Collateral Easing and Asset Scarcity: How Money Markets Benefit from Low-Quality Collateral

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Motivation

- A key task of central banks: lend to banks against good collateral at an appropriate price (Bagehot, 1873)

- No consensus about optimal design of collateral policies & substantial differences in practice

- Recent work highlights a more proactive role of collateral policies for monetary policy (Mésonnier et al., 2022; Pelizzon et al., 2024)

This Paper

- **Research Question:** Can a shift towards a broader collateral framework promote (repo) market functioning?

- **Theory:** Lending against high-quality assets protects against losses, but can adversely affect liquidity creation in markets as good collateral gets locked up with the CB (Choi et al., 2021)

- **Contribution:** Empirical evidence on this channel is limited

- **Identification:** ACC framework extension of April 7, 2020 + Banks that pledge non-marketable collateral as treatment group

Data

- Use of Collateral Database **(UCDB)**
  - collateral pool of banks in Eurosystem, bank-bond-level, weekly
  - also: credit claims (RCC vs. ACC), bank-level, weekly
  - sample of 129 euro-area based banks

- Money Market Statistical Reporting **(MMSR)**
  - transaction-level information on repos
  - centrally cleared, one-day maturity, collateralized by government bonds
  - sample of 37 euro-area based large banks

- Other data:
  - **IBSI**: A + L items; **SHS**-**G**: Securities-register
  - CSDB, EADB, Eikon, APP

- **Main sample**: January 1, 2020 until July 31, 2020

Stylized Fact I

Collateral Pool - Aggregates
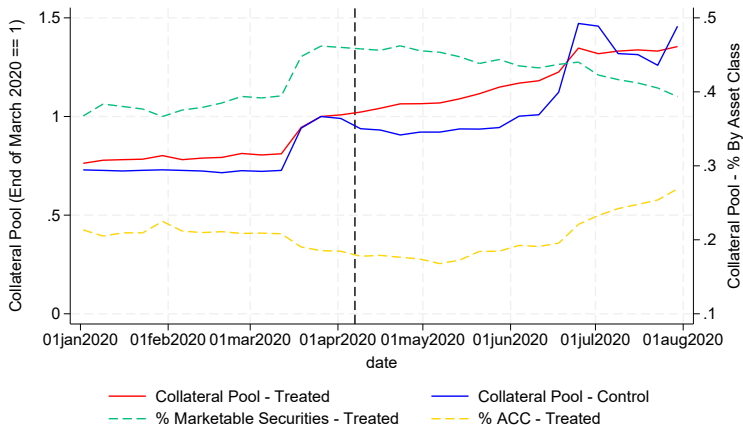
Stylized Fact II
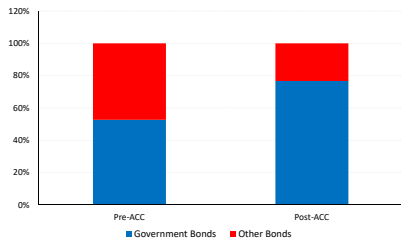
Collateral Pool - Asset Classes
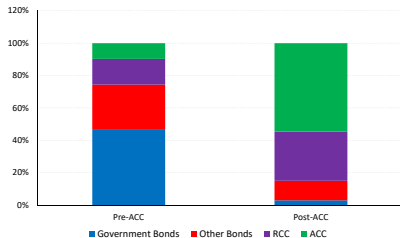

Figure 1: Control Group

Figure 2: Treatment Group

Collateral Pledged - DiD Regression

$$CollPledged_{b,s,t} = \beta_0 \times Post_t \times Treated_b (\times Government_s) + \mathbf{X}'_{b,t}\gamma + \alpha_{b,s} + \alpha_{s,t} + \varepsilon_{b,s,t}$$

Dependent variable:	Nominal Value Pledged scaled by Amount Outstanding			
	(1)	(2)	(3)	(4)
	All bonds	Other bonds	Government	All bonds
Post × Treated	0.0090	0.0665	-0.1188**	0.0674
	(0.15)	(1.85)	(-2.49)	(0.84)
Post × Treated × Government				-0.1992**
				(-2.22)
Adj. R2	.8673	.8633	.8585	.8673
Obs	682,937	500,902	182,035	682,937
Bond × Time FE	Yes	Yes	Yes	Yes
Bank × Bond FE	Yes	Yes	Yes	Yes

