

Net Interest Margins and the Monetary Transmission Mechanism

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Discussion by Dan Greenwald



Introduction

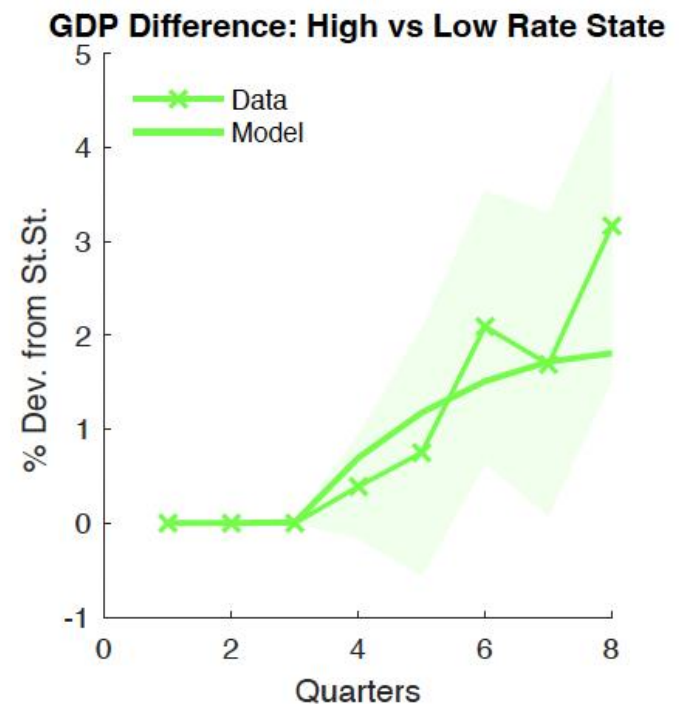
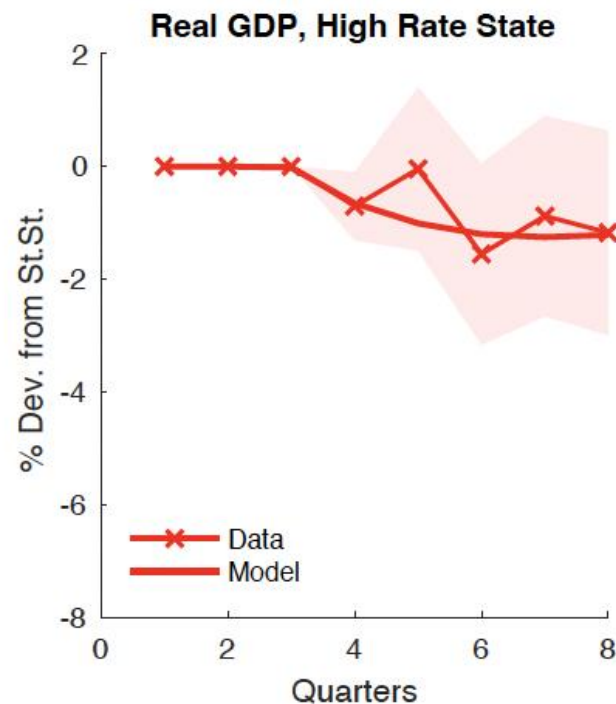
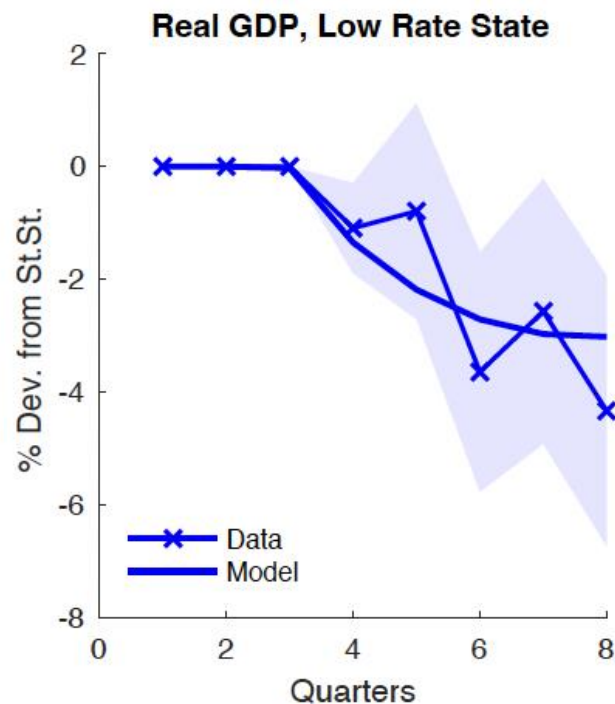
- Main idea: state dependence due to time varying deposit elasticity
 - Low rates: low elasticity, low pass through
 - High rates: high elasticity, high pass through
 - More transfers to households from deposit interest stimulate the economy, offsetting contractionary effects of rate hike when rates are high
- Extremely rich paper: empirical + micro model + macro model!
- This discussion: great idea, let's explore the mechanism
 - I find the state dependent elasticity intuitive and plausible
 - My big question: can this generate large macro effects? If so, how?

