

Bank of England

Monetary Policy Tightening and Macroprudential Policy

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Motivation and Research Question

Motivation

How to safeguard the economy and the financial system against the unintended consequences of **necessary monetary policy actions**.

- how to design and deploy macroprudential tools to maintain **stability**
- protect **vulnerable households**
- ensure monetary policy can achieve its goals

Research Question

Can macroprudential policies mitigate the adverse side effects of monetary tightening on financial stability?

Model overview

DSGE model

- **Patient and impatient households (borrowers versus savers)**

Borrowers may default on their mortgages if the value of their housing collateral falls below their outstanding debt. **Probability of default** modelled as idiosyncratic shock to asset values.

- Banks with capital constraints and **default** risk

- **Macroprudential tools**

- *capital requirements,*
- *LTV caps,*
- *CCyB,*
- *Deposit Insurance Scheme (DIS):* a fraction of deposits is insured by government which affects the **price of risk** and **incentives for banks**

Joint analysis of **borrower-** and **capital-**
based macroprudential instruments
Both **structural** and **cyclical**

Key mechanisms

- **How monetary tightening transmits through the financial sector:**
 - Erodes the net worth of borrowers and banks
 - Amplifies downturn via credit constraints and defaults

Macroprudential tool	Shock Absorber Mechanism
LTV caps	Reduce borrower leverage and default risk
Capital requirements	Strengthen bank balance sheets, absorb losses
Countercyclical buffers	Provide flexibility during downturns
Deposit Insurance Scheme	Limit contagion from bank failures

Ex-ante macroprudential policies

Structural (ex-ante) tools:

- Higher capital requirements (incremental effect smaller if banks already sound)
- Tighter LTV caps

Main findings:

- LTV caps are especially effective **when bank default risk is moderate**
 - Both tools strengthen resilience, but via different channels
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Ex-Post (Cyclical) Macroprudential Policies

Countercyclical tools

- CCyB release
- LTV cap relaxation

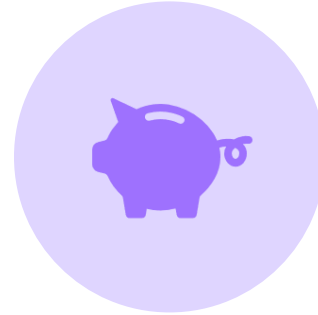
Main findings

- CCyB release only effective if banks are well-capitalized; otherwise, it can backfire.
 - LTV relaxation avoid a *double whammy* for borrowers during tightening
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Policy implications



Well-calibrated macroprudential frameworks are crucial



Bank capital-based tools are efficient for resilience



Borrower-based tools (LTV caps) are essential, especially when household vulnerabilities are high or banks are fragile.



The combination of tools is key – no “one size fits all”.

Strengths and contributions

Rich model
capturing
amplification
channels

Joint analysis of
multiple
macroprudential
tools

Policy-relevant
calibration
(Euro area data)

Limitations and discussion points

- **Research question:** very general.
- **Share of borrowers:** 43% indebted households in Euro data (2017 ECB Household Finance and Consumption Survey (HFCS))

$$P_t C_{m,t} + Q_{h,t} H_{m,t} - W_t L_{m,t} - \left(1 - \Gamma_{m,t}(\bar{\omega}_{m,t})\right) R_t^{H,nom} Q_{h,t-1} H_{m,t-1} - P_t T_{m,t} > 0$$

- **State dependence of your results:**
 - **Steady State analysis:** hump-shaped curve of effectiveness of LTV with respect to the steady state bank default risk
 - **Dynamic analysis:** hump-shaped curve of effectiveness of CCyB release with respect to the steady state bank capitalization

How do you measure the effectiveness?

Takeaways



Key messages

LTV caps are especially effective **when bank default risk is moderate**

CCyB release only effective if banks are well-capitalized; otherwise, it can backfire.

Higher capital requirements (incremental effect smaller if banks already sound)



Main Discussion Points

What is your research question? Or, in other words, how do you measure effectiveness?

Share of borrowers is a key parameter for your results. Make your calibration consistent with the theoretical meaning of that parameter.

The interaction of macroprudential policies can be analysed in function of the state of the economy.

