The Secular Decline in Interest Rates and the Rise of Shadow Banks

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Summary

- **Background:** Shadow banks (non-depository institutions) becoming important players in many markets: mortgage origination, mortgage servicing, syndicated loans, C&I loans
- What explains the rising share of shadow banks in the US residential mortgage market?
- **Prior work**
  - Post-crisis regulation
  - Technological improvement in loan origination
- **This paper:** Can the secular decline in interest rates explain the rising share of shadow banks?

Summary

- **Background:** Shadow banks (non-depository institutions) becoming important players in many markets: mortgage origination, mortgage servicing, syndicated loans, C&I loans

- What explains the rising share of shadow banks in the US residential mortgage market?

- **Prior work**
  - Post-crisis regulation on banks
  - Technological advantage of shadow banks in loan origination

- **This paper:** Can the secular decline in interest rates explain the rising share of shadow banks?

  Yes!

Key Mechanism

- Low interest rates negatively affect banks' profitability and equity

  interest rates $\downarrow \rightarrow$ interest income $\downarrow$, $\overline{interest\ expense} \rightarrow$ NIM $\downarrow \rightarrow$ NI $\downarrow$

- Leverage constraint would translate equity losses into lower lending and asset growth

- Reduction in lending by banks creates space for shadow banks to enter

Contribution

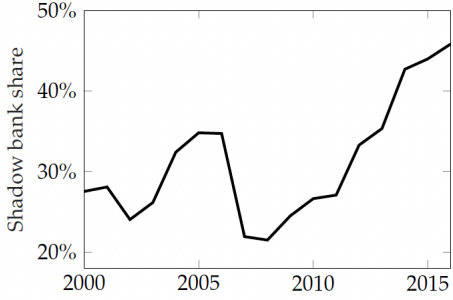
- Adds to the debate on banks' interest rate risk
  - Gomez et al. (2021 JME): create a cashflow exposure measure to changes in interest rates to show that higher interest rates increase cashflow of banks with a larger income gap
  - Drechsler, Savov, and Schnabl (2021 JF): banks' deposit market power makes deposit rates insensitive to interest rates; banks hedge by investing in interest-insensitive assets $\rightarrow$ stable NIM
  - Begenau and Stafford (R&R JF): local deposit market power does not aggregate as large banks use uniform pricing; stable NIM does not imply no interest rate risk (Begenau and Stafford, 2022)
- Contributes to the literature by looking at long-term effects of falling interest rates on bank profits
- Focuses on falling interest rates
- Further links to entry of shadow banks

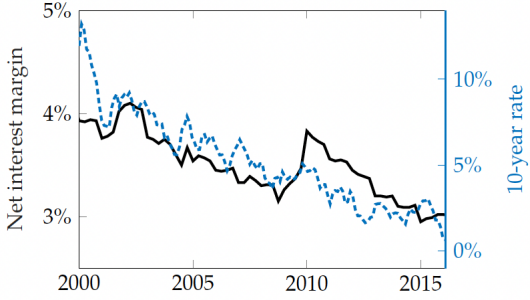
Comments

1. Time series trends
2. Frictions in hedging long-term interest rate risk
3. Channels
4. Effect of declining interest rates on shadow banks
5. Quantification

