Discussion of
"The Rise of Shadow Banking:
Evidence from Capital Regulation"

by Rustom M. Irani, Rajkamal Iyer, Ralf R. Meisenzahl,
and Jose-Luis Peydro

Isabel Schnabel
University of Bonn

ECB Workshop on Monetary Policy and Financial Stability
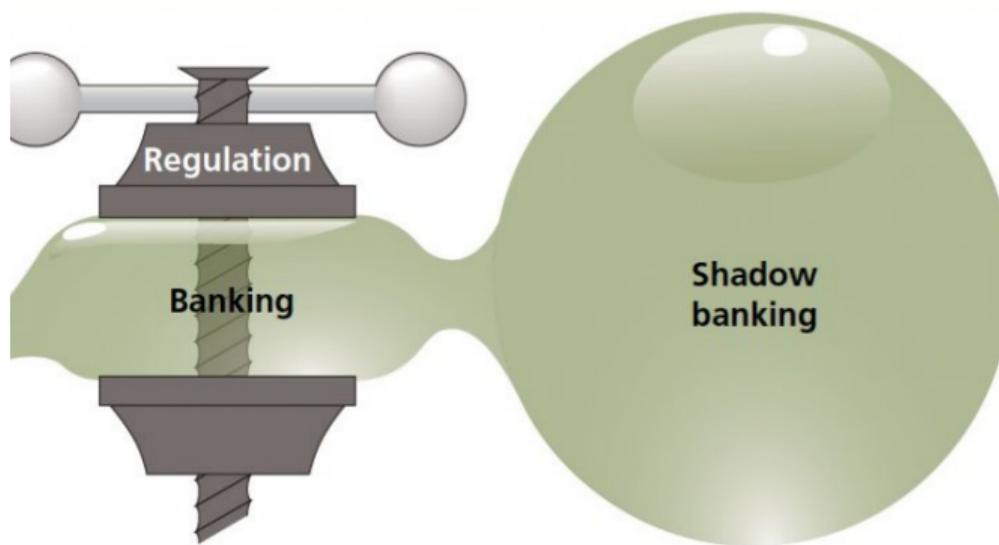Frankfurt, December 17, 2018

Motivation of the paper

- Global financial crisis was followed by a tightening of capital regulation
- This may have pushed financial intermediation into less regulated parts of the financial system (*"shadow banking sector"*) ⇒ **Regulatory arbitrage**
- This *credit reallocation* may increase financial fragility (Farhi and Tirole, 2017)

Approach of this paper

- ▶ Exploit a detailed database on the *syndicated loan market* in the U.S. from 1992 until 2015

- ▶ Use *within-loan-year variation* to identify credit reallocation to nonbanks in response to bank balance sheet shocks (Khwaja and Mia, 2008)

- ▶ Large number of robustness checks, including a *diff-in-diff analysis* of exogenous variations to bank capital regulation

Main results

- **Less capital $\Rightarrow$ more loan sales:**
  - Less capitalized banks are *more likely to sell loan shares*, especially in crisis times and for distressed loans (Table 2)
  - An increase in bank capital requirements leads to *higher loan sales* at the more affected banks (Table 6)
- **More loan sales $\Rightarrow$ higher nonbank share:**
  - Loans with less capitalized banks have a *higher nonbank share* (Table 4)
  - An increase in bank capital requirements leads to a higher nonbank share in more affected syndicates (Table 6)
- **Higher nonbank share $\Rightarrow$ higher financial fragility:**
  - In the global financial crisis, *loan sales were higher* and *secondary market loan prices dropped more sharply* if the nonbank share was higher, especially for nonbanks with unstable funding (Table 8)

Interesting and important paper

- ▶ First-order topic in today's policy debate

- ▶ Great micro-level dataset and nice identification

- ▶ Interesting results with important policy implications

Comments on the aggregate data

▶ Strongest aggregate increase in nonbank loan share occurred in the *early 2000s* before the financial crisis (not related to regulatory tightening)

Comments on the aggregate data

▶ Strongest aggregate increase in nonbank loan share occurred in the *early 2000s* before the financial crisis (not related to regulatory tightening)

▶ Dramatic increase in trading of loan shares (sales and purchases!) of banks and especially nonbanks after the crisis (structural break?)
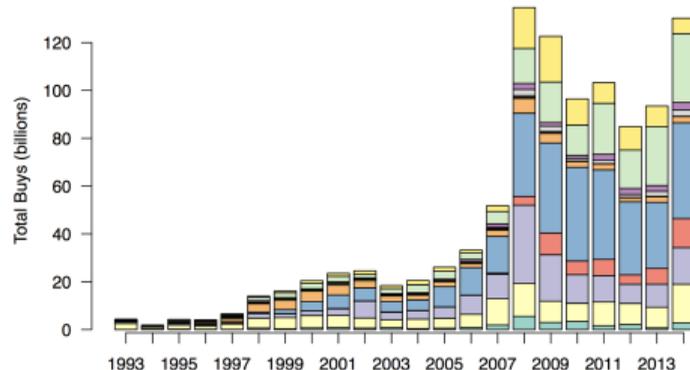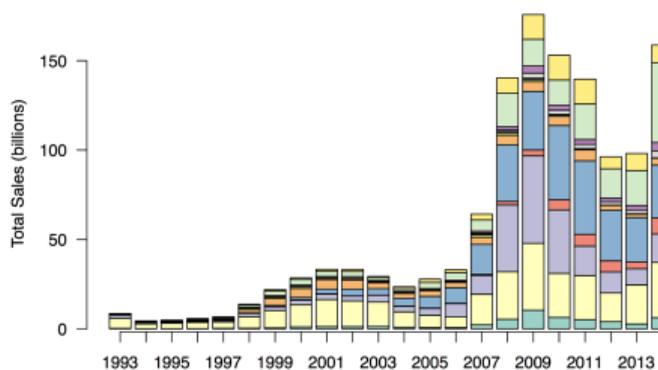
Comments on the aggregate data

