new syndicated loans. Standard errors clustered by firm.

Back

Results robust to individual lender fixed effects

	(1) All	(2) All	(3) All	(4) U.S.	(5) U.K.	(6) EA
MaPP shock	-0.028***	-0.005***	-0.008***			-0.004
	(0.003)	(0.001)	(0.001)			(0.003)
MaPP shock × NBFI subs.			0.009***	0.040***	-0.005	0.005*
			(0.002)	(0.004)	(0.010)	(0.003)
Time FE	✓					
Lender FE	✓	✓	✓	✓	✓	✓
Firm × Time FE		✓	✓	✓	✓	✓
Observations	718,732	695,697	695,697	201,429	31,460	133,790
R^2	0.309	0.898	0.898	0.859	0.846	0.891

Notes: Dependent variable is the log of new syndicated loans. Sample restricted to selected countries in columns (4) to (6). Standard errors clustered by firm. Asterisks, *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels.

Back

Results robust to adding time FE to MaPP shocks

	(1) All	(2) All	(3) All	(4) U.S.	(5) U.K.	(6) EA
MaPP shock	-0.022***	-0.002*	-0.015***			0.003
	(0.003)	(0.001)	(0.001)			(0.003)
MaPP shock × NBFI subs.			0.041***	0.096***	0.008	0.010***
			(0.002)	(0.004)	(0.012)	(0.003)
NBFI subs.			0.035***	0.051***	-0.069***	0.024***
			(0.003)	(0.005)	(0.016)	(0.007)
Time FE	✓					
Banking group FE	✓	✓	✓	✓	✓	✓
Firm × Time FE		✓	✓	✓	✓	✓
Observations	719,874	696,913	696,913	201,751	31,580	134,242
R^2	0.284	0.894	0.894	0.853	0.842	0.888

Notes: Dependent variable is the log of new syndicated loans. MaPP shocks are generated with additional time fixed effects. Standard errors clustered by firm.

Back

Results robust to lead arrangers and credit type

	(1) Baseline	(2) Lead arranger	(3) Credit lines	(4) Term loans
MaPP shock	-0.010***	-0.014***	-0.009***	-0.013***
	(0.001)	(0.002)	(0.001)	(0.002)
MaPP shock × NBFI subs.	0.020***	0.007*	0.017***	0.024***
	(0.002)	(0.004)	(0.002)	(0.002)
MaPP shock × Lead arr.		0.011***		
		(0.003)		
MaPP shock × NBFI subs. × Lead arr.		0.007		
		(0.004)		
NBFI subs.	0.039***	0.031***	0.028***	0.023***
	(0.003)	(0.005)	(0.004)	(0.005)
Lead arr.		0.295***		
		(0.006)		
NBFI subs. × Lead arr.		-0.075***		
		(0.006)		
Banking group FE	✓	✓	✓	✓
Firm × Time FE	✓	✓	✓	✓
Observations	696,913	696,913	526,917	469,054
R^2	0.894	0.900	0.859	0.828

Notes: Dependent variable is the log of new syndicated loans. Column (2) includes a lead arranger dummy equal to one if the lender acts as a lead arranger in the syndicate and 0 if it is a participant. Columns (3) and (4) split the sample into credit lines and term loans. Standard errors clustered by firm.

Back

Results robust to alternative clustering of standard errors

	(1) Baseline	(2) Firm & time	(3) BG	(4) Firm, BG & time	(5) Country-BG×time
MaPP shock	-0.010***	-0.010***	-0.010**	-0.010**	-0.010***
	(0.001)	(0.003)	(0.005)	(0.005)	(0.003)
MaPP shock × NBFI subs.	0.020***	0.020***	0.020*	0.020*	0.020***
	(0.002)	(0.007)	(0.010)	(0.011)	(0.007)
NBFI subs.	0.039***	0.039***	0.039	0.039	0.039***
	(0.003)	(0.009)	(0.033)	(0.030)	(0.008)
Banking group FE	✓	✓	✓	✓	✓
Firm × Time FE	✓	✓	✓	✓	✓
Observations	696,913	696,913	696,913	696,913	696,913
R^2	0.894	0.894	0.894	0.894	0.894

Notes: Dependent variable is the log of new syndicated loans. Clustering of standard errors is by firm (column 1), firm and time (column 2), firm, banking group, and time (column 3), and country-banking group×time (column 4).