The macro mechanism: intuition

- Increased interest on deposits transfers resources to depositors
 - These households increase consumption according to their MPC
 - Bank owners paying interest decrease consumption according to MPC
 - If depositors have **higher MPC** than bank owners, get **net increase in demand**
- Pass through from interest rates to deposit rates stronger under high rates
 - Higher increase in demand (**smaller drop in GDP**) following rise in rates when rates are already high
- My question: is this mechanism strong enough to deliver empirically realistic levels of state dependence?

The macro mechanism: magnitudes

- Empirical: 100bp rate hike under low rates → extra 2-3pp drop in real GDP.
 - Basically the same result using either identification strategy
 - Macro model is able to match this result



Back of the envelope calculation

- Let's make some aggressive assumptions to go for an upper bound
 - MPC of every household is 100%, MPC of bank owners is 0%
 - Pass through to deposit rates is 100% under high rates, 0% under low rates
- Median household has \$7,041 in deposits in 2019 SCF
 - Increasing rate on deposits by 100bp for 1 year would transfer \$70 to this HH
 - Under high rates (full pass through): additional \$70 of demand
 - Under low rates (no pass through): additional \$0 of demand
- Extra initial increase in demand of around 0.1% of GDP under high rates
 - How do we get from here to the 2% - 3% we see in the paper?

Macro mechanism magnitudes

- Breaking this result would seem to require either
 1. **Very large GE multiplier** of at least 20x – 30x.
 2. **Very large deposit holdings** by high-MPC households
 - Mean deposit holding is \$53,330 in 2019, 7.6x larger than median.
 - But are these really the high-MPC households driving the mechanism? If so, why don't they spend out of deposits?
 - Need a story for why the marginal dollar of interest income is very different from the marginal dollar sitting in the bank.
- Note: the model is clearly matching the data very well.
 - Would be helpful to spell out exactly how it is doing this.

