“Monetary Surprises, Debt Structure, and Credit Misallocation”
by Yuchen Chen

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MFA 2021
Loans as a fraction of the total debt of corporations

(Crouzet, 2021)
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% of total debt

- All corporations
- Public corporations

Years: 1960 to 2015

Y-axis: % of total debt
This paper

1. Document how debt structure changes after a monetary tightening for publicly traded US firms.

- "Unconstrained" firms: loan share ↑, leverage ↓.
- "Constrained" firms: loan share =, leverage ↓↓, equity issuance ↑↑.

2. Propose a model of investment + capital structure + debt structure for loans = risk-free + collateralized; bonds = risky debt.

stationary distribution + MP shock transmission.
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Why should we care?

- "Prior" that MP transmission should depend on bank dependence bank lending channel (Bernanke and Blinder, 1992)
- Collateral intensity (Kiyotaki and Moore, 1997)
- Floating vs. fixed rate (Ippolito, Ozdagli and Perez-Orive, 2018)
- Flexibility (Bolton and Freixas, 2006; Crouzet, 2021)

- Evidence is still scattershot (Ippolito et al. 2018; Darmouni, Gyeseke, Rodnansky, 2020; Crouzet, 2021)
- It's unclear which model best fits the data

Secular decline in bank intermediation has different implications across models
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- Monetary policy shocks: $\eta_{t}^{HF}$
  - intraday change in Fed Funds futures
  - 164 FOMC announcement days, 1990q4-2007q4

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- Average (\( \beta \)) and differential (\( \delta \)) effects on investment:

  \[
  \Delta \log(k_{j,t+1}) = \alpha_{j} + \text{(macro controls)} + \beta \eta_{t}^{HF} + \varepsilon_{j,t}
  \]

  \[
  \Delta \log(k_{j,t+1}) = \alpha_{j} + \text{(sector \times quarter f.e.)} + \delta \left( \eta_{t}^{HF} \times x_{j,t-1} \right) + \varepsilon_{j,t}
  \]
Comparison with the evidence of Crouzet (2021)

Following a positive shock to the Fed Funds rate

- Investment falls

\[ \text{with initial loan shares } j, t - 1 \]

- Total borrowing falls

\[ \text{This paper: } \uparrow \text{ for "constrained" firms} \]

- The loan share increases

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The response of total borrowing in Crouzet (2021)
The response of the loan share in Crouzet (2021)

Graph showing the response of loan shares for high-rated and low-rated firms over quarters after a shock.
Further findings in Chen (2021)

Following a positive shock to the Fed Funds rate

$P(\text{new loan}|\Delta(\text{debt}) > 0) \downarrow$ for "constrained" firms

$P(\text{equity issuance}) \uparrow$ for "constrained" firms

-(New) loan and bond spreads increase $\uparrow$ for "constrained" firms (for loans, not bonds)
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Comments/suggestions on empirical findings

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Suggestion:
- Run as interactions everywhere

Suggestion:
- Baseline rates; shock → 100bps effect on FFR

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- Aggregate data (Jermann and Quadrini, 2012)
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- Non-standard debt financing block

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\]

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Comments on the model (1/2)

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   **Suggestion:** Rauh and Sufi (2010); Carey and Gordy (2007)

2. Which bond/loans difference matters most for MP transmission? Why?

   **Suggestion:** procyclical collateral values (Kyotaki and Moore, 1997)?

3. This seems more like a model of "tranching" Why is "tranching" privately optimal? (DeMarzo, 2019)

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Suggestion: report cross-sectional distribution of $\frac{L_{i,t+1}}{L_{i,t+1} + D_{i,t+1}}$ w.r.t. size

5. Is the (aggregate) loan share counter-cyclical in this model?

Very clearly procyclical in the data

Suggestion: IRFs of aggregate loan share w.r.t. MP shocks vs. TFP shocks
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  endogenous debt structure model

- Clearly preliminary, so lots of scope for further work
  clarify and “clean up” empirics
  how should we interpret the debt structure choice?
  link empirics to model predictions more systematically