Discussion of "Foreseen Risks" by
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NBER Summer Institute - 2019

Summary of Discussion

- Facts about boom & bust cycles consistent with behavioral interpretation

    E.g., Extrapolitive beliefs

- This paper: Non-behavioral explanation of facts w/ rational model of time-varying bank franchise value

Discussion:

- Briefly summarize paper
    1. Facts
    2. Model (simplified version)
    3. Key driving force
- Comments

Facts

0. Household debt increases before crises

1. 37% of households anticipated the end of the housing boom

2. Banks paid out dividends before and also during the crisis

3. Bank leverage increased over the boom years

4. Market-to-book ratio of bank equity fell just before the crisis

5. Safe asset share decreased before the crisis and then spiked up

Intepretation

- ▶ Some agents forsaw the crisis

- ▶ Increased risk-taking by banks in the lead-up to the crisis

Model set up

- ▶ Production & banking sector & investor/consumer that owns it
- ▶ Key: one aggregate state variable drives consumption and banks' franchise value through risk-premia
- ▶ Banks
  - ▶ Invest in safe gov. bonds and risky loans
  - ▶ Funded with insured deposits and equity
  - ▶ Can default, deposits are covered by mispriced insurance, leverage requirement
  - ▶ Return on loans depends on the aggregate shock process and idiosyncratic shock
  - ▶ Interest rate on deposits exogenous and constant
  - ▶ Default can be costly
- ▶ Franchise value + non-optimal liquididation & deposit insurance opposing risk-taking effects
- ▶ Production sector driven by same agg. shock

Key insights from this model

- ▶ Banks' franchise value (Market Equity - Book Equity) decreases in the disaster risk probability

- ▶ Since bank default may not be optimal from a shareholder perspective, banks may act precautionarily to protect their franchise value

- ▶ Low disaster risk probability
  banks shy away from risk (low leverage, invest in gov bonds)

- ▶ If the disaster risk probability is high, banks want to take on more risk (levered loans) to gamble for resurrection and exploit the deposit insurance

- ▶ Disaster risk moves both crises and previous period's lending - thus more bank credit does not cause a crisis
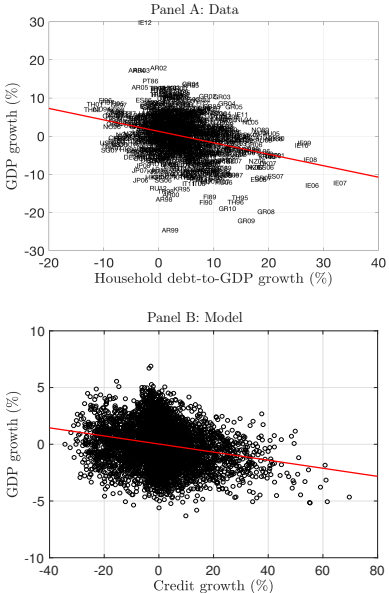
Model Success

Fig. 14. GDP and Household Debt growth. The top figure shows the em-

- ▶ Interesting model

- ▶ Useful in adding discipline around the narratives of the crisis

- ▶ Notably matches the predictive relationship between past (bank) credit growth and crisis

- ▶ As acknowledged in the paper, model does not match many other facts

- ▶ Key facts inconsistent with model interpretation/assumptions

Comment 1: Model interpretation of policies effect

- ▶ View in paper: government interventions effectively lowered bank funding costs

- ▶ Higher franchise value cause banks to take less risk
  Equityholders stand to loose more

- ▶ Model predicts banks decrease risk & lend less

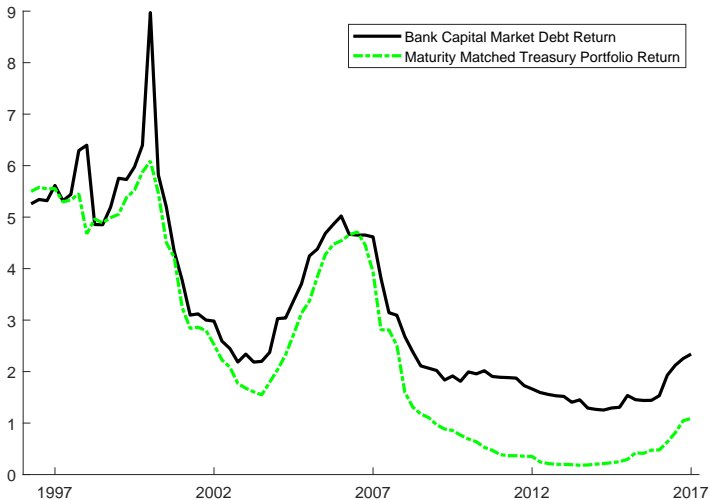 less leverage and more investment securities

Higher investment security share and higher deposit share
## Effect from collapse of shadow banking system & QE
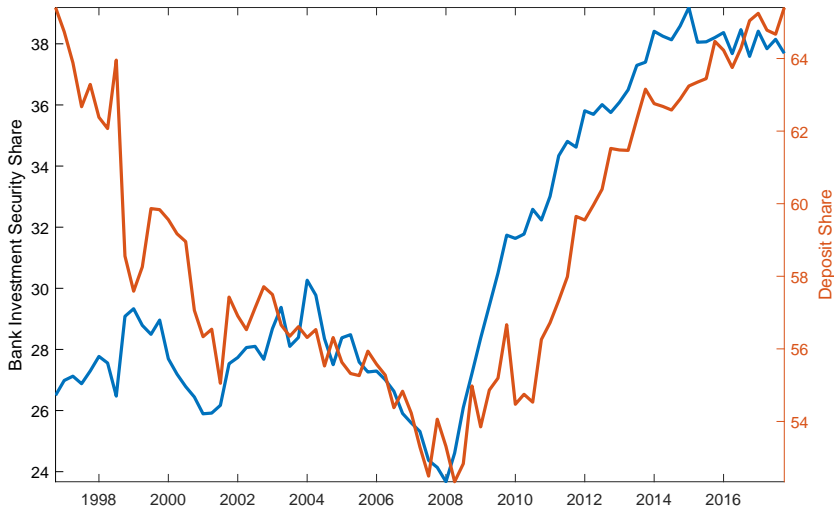
Interventions led to higher bank funding costs

