

# Mutual Funds as Lenders of Last Resort

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November, 2025

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# Motivation

- Non-bank financial intermediaries have played an increasing role over financial intermediation in the last 2 decades.
- In 2023, these institutions controlled 50% of global financial assets – an increase from 40% in 2008 representing over \$100 trillion in absolute growth (FSB, 2024).
- Mutual funds are a key element of NBFIs:
  - By the end of 2024, mutual funds domiciled in Spain managed a total of €406 billion in assets of which almost €200 billion come from fixed income funds.
  - This compares to €541 billion of the credit stock that Spanish banks have granted to non-financial corporations.

# This paper

- We document that mutual funds play a significant role in financing distressed firms in Spain by purchasing newly issued debt from these firms.
- This is not a generalized finding, rather it depends on the fund's pre-existing exposure to the distressed firms.
- This is driven by fund's incentive to avoid losses on existing holdings but also on yield premium associated to the participation of exposed funds.

# Competing hypotheses

## *Hypothesis 1: Banks as Superior Relationship Lenders*

- Information advantage of banks as “inside debt” holders can alleviate information asymmetries during distress periods. Diamond (1984), Petersen and Rajan (1994).
- Mutual Funds have arms length relationships with firms and may face pressures liquidate holdings in stress periods and avoid distressed firms. Chevalier and Ellison (1997), Manconi et al. (2012).

# Competing hypotheses

## *Hypothesis 2: Mutual Funds as Lenders of Last Resort*

- Unlike banks, mutual funds are unburdened by strict capital requirements allowing for regulatory arbitrage opportunities. Hanson et al. (2011).
- Portfolio theory suggests mutual funds have incentives to invest in distressed firms: they hold diversified asset portfolios capable of absorbing firm idiosyncratic risk. Shleifer and Vishny (2010).

# Data

- **Firms:** 104 debt issuing firms headquartered in Spain
- **Funds' portfolios:** Monthly holdings, purchases at the security level from CNMV (Spanish securities regulator).
- **Credit registry:** Monthly credit information, bank-firm level.
- **Fixed-income securities:** Market debt issuance by each firm group.
- **Other Data:** Fund characteristics, bank characteristics, firm characteristics, and firms' business group structure.
- **Sample Period:** 2013–2019.

# Analysis roadmap

- Document firms substituting credit for debt securities
- Investigate mutual fund purchases of distressed debt securities
- Delinquent credit repayment

# Firm debt financing during distress

- Defining distress: firm's are considered distressed when one of the following conditions is met:
  - Delinquent credit observed with any bank
  - Negative book equity
  - Negative interest coverage ratio or  $< 1$  for two consecutive years
- How do firms refinance debt when facing these conditions?



# Bank debt during distress

We study bank credit during firm distress both at the bank-firm and at the aggregate firm level:

$$\Delta Credit_{i,b,t} = \beta Distress_{i,t} + \delta' \mathbf{Controls}_{i,t-1} + \epsilon_{i,b,t}$$

	(1)	(2)	(3)	(4)	(5)
	$\Delta \text{Credit (i,b,t)}$				$\Delta \text{Credit (i,t)}$
Distress (i,t-1)	-0.091** [0.043]	-0.108** [0.052]	-0.091** [0.044]	0.015 [0.248]	-0.074* [0.039]
Distress (i,t-1) × Bank Cap (b,t-1)		0.220 [0.422]			
Distress (i,t-1) × Bank Liq (b,t-1)			0.001 [0.019]		
Distress (i,t-1) × Bank Size (b,t-1)				-0.004 [0.010]	
Observations	30,424	30,424	30,424	30,424	2,400
R-squared	0.212	0.212	0.212	0.212	0.380
Controls	Yes	Yes	Yes	Yes	Yes
Industry - Time FE	Yes	Yes	Yes	Yes	Yes
Bank-Time FE	Yes	Yes	Yes	Yes	No
Firm FE	Yes	Yes	Yes	Yes	Yes

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# Debt issuance through capital markets

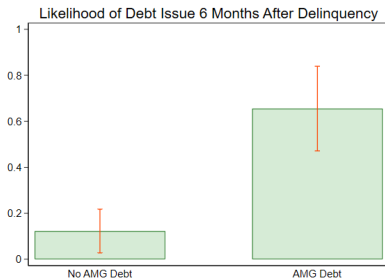
- If banks cut credit, where do firms find liquidity?
- Do firms use market debt as a substitute for bank credit?

$$Issuance_{i,t \rightarrow t+T} = \beta \Delta Credit_{i,t-1} + \delta' \mathbf{Controls}_{i,t-1} + \epsilon_{i,t}$$

	(1)	(2)	(3)
	$Issuance_{i,t \rightarrow t+3}$	$Issuance_{i,t+3 \rightarrow t+6}$	$Issuance_{i,t \rightarrow t+6}$
$\Delta \log(Credit_{i,t-1})$	0.046 [0.081]	-0.280*** [0.092]	-0.282** [0.110]
ROE (i,t-1)	-2.666* [1.357]	-2.933** [1.343]	-3.170* [1.583]
Leverage (i,t-1)	-13.428*** [4.334]	-13.955*** [3.926]	-11.758** [5.069]
$\log(\text{Total Assets}) (i,t-1)$	3.685*** [0.505]	3.548*** [0.438]	3.341*** [0.495]
Industry - Time FE	Yes	Yes	Yes
Observations	325	320	320
R-squared	0.819	0.818	0.775

# Who buys distressed issues?

- We investigate Spanish mutual fund activity in the bond primary market
- Given the information asymmetry of issuing debt through capital markets during distress, how do firms succeed?
- Firm debt issuance around default for firms with prior debt held by mutual funds:



# Formal setup

- Formally, we investigate mutual fund purchases of debt securities in the primary market conditional on:
  - Firm distress
  - Whether the asset management group,  $g$ , of fund,  $f$ , holds debt of the issuing firm

$$\begin{aligned} Purchase_{i,f,g,t} = & \beta_1 Distressed_{i,t-1} \times AMGExp_{i,g,t-1} \\ & + \beta_2 Non - Distressed_{i,t-1} \times AMGExp_{i,g,t-1} + \gamma_{i,t} + \epsilon_{i,f,g,t} \end{aligned}$$

# Bond purchase regressions

	Fund Purchases		AMG Purchases	
	(1) Purchase = 1	(2) log(Purchase)	(3) Purchase = 1	(4) log(Purchase)
Distressed (i,t-1) × AMG Exp (i,g,t-1)	0.018*** [0.004]	-0.066 [0.112]	0.085*** [0.014]	0.125 [0.207]
Non-Distressed (i,t-1) × AMG Exp (i,g,t-1)	0.026*** [0.002]	0.120* [0.063]	0.117*** [0.008]	0.286*** [0.106]
AMG - Time FE	Yes	Yes	Yes	Yes
Firm-Time FE	Yes	Yes	Yes	Yes
Fund FE	Yes	Yes	No	No
Observations	524,117	4,724	52,639	1,383
R-squared	0.089	0.871	0.245	0.811

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# Consequences of distressed debt purchases

- Issues with higher participation of exposed mutual funds have higher yields [Bond pricing table](#)
- Funds purchasing more distressed debt in the primary market have higher returns on average (but not when adjusted for risk) [Fund return table](#)
- Distressed firms issuing credit through capital markets pay down their delinquent credit [Distress resolution table](#)



# Conclusion

- We uncover that debt security issuance for distressed firms is enabled by mutual fund demand
- We identify two facts driving mutual fund demand for these issues:
  - Only mutual funds with prior exposure to the issuer display demand for distressed debt securities
  - Evidence that these distressed issues with higher exposed mutual fund purchases fetch higher returns
- Evidence points to an information channel rather than ever-greening motives, consistent with other evidence of firm debt repayment and higher mutual fund returns.

# Bond pricing

When funds buy distressed debt, are their investors worse off or is there compensation for risk? [Back](#)

	Yield		Yield Spread	
	(1) Non-Distressed	(2) Distressed	(3) Non-Distressed	(4) Distressed
Pct Purch AMG (j,i,t)	-0.006 [0.109]	0.197*** [0.000]	0.093 [0.085]	0.168*** [0.001]
log(Maturity) (j,i,t)	0.565*** [0.100]	0.214*** [0.000]	0.363*** [0.084]	0.195*** [0.001]
log(Issue Size) (j,i,t)	0.061 [0.051]	0.080*** [0.001]	0.010 [0.046]	0.065** [0.003]
Firm Controls	Yes	Yes	Yes	Yes
Industry-Time FE	Yes	Yes	Yes	Yes
Observations	294	80	287	80
R-squared	0.840	0.739	0.802	0.748

**Magnitude:** 1 standard deviation increase in the percentage of exposed asset managers buying the issue results in yields that are 50 basis points higher for distressed firms.

# Mutual fund returns

Mutual fund returns when they purchase distressed debt securities in the primary market of firms to which they had previous exposure to:

	Monthly Return (f,t)		Monthly Alpha (f,t)	
	(1)	(2)	(3)	(4)
Distress Purchase (g,t-1)	-0.012 [0.015]	0.066*** [0.021]	-0.016 [0.012]	-0.007 [0.014]
log(TNA) (f,t-1)		-0.060*** [0.017]		-0.019 [0.012]
log(Number of Investors) (f,t-1)		0.033*** [0.012]		-0.006 [0.009]
(Issuance + Redemptions)/TNA (f,t-1)		20.257 [375.035]		73.822 [471.726]
Liquidity / TNA (f,t-1)		0.032 [0.062]		-0.025 [0.053]
Retial Fund (f,t-1)		-0.159 [0.103]		-0.020 [0.060]
Expense Ratio (f,t-1)		-0.240*** [0.064]		-0.062 [0.053]
Fund FE	No	Yes	No	Yes
Time FE	Yes	Yes	Yes	Yes
Observations	43,225	33,465	41,489	33,324
R-squared	0.429	0.459	0.271	0.302

# Resolution of distress

Repayment of delinquent credit of distressed firms is positively associated to debt issuance in prior periods:

	(1) $\Delta DistressCredit_{i,b,t \rightarrow t+3}$	(2) $\Delta DistressCredit_{i,b,t+3 \rightarrow t+6}$	(3) $\Delta DistressCredit_{i,b,t \rightarrow t+6}$
<i>Issuance</i> <sub><i>i,t-6</i>→<i>t</i></sub>	-0.003 [0.040]	-0.092*** [0.025]	-0.104*** [0.033]
ROE ( <i>i,t-1</i> )	0.881** [0.369]	0.584 [0.359]	1.052** [0.516]
Leverage ( <i>i,t-1</i> )	-6.792*** [2.076]	-3.745** [1.637]	-8.222*** [2.766]
log(Total Assets) ( <i>i,t-1</i> )	-0.910*** [0.252]	0.086 [0.199]	-0.566** [0.238]
Bank - Time FE	Yes	Yes	Yes
Industry - Time FE	Yes	Yes	Yes
Observations	937	837	840
R-squared	0.761	0.713	0.746

**Additional results:** Same findings when collapsing this to the firm level. [Back](#)