

# **Non-standard monetary policy, asset prices and macroprudential policy in a monetary union**

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Discussion by Raf Wouters (NBB)

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## optimistic conclusion

- Region-specific macroprudential policy can stabilize private sector borrowing with limited negative effects on economic activity.
- Region-specific macroprudential policy in combination with union-wide accommodative monetary policy can deliver macroeconomic and financial stability at both regional and union-wide level.

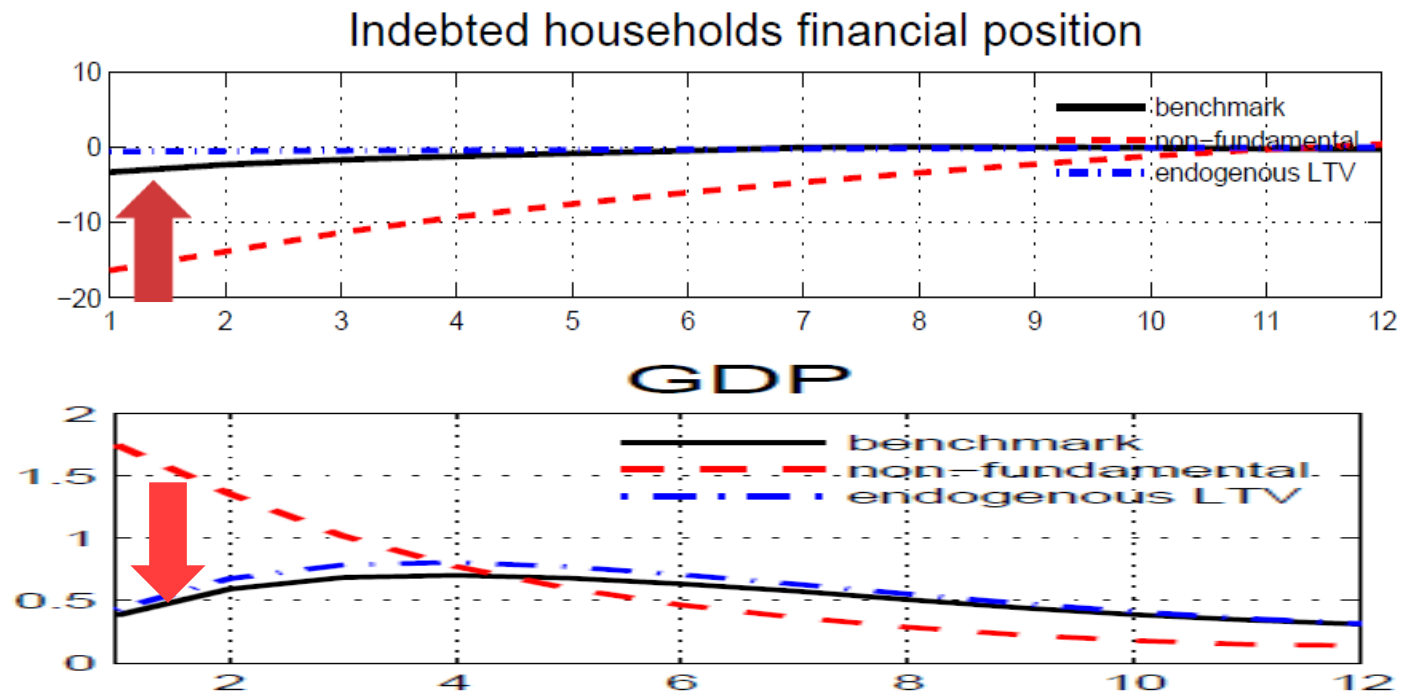
=> optimistic message

## plan of discussion

- alternative interpretation of the results
- three building blocks:
  - Chen-Curdia-Ferrero (2012): asset market segmentation model
  - Iacoviello (2005): borrowing constraint household model
  - Dupor (2005): asset price bubble shock
- risk taking channel as integral part of the transmission mechanism of non-conventional monetary policy accommodation
- use prudential instruments as tools for active dynamic stabilization or as tools for creating buffers and reducing financial vulnerability
- Minor issues: spillover effects across regions, constant FG

## alternative interpretation of results

- One can read the results differently: most of output gains disappear once macroprudential policy is activated.