Studies on CIP violations after crisis cite higher funding costs for banks as fundamental driver Duffie (2018); Du, Hebert, Huber (2019)

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Begenau & Stafford: Bank equity underperforms risk-matched benchmark: low franchise value

▶ Black: bank stock returns & Green solid: risk-matched passive benchmark & Green dashed: maturity-matched benchmark

Bank Equity Returns
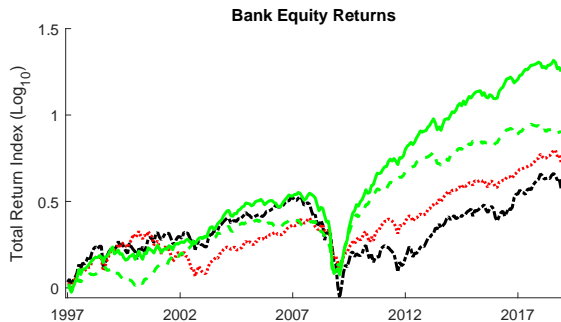
▶ Banks underperform especially after the crisis
▶ Buchak-Matvos-Seru-Piskorski (2018): FinTech mkt shr increasing b/c of regulation & innovation: banks less competitive

Comment 1: Post-crisis interpretation

- ▶ Why banks do not lend as much anymore?

- ▶ View in paper: interventions lower bank funding costs, increase banks' franchise value and lead to less risk-taking

- ▶ Data: Higher funding costs, lower market-to-book ratios of equity post crisis, low/negative measured franchise value suggest that policy driven increase in franchise value unlikely to be cause of lower bank lending

- ▶ Other interpretation: combination of
    - ▶ Response to tighter regulation (risk weights, LCR, stress tests...)
    - ▶ Realization that some portfolios were risky led to lower lending
    - ▶ Banks less competitive (Rocket mortgage Nbr. 1 lender)

Comment 2: What is disaster risk?

- ▶ Disaster risk probability exogenously time-varying

- ▶ Fundamentally begs the question what drives it

- ▶ Alternative literature based e.g., on behavioral biases attempt to endogenize the time variation in risk-premia

- ▶ Evidence of suboptimal behavior or incorrect beliefs by households and financial intermediaries before the crisis (Rating agencies, Central bank views, Bank CEOs,...)

Comment 2: Forseen disaster risk or something else?

▶ Model assumes that banks correctly form expecation about aggregate states and act consistently

▶ Fahlenbrach and Stulz 2011:

    Bank CEOs did not reduce their holdings of shares in anticipation of the crisis or during the crisis. Consequently, they suffered extremely large wealth losses in the wake of the crisis.

    Financial Crisis Inquiry Commission Jan 2010

▶ Goldman CEO Blankfein:

    I wish we were much less leveraged then. Would I do something differently knowing what I know now? How could I not?

Minor comment: Focus on banks

▶ Disaster-risk risk-premia should effect all financial intermediaries
▶ Build up of risk mostly outside the traditional banking sector (i.e., agg. bank loan losses rarely peaked 4%)
▶ Suggests more nuanced view
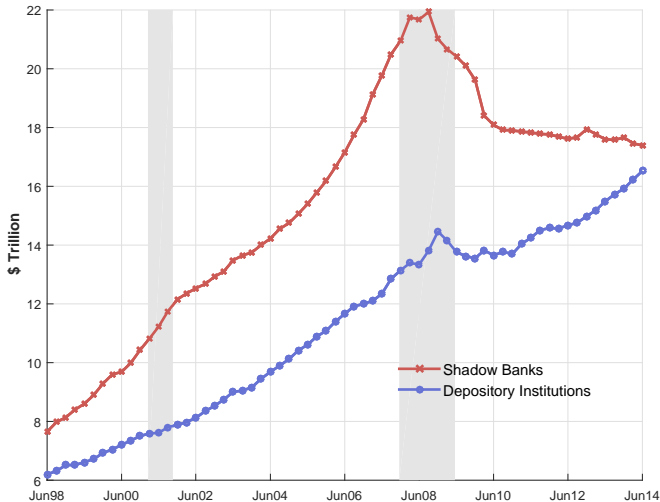
Minor comments ctd

- Bank leverage
  - Banks target book leverage ratios (e.g., Adrian, Boyarchenko, Shin 2019; Begenau, Bigio, Majerovitz, Viera 2018)
  - Market leverage (i.e., market equity over and beyond book equity) is outside banks' control
- Checking deposits
  - Small fraction of bank holding company balance sheet
  - Only 40% of bank funding is either from checking (below market) or savings deposits (at or slightly below market)
- The notion that all loans are risky is a bit strange
  - Default rates, even in the crisis and afterwards, have not been excessively high
  - Maximum was 4%
- Regulatory reform interpretation of authors not quite right: Dodd-Frank reduced bailout guarantees (reflected in higher credit spreads)

- How well does the model matches untargeted moments?

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Conclusion

- ▶ Nice paper!
- ▶ Paper neatly matches a selected set of interesting facts
- ▶ But so do alternative explanations