

Ownership Concentration and Performance of Deteriorating Syndicated Loans

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Outline

- 1 Overview
- 2 Research questions
- 3 Thoughts on IV

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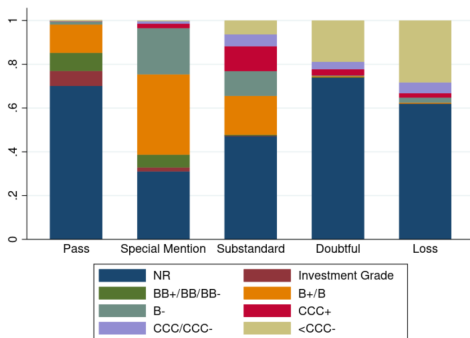
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Data

- Various institutions lend $> \$100\text{m}$ to firms
 - Banks, CLOs, mutual funds, hedge funds
 - Loans traded in secondary market
 - Syndicates with varying concentration

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 - Banks, CLOs, mutual funds, hedge funds
 - Loans traded in secondary market
 - Syndicates with varying concentration
- Regulator flags impaired loans



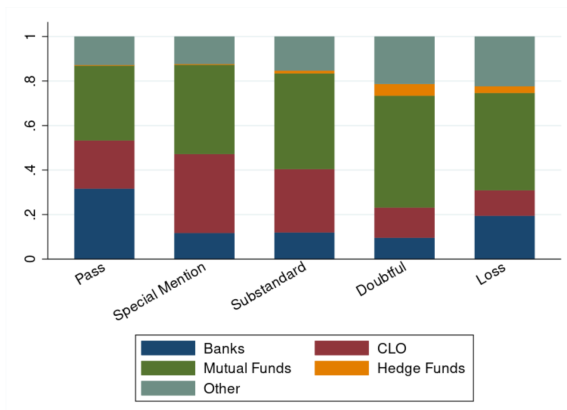
Results

- 1 Banks sell impaired loans to funds
- 2 After a downgrade, syndicates become more concentrated
- 3 Syndicate concentration (low # of holders) causally leads to better loan outcomes
 - More amendments, fewer downgrades
 - Efficient renegotiation

Fact 1

Figure 3: Lender Type by Rating

This figure shows the holders of syndicated loan shares by financial institution type and regulatory rating. The best regulatory rating is “pass”, indicating no issues with the loan, followed by “Special Mention”, “Substandard”, “Doubtful”, and “Loss”.



Fact 1 supplement

Table 3
Largest Holders of Shares in the Syndicate

This table summarizes fixed effect panel regression results of loan-level regressions with a indicator variable that is equal to 1 if the largest share is held by a bank (column 1), a CLO (column 2), a mutual fund (column 3), or a hedge fund (column 4) for loan i at time t as the dependent variable. All independent variables are lagged one period. We include time, arranger-year, industry-year and loan fixed effects. Standard errors in parentheses are clustered by loan and industry-quarter. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

| | Bank (1) | CLO (2) | Mutual Fund (3) | Hedge Fund (4) |
|------------------|-------------------------|-----------------------|-----------------------|-----------------------|
| Special Mention | -0.00429 (0.00646) | 0.00492 (0.00497) | -0.00450 (0.00920) | -0.00214 (0.00217) |
| Substandard | -0.0240*** (0.00771) | -0.00174 (0.00453) | 0.0271*** (0.0103) | -0.00389 (0.00246) |
| Doubtful | -0.0503** (0.0222) | 0.0133 (0.0110) | 0.0202 (0.0205) | -0.00371 (0.00319) |
| Loss | 0.0180 (0.0296) | -0.0284 (0.0256) | -0.0256 (0.0384) | -0.0166 (0.0154) |
| Loan FE | YES | YES | YES | YES |
| Time FE | YES | YES | YES | YES |
| Arranger-Year FE | YES | YES | YES | YES |
| Industry-Year FE | YES | YES | YES | YES |
| Observations | 118119 | 118119 | 118119 | 118119 |
| R^2 | 0.822 | 0.714 | 0.792 | 0.716 |