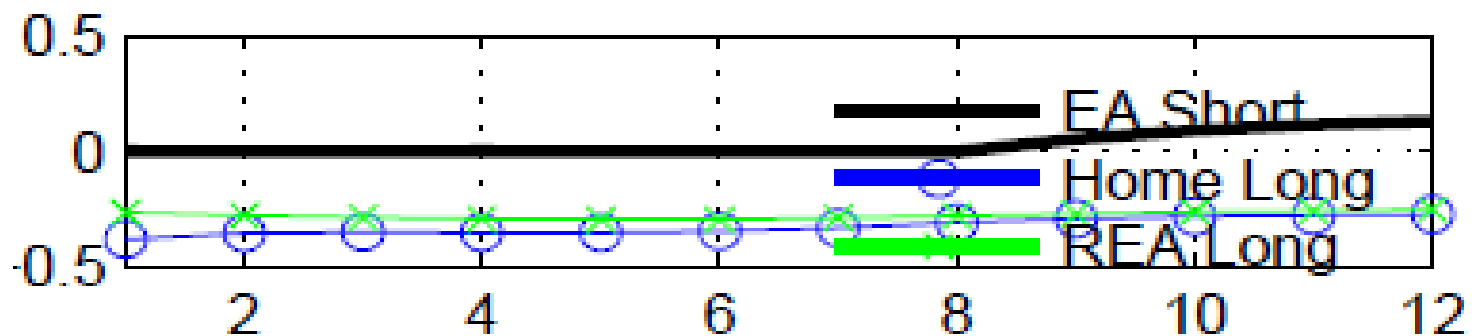


=> macroprudential reaction will offset monetary stimulus if risk taking channel is an essential part of the transmission mechanism.

## building blocks: 1. Chen-Curdia-Ferrero (2012) asset market segmentation

- portfolio balance channel: see also Andrés, Lopez-Salido and Nelson (2004), traditional Tobin-Brainard imperfect asset substitution mechanism .
- Two assumptions:
  - incomplete market participation: fraction of restricted households  $\lambda_r = 10\%$  both in H and REA
  - adjustment cost for bond holdings by unrestricted households:  $\phi_{bL} = 0,000039$  in H and  $0,00027$  in REA
- Impact on long rates substantial: 25bp in REA and 35bp in H

### Int. rates



## building blocks: 1. Chen-Curdia-Ferrero (2012) asset market segmentation

- Chen et al (2012) estimate small effect for LSAPII on interest rates ( $\phi_{bL} = 0,37/100$ ) and especially on consumption ( $\lambda_r = 0,07$ ): LSAPII had 10bp effect on long yield and 0,1% on output level only.
- De Graeve and Theodoridis (2016) estimate larger effect ( $\phi_{bL} = 4,3/100$ ) and ( $\lambda_r = 1$ ) : 30-70bp on spread and 0,6% output but with a dynamic adjustment cost specification
- Paper here:  $\lambda_r = 10\%$  and  $\phi_{bL} = 0,000039 / 0,00027$  ?

## building blocks:1. Chen-Curdia-Ferrero (2012) asset market segmentation

- Is this the appropriate mechanism for modelling the impact of APP on yields?
- Event studies on APP suggest that OIS and long yields of core countries did not decline much around announcement day, but substantial decline in Italy, Spain etc
- Altavilla et al (2015):

Table 1: Changes in sovereign bond yields of selected euro area economies around the APP event dates

	10-year maturity				
	Euro Area	Germany	France	Italy	Spain
Controlled event study					
1-day change	-29*	-17	-30*	-75***	-80***
2-day change	-47*	-18*	-27*	-60***	-65***

- Dewachter-Iania-Wijnandts (2016):  
March 2015 APP impact on OIS +4bp / Fr +2bp / Be -1bp / It -49bp / Sp -45bp

## building blocks:1. Chen-Curdia-Ferrero (2012) asset market segmentation

- Calibration of the portfolio channel should reflect region specific reaction in yields.
- Country yields reflect fragmentation in bond market and sovereign risk premium: what component of the spread does react to APP? Redenomination risk, credit risk, liquidity risk ?
- Does it matter for the macromodel that the precise mechanism that drives the reduction in the yields is identified and implemented in the model?
- Probably yes: if the response of the country-yields is related with the capital gains realized by the banking sector in that country, this will have broader effects on the bank's credit and pricing policy.



## building blocks:2. Iacoviello (2005) borrowing constraint household model

- Borrowing constraint for impatient households was initially introduced by Iacoviello to reproduce a transmission channel from housing wealth on consumption as observed in US data.
- The model can explain comovement between house prices/house demand/mortgage credit and consumption, but does not produce large macro effects because of crowding out effects on other expenditure categories. Other setups can overcome some of these problems (see Liu, Wang Zha 2013).
- Is this mechanism relevant in euro area context? Probably country specific.
- Is the constraint always binding: Guerrieri-Iacoviello (2015) suggest occasionally binding during recession 2008-2009 not during boom until 2006 in US.
- LTV constraint is more relevant for deleveraging process in periphery (Andrés et al 2016) than for the residential boom in core countries.

