

# How do capital requirements affect loan rates? Evidence from High Volatility Commercial Real Estate

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# Disclaimer

The views expressed in this presentation are my own and do not necessarily reflect those of Banca d'Italia.

# Overview

- 1 About the paper
- 2 Some comments
- 3 Conclusions: possible policy implications

# Research question

- What is the impact of higher bank capital requirements on loan pricing?
  - Transmission mechanism from higher capital requirements to bank financing costs, then passed to loan rates
  - Are banks passing to targeted loans their higher financing costs derived from the higher capital requirements?
  - The paper provides new evidence on the intensity of this effect

## What the paper does

- Ex-post evaluation of the impact of a within-sector capital requirements policy
- HVCRE rule: risk weight increase from 100% to 150% for HVCRE ADC loans, while the risk weight for non-HVCRE ADC loans and non-ADC CRE loans remained at 100%
- The rule was announced in June 2012 and implemented in January 2015 with no grandfathering of earlier originated loans
- Focus on a subcategory of construction lending: a non-1-4 family ADC loan is considered to be HVCRE if its LTV ratio exceed supervisory limits

# Methodology

- Diff in diff approach: the  $\beta$  measures the average relative increase in interest rates for targeted loans (i.e. non-1-4 family ADC loans with high LTV exposed to the post HVCRE period) in comparison to untargeted loans (i.e. exempted non-1-4 family ADC loans)
- Triple diff approach: the  $\beta$  measures the average relative increase in interest rates for targeted loans in comparison to other CRE loans not impacted by the HVCRE rule (i.e. 1-4 family construction loans and non-ADC CRE loans)

# Main results

## Average effect

The HVCRE rule increases loan rates by 35 b.p. This means that 1p.p. increase in required capital raises loan rates by 8.8 b.p.

## Heterogeneous effect

The previous result is entirely due to loans from banks that are capital constrained (i.e. closer to the risk-based capital ratio).

## Non-price effect

No evidence that the rule induced banks to take on more risk within the HVCRE loans to compensate for a higher required return.

# General comments

- Strengths: policy-relevant topic, loan-level data, good methodology
- Weaknesses:
  - 1 no discussion on the parallel trends assumption
  - 2 doubts on robustness:
    - the diff in diff average effect (35b.p.) is sensible to the selection of controls;
    - the triple diff approach does not add robustness to the magnitude of the average effect.



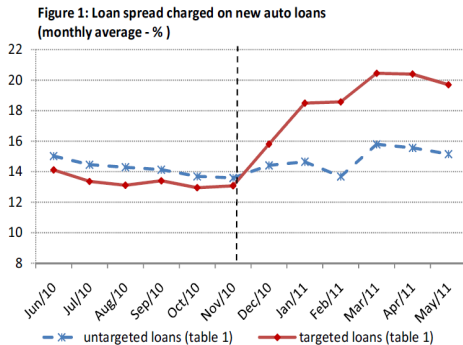
## Comment 1: Parallel trends assumption

Hypothesis: the average change from the pre-treatment to the post-treatment period in the control group represents the counterfactual change in the treatment group if there were no treatment.

Testable condition: pretreatment dynamics are identical for controls and treated loans

- issue: Were the control and targeted loans on the same pre-reform time trends?
- suggestions:
  - graphical evidence: interest rates of targeted and untargeted non-1-4 family ADC loans over time (see for example fig.1)
  - testing strategy: include linear trend polynomial
  - testing strategy: treatment effect under alternative Parallel-(q) assumptions [Mora and Reggio, 2017]

# Figure 1



Source: Martins, Schechtman (2013)

## Comment 2: Robustness on the magnitude of the HVCRE rule effect

- issue: the average effect (35b.p.) is sensible to the selection of controls and the triple DID doesn't add robustness to it ( $\approx$  placebo test)
- suggestions:
  - add borrower controls
  - restrict the sample to borrowers who have taken non-1-4 family ADC loans from the same bank both before and after the regulatory capital change [Martins and Schechtman, 2013]

## Comment 3: Miscellaneous suggestions

- heterogeneous effects: test if specialized banks (high share of ADC loans over total assets) respond more to the HVCRE rule banks [Ferrari et al., 2017]
- timing effects: investigate whether the impact of the HVCRE rule is less pronounced one or two years after the implementation [Ferrari et al., 2017]

## Conclusions: possible policy implications

- Policy-relevant paper: the empirical estimate of the elasticity between loan rates and capital requirements for HVCRE loans is informative for calibration.
- BUT caution: besides the caveat of external validity, there might be non-linearities in banks' reactions to regulatory requirements (stronger calibration  $\Rightarrow$  more sizable effects?; tightness  $\neq$  release)

# References



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