Back

Foreign banks allow parent banking groups to maintain lending in markets where they operate

	(1) High	(2) High	(3) Low	(4) Low
MaPP shock	-0.007***	-0.009***	-0.008***	-0.008***
	(0.001)	(0.002)	(0.002)	(0.002)
MaPP shock × Foreign subs.	0.011**	0.010**	0.029***	0.024***
	(0.004)	(0.005)	(0.005)	(0.005)
MaPP shock × Ctry shr	-0.005	0.004	0.004	0.001
	(0.003)	(0.004)	(0.003)	(0.003)
MaPP shock × Foreign subs. × Ctry shr	0.048***	0.051***	-0.037***	-0.029***
	(0.010)	(0.011)	(0.008)	(0.009)
MaPP shock × NBFI subs.		0.008***		-0.002
		(0.003)		(0.003)
MaPP shock × Foreign subs. × NBFI subs.		0.004		0.019
		(0.012)		(0.012)
MaPP shock × NBFI subs. × Ctry shr		-0.037***		0.011**
		(0.007)		(0.005)
MaPP shock × Foreign subs. × NBFI subs. × Ctry shr		-0.007		-0.045**
		(0.024)		(0.022)
Banking group FE	✓	✓	✓	✓
Firm × Time FE	✓	✓	✓	✓
Observations	258,742	258,742	258,742	258,742
R^2	0.854	0.854	0.854	0.854

Notes: *Ctry shr* in columns 1-2 (3-4) refers to countries in which banks have a high (low) presence. Sample restricted to cross-border flows.

Back

Reallocation channel not present in corporate bond underwriting

- Bond underwriting is less balance-sheet intensive and more distribution-based.

	(1) All	(2) All	(3) All	(4) All	(5) U.S.	(6) U.K.	(7) EA
MaPP shock	0.005	-0.039***	-0.035***	0.000	-0.028**	0.021	-0.004
	(0.007)	(0.005)	(0.006)	(0.006)	(0.011)	(0.018)	(0.011)
MaPP shock × NBFI				0.014*	0.032**	-0.044	0.009
				(0.007)	(0.013)	(0.061)	(0.015)
MaPP shock × NBFI × BG subs.			-0.006	-0.014**	-0.031***	0.038	0.018
			(0.005)	(0.007)	(0.011)	(0.062)	(0.015)
NBFI × BG subs.			-0.039***	-0.007	-0.024	0.402	0.121
			(0.008)	(0.065)	(0.075)	(0.719)	(0.106)
Sample	BG	BG	BG	All lenders	All lenders	All lenders	All lenders
Time FE	✓						
Banking group FE	✓	✓	✓				
Lender FE				✓	✓	✓	✓
Firm × Time FE		✓	✓	✓	✓	✓	✓
Observations	271,681	252,511	252,511	367,100	121,151	6,562	27205
R^2	0.277	0.815	0.815	0.838	0.705	0.771	0.774

Notes: The dependent variable is the log of new corporate bond issuance. *BG* stands for Banking Group. The sample in columns (1)-(3) is restricted to BG, while columns (4)–(7) extend the sample to include independent NBFIs. Sample restricted to selected countries in columns (5)-(7). Standard errors clustered by firm. Asterisks, *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels.

Back

HF MaPP shocks: country split

Table: Number of MaPP announcements by country

Country	Announcements
CAN	12
DEU	32
FRA	33
GBR	17
JPN	6
USA	32
Total	132

Notes: Includes all lender-based MaPP measures.

Back

Narrative MaPP shocks: robustness results

	(1)	(2)	(3)	(4)	(5)	(6)
		Loans			Spread	
	Baseline	2-day	Abnormal	Baseline	2-day	Abnormal
MaPP shock	-0.009***	-0.009***	-0.009***	-1.351	-1.184	5.229
	(0.002)	(0.002)	(0.002)	(4.291)	(4.197)	(4.600)
MaPP shock × NBFI subs.	0.015***	0.013***	0.018***	0.744	1.343	-0.863
	(0.002)	(0.002)	(0.002)	(4.733)	(4.833)	(4.830)
NBFI subs.	0.019***	0.019***	0.019***	35.213***	35.140***	35.193***
	(0.005)	(0.005)	(0.005)	(4.931)	(4.931)	(4.949)
Banking group FE	✓	✓	✓			
Firm × Time FE	✓	✓	✓			
Facility controls				✓	✓	✓
Borrower country × Sector × Time FE				✓	✓	✓
Observations	332,712	332,712	332,712	32,994	32,994	32,994
R^2	0.910	0.910	0.910	0.321	0.321	0.322

Notes: Columns (1)-(3): dependent variable is the log of new syndicated loans. Columns (4)-(6): dependent variable is the all-in drawn spread, with the data aggregated at the facility-borrower-year level; *NBFI subs.* is the share of borrower-level syndicated loan volume originated by nonbanks over the previous five years for each borrower, and facility controls refer to years to maturity, the log of the facility amount, and the loan type (term loans, credit lines, and other). *2-day* takes a two-day change in the excess return of bank stock prices following MaPP announcements, and *Abnormal* computes abnormal returns in bank stock prices following MaPP announcements. Standard errors clustered by firm.