## building blocks:2. Iacoviello (2005) borrowing constraint household model

- Extreme calibration with LTV=90% and fraction of constrained households=50% in Home economy produces potentially strong effect: not so much for unconventional policy shock, but in particular for bubble shock?
- Mortgage credit is modelled as one period contract and priced with short rate? No direct link between the long yield on government bonds (the portfolio adjustment channel) and the mortgage credit?
- The setup of Harrison (2012) and De Graeve & Theodoridis (2016) with financial intermediaries that hold long debt can allow to link mortgage rates to the long yields. The model of Andrés et al (2016) uses long-term mortgage debt.

### building blocks: 3. Dupor (2005) asset price bubble shock

- The house price boom is modelled as an exogenous shock independent from the other shocks and independent from the policy interventions in particular.
- This shock has huge impact on price of houses: amplification via high LTV ratio?
- The demand for housing and consumption increase together with higher credit demand by constrained households.
- The bubble (5%) is driven by irrational optimistic expectations and in that sense the house price and credit response is excessive and inefficient.
- It is assumed that the nature of the shock is correctly identified by authorities: optimal policy response is clear and simple ( $\Leftrightarrow$  Dupor imperfect information).
- The LTV-instrument is perfectly suited to neutralize the bubble: decrease maximum LTV ratio from 90% to 85% does the job.

## building blocks: 3. Dupor (2005) asset price bubble shock

- The setup is constructed in such a way that the country-specific LTV instrument is effective to eliminate the excessive bubble and credit expansion.
- But in reality, the world is more complicated:
- No easy identification of excess component;
- No inefficient shock but outcome of risk-taking channel as transmission mechanism of non-conventional policy?

## Risk taking channel and unconventional monetary policy

- Importance of Risk taking channel in transmission of nonconventional monetary policy:
  - Conventional monetary policy and forward guidance work via current and expected short term interest.
  - Unconventional monetary policy works via the “risk premium component”.
- Portfolio balance channel is just another label for substitution towards assets with different return and risk characteristics.

## Risk taking channel and unconventional monetary policy

- Risk taking channel operates in various directions: duration risk, credit risk, liquidity risk, etc
- Search for yield affects various sectors:
- Investors are pushed towards stock market, commodities and real estate.
- Banks have to find new investment opportunities and lower credit standards:
  - Capital channel allows them to take more risk.
  - Many studies illustrate that lending rates and credit volumes react more for smaller banks, banks with less capital, less liquidity, more NPL, more wholesale funding etc.

=> portfolio adjustment towards more risky and less productive assets is central for transmission of unconventional policy.

How differentiate between efficient and inefficient/excessive credit and pricing?

## Objective of macroprudential instruments

- Prudential instruments can be used as tools for active dynamic stabilization or as tools for creating buffers and reducing financial vulnerability:
  - Both strategies require identification of (systemic) risks and excessive credit.
  - Both strategies will probably follow some systematic reaction function specified in terms of relatively simple indicators.
  
- But objectives can be different: direct control of credit conditions and aggregates versus increasing resilience of financial sectors against shocks
  - f.e. in Belgium, the NBB decided last year to increase the risk-weights used by banks with internal risk models, and more recently, proposed an additional targeted capital add-on for riskier loans with a relatively high loan-to-value ratio.
  - Objective is defined in terms of safeguarding resilience of financial institutions.
  
- To what extent are these instruments suited for dynamic control over business cycle?
- Is there a trade-off between permanent higher levels of prudential instruments and need for dynamic adjustment?

## Impact of FG on results

- FG is assumed to be constant in all experiments in the paper.
- Lack of interest rate reaction over 8q increases impulse response of shocks.
- But does not allow for an earlier/later lift off dependent on the macro-economic scenario's: complete unconditional FG versus conditional on forecast scenario.



## Country spillover effects

- A more detailed analysis of the spillover effects across regions would be informative in this context.
- Macroprudential policy reaction at Home can stabilize domestic credit developments but what are the spillover effects to the Rest of the euro area?
- These externalities are important for evaluating efficient allocation of responsibilities between national or centralized level.

## conclude

- Interaction between monetary and macroprudential policy raises many interesting questions.
- We still need to develop an appropriate framework to analyze these issues.
- This paper does a serious effort but optimistic conclusions are maybe premature.