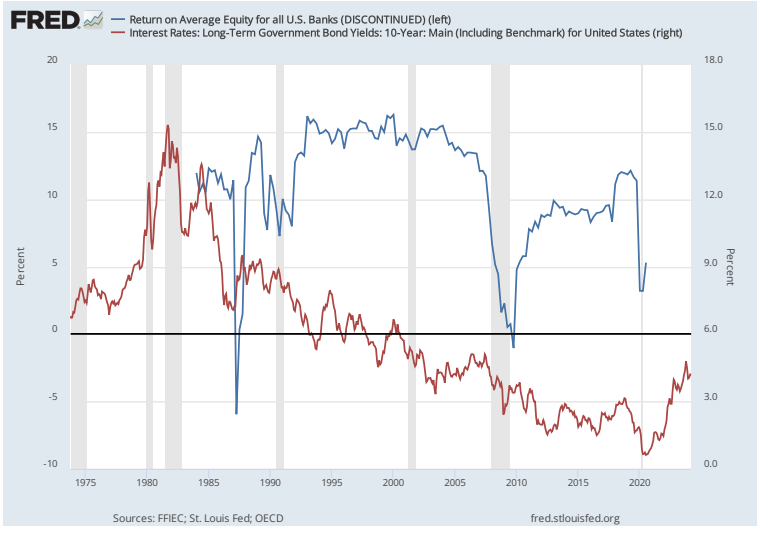
Time series trends

Interest Rates and NIM





Interest Rates and Net Income/Equity



Questions

- On average, even though net interest margins are falling, correlation of net income with interest rates seems to be small in the time series
- Average could be masking heterogeneity in the cross-section
  - If so, would be useful to understand which banks are particularly negatively affected
- Banks offsetting falling interest margins with higher non-interest income?
- Falling interest rates 'bite' in a tight capital regulation regime?
- Is it really the zero lower bound that is particularly relevant for bank profitability given that we see a decline in ROE in the post-GFC period?

Frictions in hedging

Exposure to declining interest rates

$$\tilde{e}_{bt} = \sum_{i \in I_A} \omega^i_{bt_0} \times \int_{t_0}^{t} \left[r^i_s - r^i_{t_0} \right] ds - \sum_{i \in I_D} \omega^i_{bt_0} \times \int_{t_0}^{t} \left[r^i_s - r^i_{t_0} \right] ds,$$

- Assuming banks are price takers, negative effect on banks depends on historical balance sheet composition
- Consider a 5% decline in long-term interest rates for two banks:
  - Bank A: 100% loans and 100% time deposits, loan rate goes down by 5%, Time deposit rate goes down by 4%. NIM goes down by 1 pp
  - Bank B: 100% securities and 100% time deposits, securities yield goes down by 4%, time deposit rate goes down by 4%, NIM doesn't change
- Difference in pass-through sensitivity across assets and liabilities generates differences in exposure

Exposure to declining interest rates

- Passthrough sensitivities depend on
  - Balance sheet weights
  - Ability to adjust prices (this is intentionally shut down)
- What prevents banks from holding assets that are less sensitive to changes in interest rates?
  - Specialized lenders?
  - Small vs big banks?
- What prevents banks from adjusting their loan spreads?
  - Loan and deposit market competition?
  - Authors control for market competition but I see it as a potential channel
- Would expectation about future long-term interest rates matter?
  - Do we need shocks to such expectations?
  - Even if banks expect interest rates to decline in the future, they can't adjust?
- Big question: What are the frictions in hedging long-term interest rate risk?

Channels

Channels

- I see two channels affecting lending similar to those in Agarwal and Baron (JFE forthcoming) which studies effect of inflation on lending
  - Net worth channel: Fall in net income constrains equity and negatively affects lending
  - Portfolio substitution channel: Reduction in lending should be greater for loans that are more exposed to falling interest rates
- Would be useful to see how lending is differentially affected depending on passthrough sensitivity
- What happened to deposit flows?
  - Higher interest rates induce deposit outflows
  - Did banks see an inflow of deposits when interest rates fell?

Effect of declining interest rates on shadow banks

Interest rate exposure of shadow banks

- The paper does a very good job of analysing the effect of falling interest rates on banks
- Would be helpful to also discuss how falling interest rates affect shadow banks
  - What happened to income of shadow banks?
    - Using shadow bank call report data, Agarwal et al. (2023) shows that MSRs hedge shadow banks' balance sheets from changes in interest rates
  - Interest expense of shadow banks?
    - Shadow banks are funded with secured credit lines from banks
    - Interest expense would depend on competition with banks in the downstream market (Jiang 2023)
- The paper argues that there is an asymmetric effect of interest rates on banks and shadow banks. Would be very interesting to provide evidence on the asymmetric effect
- Shadow banks disproportionately increased their share in the FHA/VA loan market compared to the GSE loan market.
  - How to think about this in the context of the model?

Quantification

- Would be useful to better understand the importance of this channel relative to capital regulation and technology
- Expand the time series and focus on the pre-GFC period when tight regulation was not a concern

Conclusion

- I really enjoyed reading the paper
- Important question
  - Shadow banks in each market are different. So much we don't know
- More evidence on the channels/mechanisms can make the paper even stronger