- ▶ Strongest aggregate increase in nonbank loan share occurred in the *early 2000s* before the financial crisis (not related to regulatory tightening)
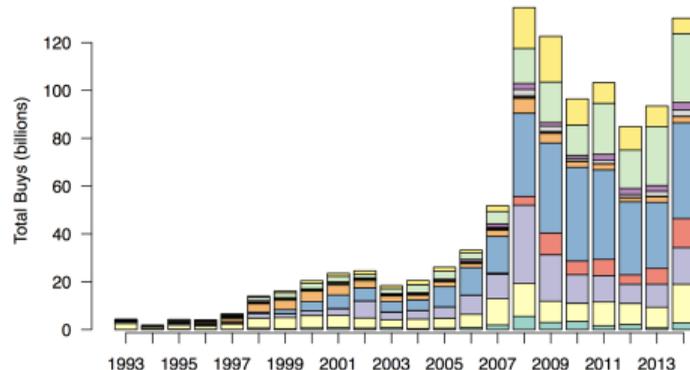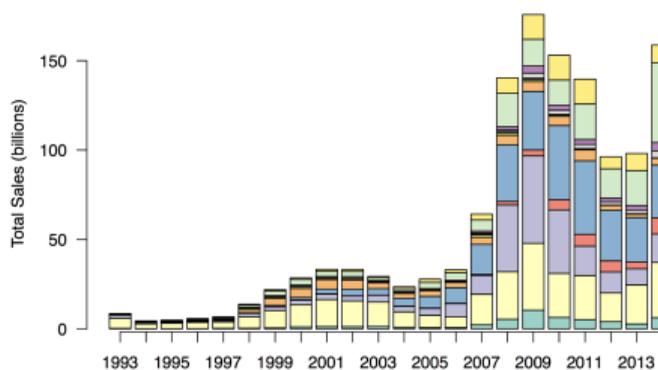- ▶ Dramatic increase in trading of loan shares (sales and purchases!) of banks and especially nonbanks after the crisis (structural break?)

- ▶ How relevant are net loan sales by banks in the aggregate?

Further comments on the data

- Better capitalized banks have a *very small share of corporate loans* in total loans (median = 1.5%, mean = 6.2%)

Further comments on the data

- Better capitalized banks have a *very small share of corporate loans* in total loans (median = 1.5%, mean = 6.2%)

- Sample should generally *exclude loans to the financial sector*

Further comments on the data

- Better capitalized banks have a *very small share of corporate loans* in total loans (median = 1.5%, mean = 6.2%)

- Sample should generally *exclude loans to the financial sector*

- At which *level* should the capitalization be measured? (Here: Bank holding company/ultimate parent)

Further comments on the data

- Better capitalized banks have a *very small share of corporate loans* in total loans (median = 1.5%, mean = 6.2%)

- Sample should generally *exclude loans to the financial sector*

- At which *level* should the capitalization be measured? (Here: Bank holding company/ultimate parent)

- What about *international banks*?

Comments on identification

- ▶ Very *nice identification* by exploiting within-loan-year variation
- ▶ But: Not all regressions exploit the full set of fixed effects (not clear why)

Comments on identification

- Very *nice identification* by exploiting within-loan-year variation
- But: Not all regressions exploit the full set of fixed effects (not clear why)

- Diff-in-diff analysis: Post-crisis period was characterized by a *complete overhaul of regulation* – how credible is it to pick two regulatory surprises? There must have been many more

Comments on the results

▶ Standard errors are in most cases *not clustered at bank level*, which tends to overstate the significance of results
  - Reason: Variation of the variable of interest is often at bank level, which introduces correlation across loans issued by the same bank
  - Example: In the main specification (Table 2), there should be two-way clustering at the loan and bank (or bank-time) level

▶ Main regressions do not discuss *economic significance* (seems to be pretty small in first specification)

Comments on interpretation

- What is the role of **asymmetric information**?
- If banks have a comparative advantage in monitoring/screening borrowers, a sale of loans should suffer from *adverse selection problems*
    - Loans can only be sold at very low prices

Comments on interpretation

- ▶ Effect of loan sale on a bank's capital situation is *unclear*
- ▶ While capital requirements are reduced, a bank may have to *realize losses* if it has to sell the loan at a price below book value
- ▶ Loan sale is most attractive if book value of loan properly reflects the market price
  - Could it be that banks with lower capital are those who had carried out *larger write-offs* before?

Comments on "shadow banks"

- ▶ "Shadow banks" include a very *diverse group* of financial entities, many of which are regulated quite strictly (e. g., insurance companies, pension funds)
- ▶ Fragility of funding also differs widely and should be differentiated in more detail
  - ETFs: No redemption risk because redemption is not possible
  - Money market funds: Very vulnerable if they promise a stable net asset value
- ▶ More research needed

Conclusion

- Very nice and topical paper

- What are the *welfare effects* of this credit reallocation? Need for further research

- How can problems of *asymmetric information* be resolved?

- Policy implications: Loosen regulation of banks or tighten regulation of "shadow banks"?

Thank you very much for your attention!