Back

Why do other NBFIs cut lending?

	(1) All	(2) Domestic	(3) Cross-border
MaPP shock	0.002		0.002
	(0.003)		(0.003)
MaPP shock × NBFI	0.039***	0.046	0.044***
	(0.010)	(0.037)	(0.011)
MaPP shock × NBFI × BG subs.	-0.037***	-0.063*	-0.040***
	(0.010)	(0.034)	(0.011)
MaPP shock × Ctry shr	-0.013***		-0.008**
	(0.003)		(0.004)
MaPP shock × NBFI × Ctry shr	-0.051***	-0.065*	-0.050***
	(0.010)	(0.038)	(0.011)
MaPP shock × NBFI × BG subs. × Ctry shr	0.060***	0.103***	0.044***
	(0.011)	(0.035)	(0.012)
Lender FE	✓	✓	✓
Firm × Time FE	✓	✓	✓
Observations	761,626	446,693	281,083
R^2	0.895	0.911	0.858

Notes: Ctry shr refers to countries in which banking groups have a high presence in the previous quarter. Sample restricted to domestic loans in column (2) and cross-border loans in column (3).

Back

Independent NBFIs: investment funds and asset managers cut lending

	(1)	(2)	(3)	(4)	(5)	(6)
MaPP shock	-0.009***	-0.009***	-0.008***	-0.009***	-0.009***	-0.008***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
MaPP shock × NBFI indep.	-0.014***	-0.007**	0.003	-0.008**	-0.014***	
	(0.005)	(0.003)	(0.003)	(0.003)	(0.003)	
MaPP shock × NBFI subs.	0.015**	0.010***	0.010***	0.010***	0.010***	
	(0.007)	(0.002)	(0.002)	(0.002)	(0.002)	
MaPP shock × Broker-dealers indep.	0.015**					-0.000
	(0.006)					(0.003)
MaPP shock × Broker-dealers subs.	-0.005					0.010***
	(0.007)					(0.002)
MaPP shock × Business credit institutions indep.		-0.007				-0.016
		(0.010)				(0.010)
MaPP shock × Business credit institutions subs.		0.077**				0.084***
		(0.032)				(0.032)
MaPP shock × Investment funds & asset managers indep.			-0.044***			-0.041***
			(0.008)			(0.008)
MaPP shock × Investment funds & asset managers subs.			-0.003			0.007
			(0.014)			(0.014)
MaPP shock × Insurance & pension funds indep.				0.002		-0.008
				(0.012)		(0.011)
MaPP shock × Insurance & pension funds subs.				0.018		0.028
				(0.042)		(0.042)
MaPP shock × Other NBFI indep.					0.035***	0.020***
					(0.008)	(0.007)
MaPP shock × Other NBFI subs.					0.004	0.014*
					(0.008)	(0.008)
Lender FE	✓	✓	✓	✓	✓	✓
Firm × Time FE	✓	✓	✓	✓	✓	✓
Observations	761,629	761,629	761,629	761,629	761,629	761,629
R^2	0.895	0.895	0.895	0.895	0.895	0.895

Notes: Dependent variable is the log of new syndicated loans. *Indep.* stands for independent NBFIs, while *subs.* refers to NBFI subsidiaries of banking groups. Standard errors clustered by firm. Asterisks, *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels.

Back

Independent NBFIs do not cut lending after capital-based MaPP

	(1) Baseline	(2) Base excl. RR	(3) Base excl. RR and ST	(4) Capital-based
MaPP shock	-0.009***	-0.007***	-0.015***	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)
MaPP shock × NBFI	-0.007**	-0.008**	-0.011***	0.002
	(0.003)	(0.003)	(0.003)	(0.003)
MaPP shock × NBFI × BG subs.	0.018***	0.015***	0.035***	-0.016***
	(0.003)	(0.003)	(0.003)	(0.003)
NBFI × BG subs.	0.000	0.002	0.006	0.002
	(0.016)	(0.016)	(0.016)	(0.016)
Lender FE	✓	✓	✓	✓
Firm × Time FE	✓	✓	✓	✓
Observations	761,629	761,629	761,629	761,629
R^2	0.895	0.895	0.895	0.895

Notes: Dependent variable is the log of new syndicated loans. *BG* stands for Banking Group. Column (1) uses the baseline MaPP shocks; column (2) removes reserve requirements; column (3) removes reserve requirements and stress-testing; column (4) focuses on capital-based measures, namely leverage limits, countercyclical buffers, conservation buffers, and capital requirements. Standard errors clustered by firm. Asterisks, *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels.

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