Fact 3

| | Refinance | Amendment | Amount Change | Downgrade | Notches Downgraded | 60 Days Past Due |
|--------------------|-------------------------|--------------------------|----------------------|------------------------|------------------------|------------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Number of Lenders | -0.000474 (0.000468) | -0.00442*** (0.00163) | -0.00116 (0.0014) | 0.00530*** (0.0017) | 0.0436*** (0.00294) | 0.000268 (0.000353) |
| Log Loan Size | 0.0227 (0.0210) | 0.212*** (0.0751) | 0.0200 (0.0615) | -0.351*** (0.108) | -2.896*** (0.782) | -0.0130 (0.0101) |
| <i>First Stage</i> | | | | | | |
| Downgrade Share | 19.432*** (4.084) | 19.432*** (4.084) | 19.432*** (4.084) | 33.628*** (8.603) | 33.628*** (8.603) | 19.432*** (4.084) |
| Log Loan Size | 48.706*** (1.363) | 48.706*** (1.363) | 48.706*** (1.363) | 66.106*** (1.923) | 66.106*** (1.923) | 48.706*** (1.363) |
| Arranger FE | YES | YES | YES | YES | YES | YES |
| Industry-Year FE | YES | YES | YES | YES | YES | YES |
| S&P Rating FE | YES | YES | YES | YES | YES | YES |
| Loan Age FE | YES | YES | YES | YES | YES | YES |
| F-Statistic | 22.63 | 22.63 | 22.63 | 15.28 | 15.28 | 22.63 |
| Observations | 105950 | 105950 | 105950 | 31585 | 31585 | 105950 |

Causal inference

- Syndicate concentration is endogenous
- IV: Plausibly exogenous shocks to lenders' capacity
 - Distress investor active in industries A and B
 - Would like to buy large share of failing syndicate in A
 - Heavy downgrades in B prevent this by tightening financial constraints
- Use “downgraded lender share” in A as instrument for concentration in A

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Different questions

- Who sells / buys in a fire sale?
 - Fact 1: Concentration of assets in funds
 - Important quantification to inform Macro/Finance models
- What is the causal effect of concentration?
 - Facts 2 and 3: Concentration *of any kind* is good for distressed loans
 - Important test of models of renegotiation
- Somewhat separate in the current version
 - Is concentration *in funds* good?
 - Easy fix: Change the RHS variable for fact 3 from # of holders to something more fund-specific

Leakage in Macro/Finance

- Davila-Walther (2021): How to do imperfect financial regulation

$$\tau_R = \delta_R + \delta_U \frac{dx_U}{dx_R}$$

- Key roles for *leakage elasticity* $\frac{dx_U}{dx_R}$ and marginal externalities
- Substitution of constrained activity from regulated to unregulated
- Second-best regulation is more lenient than Pigou if $\delta_U > 0$, stricter than Pigou if $\delta_U < 0$
- Advertisement
 - General formula in a large class of models
 - Applications to shadow banking, asset substitution, fire sales...

Leakage in Macro/Finance

- Alternative pitch for fact 1: A new leakage elasticity
 - When regulatory constraints bind on banks, loans leak to funds
 - Background: Increasing concerns about financial stability implications of asset management
 - $\delta_U > 0$? Allen-Walther (ARFE, 2021)
 - $\delta_U < 0$ if U are better renegotiators?
 - Regulators should want to know $\frac{dx_U}{dx_R}$
- This paper provides direct measurement
 - Complements Irani-Iyer-Meisenzahl-Peydro (RFS 2021)

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Identification

- Measure downgrades that lenders are exposed to in “unrelated” industries
 - I think “unrelated” just means “any other”
 - Can make this stronger by looking at “far away” SIC codes
- Can we make the IV cleaner?
 - Example: Concentrated purchases by funds in industry A
 - Current IV: Exposure of all lenders in A to downgrades in B
 - If only banks in A have negative net worth shock, demand in A goes down but funds still have cash and want to buy cheaply
 - This biases estimated treatment effect towards zero

What is a bad loan?

- All facts have significant coefficients mostly for bad-but-not-terrible loans
 - Special Mention / Substandard
- For terrible loans we still have unconditional increases in concentration, but they are not significant in first stage
 - Doubtful / Loss
- This is a story about *benign* downgrades
- Why?
 - Renegotiation cannot help loans that are too far gone
 - Is this consistent with the data / theory?