Fintech and Shadow Banking

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Last Decade: Dramatic Change in Lending Landscape

- Rapid rise of shadow banks (SBs) in the lending market
- Occurred during the period of increasing bank regulatory burden

Shadow bank share in the $10 trillion US mortgage market

Source: Buchak, Matvos, Piskorski, and Seru (2018a)
Last Decade: Dramatic Change in Lending Landscape

- Rapid rise of shadow banks (SBs) in the lending market
- Occurred during the period of increasing bank regulatory burden
- Fintech lenders important part of this trend
  - Shadow banks early adopters of financial technology

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Rise of Shadow Banks: Key Questions

• How much of the growth driven by regulations vs technology
  ❍ Regulation: capital costs, scrutiny/supervision burden, legal costs
  ❍ Technology: lower costs, higher quality products, better models

• Impact on consumers
  • E.g., access/distribution/pricing of credit/financial services

• Implications for financial stability and regulation
  • Need to rethink current regulatory framework?
Rise of Shadow Banks: Regulatory Burden?

- Extensive regulation of banks after crisis
  - Dodd Frank
  - Basel III
  - Changes in regulators, enforcement..

- Regulation dampens bank lending
  - Traditional banks face rising capital costs
  - Traditional banks face greater capital constraints
  - Traditional banks face greater regulatory scrutiny

- Shadow banks fill regulatory gaps?
Shadow Bank Expansion in the Residential Mortgage Market

2008

Source: Buchak, Matvos, Piskorski, and Seru (2018a)
Rise of Shadow Banks: Regulatory Burden?

- **Source of Variation (BMPS, 2018a)**
  - Banks are exposed to national-level regulatory shocks
  - Counties exposed through 2008 bank lending market share
  - County-level variation in exposure to differentially shocked banks

- **Regulatory Changes**
  1. **Higher Capital Requirements**
     - *Bank Capitalization*: Banks rebuilding capital → Lend less
  2. **Enforcement / Legal Risk**
     - *Lawsuits*: Banks exposed to more mortgage-related lawsuits → Lend less
  3. **Tighter regulatory supervision**: 
     - *OTS Closure*: Banks supervised by OTS → Lend Less

- **Outcome**
  - Changes in shadow bank market share from 2008

Source: Buchak, Matvos, Piskorski, and Seru (2018a)
**Shadow Bank Expansion and Bank Regulatory Burden**

- Assess shadow expansion in response to bank regulatory burden
- Shocks to Regulatory Burden (BMPS 2017)
- Banks retreated and shadow banks expanded where regulatory burden ↑

**Role of Regulation in Shadow Bank Expansion**

\[
\Delta \text{Shadow Bank Lending Share}_c = \beta_0 + \beta_1 \Delta \text{Regulatory Burden}_c + X'_c \Gamma + \epsilon_c
\]

Source: Buchak, Matvos, Piskorski, and Seru (2018a)
Rise of Shadow Banks: Technology?

• Fintech lenders account for significant part of SB expansion
  • 1/3rd in the mortgage market

• Fintech lenders (BMPS, 2018a)
  • Serve more creditworthy borrowers than shadow banks
  • Focus on refinancing
  • Originate and sell loan faster than traditional banks
  • Seem to use different models/data in loan origination process
  • Provide convenience rather than direct cost savings

Source: Buchak, Matvos, Piskorski, and Seru (2018a)
Fintech Premium: Fintech vs Bank Mortgage Rates

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Fintech Premium: Fintech vs Bank Mortgage Rates

- Fintech can offer borrowers convenience rather than costs savings

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Rise of Shadow Banks: Regulation vs Technology

What we know so far:
- Shadow banks expand in areas with banks subject to more regulatory oversight
- Fintech lenders command rate premium and appear to process/sell loans faster

Quantitative model to assess role of technology and regulation
- Combine regulatory and technology effects
- Decomposition: how much in technology and how much is regulation
- Informed by the data (market shares, prices)

Key Findings
- Estimate that 60-70% of shadow bank growth due to regulation
- Rest due to financial technology (about 30%)
Rise of Shadow Banks: Regulation vs Technology

- 60-70% of shadow bank growth due to increase in bank regulatory burden
- Rest due to financial technology (about 30%)

Source: Buchak, Matvos, Piskorski, and Seru (2018a)
Rise of Shadow Banks: Implications

- **Implications for Financial Stability**
  - Fintech/SBs have no deposit funding base, limited balance sheet capacity
  - Dependent on ability to sell loans/warehouse lines/GSEs/crowdfunding

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Rise of Shadow Banks: Implications

- **Implications for Financial Stability**
  - Fintech/SBs have no deposit funding base, limited balance sheet capacity
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  - SBs can quickly shutdown in the face of funding problems like in 2007
    - Mortgage market shadow bank share: 2007 \( \approx 25\% \) vs Now \( > 50\% \)
  - New lending models have not been tested during downturn
  - In case of the shutdown of fintech/SB lenders who will pick up the slack?
    - Traditional banks (TB) may be unable due to limited experience/market presence
Rise of Shadow Banks: Implications

- **Implications for Regulatory Framework (BMPS, 2018b)**
  - Need to recognize the role of shadow banks and IO of the market
  - SBs response can significantly affect transmission of various polices
    - Quantity, pricing, distribution of credit, bank stability

![Lending Changes ($B) and Capital Ratios](chart.png)

Source: Buchak, Matvos, Piskorski, and Seru 2018b
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Lending Changes ($B) and Capital Ratios

Source: Buchak, Matvos, Piskorski, and Seru 2018b
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Lending Changes ($B) and Capital Ratios

Lending Changes ($B) and Conforming Limit

Source: Buchak, Matvos, Piskorski, and Seru 2018b
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Rise of Shadow Banks: Implications

• **Taxpayer Exposure**
  - No direct FDIC exposure…but GSE exposure in the mortgage market
    o Increased taxpayer risk due to limited regulation and GSE guarantees?
    o Can make scaling down the role of GSEs even harder

• **Consumer Welfare**
  - SBs dominate market for the least creditworthy (+80% FHA market share)
    o Much less regulatory oversight than traditional banks
  - Use of big data/credit scoring algorithms create regulatory challenges

• **Traditional Bank Response**
  - Shadow banks were early adopters of new technologies
    o Less concern about regulatory implications, no legacy investments/systems
  - Traditional banks are catching up
    o Evolving market structure can create further regulatory challenges
References