Repo Activity - Bank x Bond Level

$$Y_{b,s,t} = \beta_0 \times Post_t \times Treated_b + \mathbf{X}'_{b,t}\gamma + \alpha_{b,s} + \alpha_{s,t} + \varepsilon_{b,s,t}$$

Dependent variable:	Net Lending	Gross Lending	Gross Borrowing	Specialness
	(1)	(2)	(3)	(4)
Post x Treated	0.5015**	0.4107***	-0.0908	-0.2306
	(2.64)	(3.03)	(-0.66)	(-0.94)
Adj. R2	.4223	.4562	.472	.7205
Obs	132,810	132,810	132,810	85,904
Bond x Time FE	Yes	Yes	Yes	Yes
Bank x Bond FE	Yes	Yes	Yes	Yes

Repo Activity - Where do the bonds come from?

Dependent variable:	Net Lending	Gross Lending	Gross Borrowing
	(1)	(2)	(3)
Post × Treated × $D_{Pledged}$	0.3466	0.0877	-0.2589
	(0.76)	(0.23)	(-1.27)
Post × Treated × D_{Held}	0.8946***	0.8500***	-0.0446
	(6.10)	(7.74)	(-0.43)
Adj. R2	.4218	.4559	.4718
Obs	132,810	132,810	132,810
Bond × Time FE	Yes	Yes	Yes
Bank × Bond FE	Yes	Yes	Yes

Repo Activity - Bond Level

Dependent variable:	Net Lending	Gross Lending	Gross Borrowing	Reuse Amount	Specialness	Rate Dispersion
	(1)	(2)	(3)	(4)	(5)	(6)
Post × Frac$_{Pledged}$	0.0114	0.0029	-0.0085	0.0058	-0.0013	0.0149
	(1.54)	(0.38)	(-1.35)	(1.02)	(-0.43)	(1.10)
Post × Frac$_{Held}$	0.0117	0.0376***	0.0259*	0.0236**	-0.0159**	-0.0413**
	(0.74)	(2.78)	(2.04)	(2.26)	(-2.55)	(-2.43)
Adj. R2	.4996	.6285	.6374	.6334	.5426	.4400
Obs	11,128	11,128	11,128	11,128	11,128	11,128
Bank × Bond FE	Yes	Yes	Yes	Yes	Yes	Yes
Issuer × Maturity × Time FE	Yes	Yes	Yes	Yes	Yes	Yes

Concluding Remarks

- **Summary:**

    Broader collateral framework improves repo market functioning (in line with Choi et al.) as additional bond supply reduces asset scarcity

- **Policy Implications:**

    1. Lower asset scarcity implies smoother monetary policy transmission (passthrough to repo rates; see Nguyen et al., 2023)

    2. With sizable B/S and floor-based monetary policy frameworks ($\Rightarrow$ OFR), collateral policies can be especially useful to promote monetary policy implementation (Brandao-Marques & Ratnovski, 2024)

    3. Our paper provides valuable insights about potential effects of pre-positioning of collateral (e.g. King, 2016; G30 Working Group on the 2023 Financial Crisis, 2024) on repo market functioning

References

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APPENDIX

Related Literature (1/2)

- **Role of collateral in monetary policy: Empirical**
  1. Banks pledging behavior
     Fecht et al. (2016); De Roure McLaren (2021); Drechsler et al. (2016); Lenzi et al. (2023); Cassola and Koulischer (2019)
  2. Bank lending behavior
     Hüttl and Kaldorf (2022); Bignon et al. (2016); Mésonnier et al. (2022)
  3. Securities Lending
     This paper!

- **Role of collateral in monetary policy: Theory**
  Koulischer & Struyven (2014); Choi, Santos, Yorulmazer (2021)

Related Literature (2/2)

- **Asset scarcity in repo markets**
  Arrata et al. (2020); Aggarwal et al. (2021); Baltzer et al. (2022)
  Greppmair and Jank (2023)

- **Value of asset eligibility**
  Chen et al (2023); Corradin and Rodriguez-Moreno (2016); Pelizzon et al. (2023)

- **Unconventional central bank refinancing operations**
  Benetton and Fantino (2021); Da Silva et al (2021); Carpinelli and Crosignani (2021)