Alternative #1: mechanism through bank equity

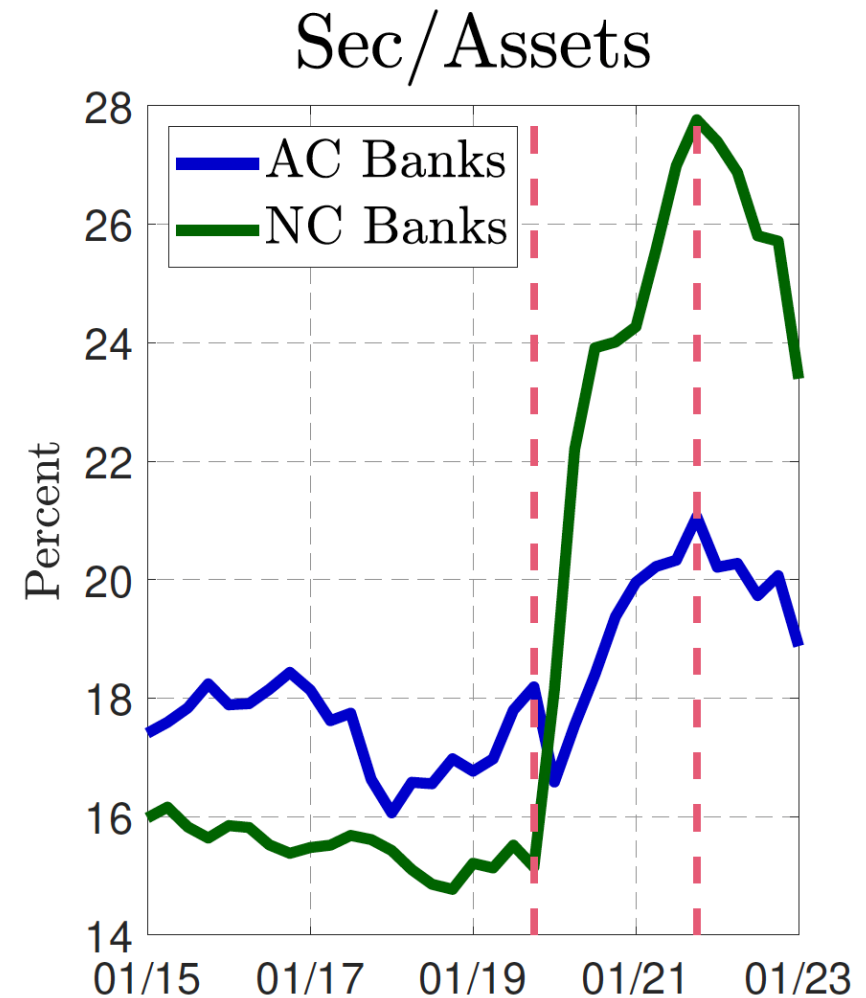
- With a household-based mechanism, this paper breaks from a long macro-banking literature focusing on bank net worth as the key state variable
 - Gertler and Kiyotaki (2015); Abadi, Brunnermeier and Koby (2023), many others...
 - Rates → spreads → bank profits → bank equity → bank lending → real activity
- These type of mechanism can easily deliver large quantitative response
 - Change in bank interest margin is much larger share of bank equity than GDP
 - No longer matters if large depositors have high MPC (as long as they have the same state-dependent elasticity)
- But these mechanisms seem like they would go the **wrong way**
 - More stimulus when rates are low (and spreads, profits are sensitive)

Bank risk management

- However, the story is not so simple due to bank risk management
 - Dreschler, Savov, Schnabl (2021): banks manage fluctuations in value of deposit franchise using fixed-income securities
 - Long securities position falls in value as deposit spreads rise with rates
 - The right portfolio can neutralize effect of interest rates (and NIM) on equity
 - Could see any cyclicalities given the right set of bank risk management goals
- The securities portfolio can also be used to manage state dependent risk in an environment with time varying interest rates
 - Banks would just need to hold more securities when rates are low
 - Note: correct sign for GDP state dependence requires “overadjustment”

Bank securities portfolios by interest rate

- Plot from Greenwald, Krainer, Paul (2024) shows ratio of securities to bank assets
 - Increases sharply during low-rate pandemic environment
 - Begins to fall in the tightening cycle
- Risk management requires holding more securities with low rates
 - But how much more?
 - Quantitative question how overall exposure is changing with rates



Alternative #2: mechanism through regulation

- Main argument of Greenwald, Krainer, Paul (2024) is that **regulatory accounting** seems essential for interest rate transmission through banks
 - Find that gains and losses on securities have **strong effect** on bank lending to firms **when they pass through to regulatory capital** (10-30 cents per \$1)
 - Much **smaller or zero effects when they do not**, even for similar securities at non-affected banks, or held-to-maturity securities at the same banks
- This mechanism would generate **correct sign for state dependence**
 - Only securities are ever marked to market, never franchise value (PV of NIM)
 - Even if banks are perfectly hedged, security values fall when rates rise
 - More securities when rates are low → bigger contraction in regulatory capital → bigger decline in investment and GDP

Conclusion

- Great paper looking at a novel mechanism for state dependence in macro
 - Interest rate changes pass through more to deposit rates when rates are high
- Main challenge going forward seems to be figuring out how this mechanism generates large macro responses
 - Current **MPC-based mechanism** seems tricky given small size of deposit interest income relative to GDP
 - Mechanisms **based on bank equity** are popular and plausibly large, but usually go the wrong way, can be undone by risk management
 - Regulatory accounting rules may help! If banks hold more securities under low rates to hedge state dependent risk, **regulatory capital channel** amplifies interest rate transmission.