



## **Monetary policy strategy: “Old issues and new challenges”**

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**Discussion of „Mortgage markets, collateral constraints and monetary policy: Do institutional factors matter? “**

**by Alessandro Calza, Tommaso Monacelli and Livio Stracca**

Monetary policy strategy: Old issues and new challenges  
Frankfurt am Main, 7 June 2007

# **Mortgage Markets, Collateral Constraints, and Monetary Policy: Do Institutional Factors Matter?**

Discussion by  
**Fiorella De Fiore**  
European Central Bank

# The paper

## Question:

**Do institutional features of the housing market matter for the transmission of monetary policy?**

# The paper

## 1. Facts

- **Cross-country heterogeneity**
- **Corr( $C, P^d$ ) higher in countries with more developed mortgage markets**

# The paper

## 2. VAR analysis

- **Consumption and house prices fall after a tightening of MP**
- **Size of the peak effect positively related to indicators of flexibility of the mortgage market**

# The paper

## 3. Model

- **Two agents:**
  - **borrowers (impatient, constrained)**
  - **savers (patient, unconstrained)**
  
- **Two sectors:**
  - **consumption goods (sticky prices)**
  - **housing (flex prices)**

# The paper

- **Four institutional features:**
  - **down-payment rate (inverse LTV ratio)**
  - **repayment rate (possibility of mortgage refinancing)**
  - **interest rate structure (fixed vs variable)**
  - **share of constrained borrowers**

# The paper

## ➤ Three channels:

- collateral constraint (higher cost of servicing the debt increases the shadow value of relaxing the constraint)
- asset price (falling price tightens the collateral)
- nominal debt (inflation reduces the real value)

# The paper

- ➔ **Main finding**: the peak effect of a MP shock is positively related to indicators of development/flexibility of the mortgage market.
- ➔ **Intuition**: consumption is more sensitive to monetary policy shocks in markets that allow more easily to convert asset values into borrowing, and thus spending.

# General comment

➤ **Nice paper**

➤ **Interesting ideas, not new in the literature**

- **On the role of housing in enhancing the response of consumption : Iacoviello (2005), Iacoviello and Neri (2007), Aoki et al.(2004)**
- **On the role of flexibility in mortgage markets in amplifying the effect of shocks on consumption: Giuliodori (2004), Aoki et al.(2004)**



**Paper's contribution: use a model to disentangle the effect of institutional features on the transmission of MP.**

# My discussion

**1. Model vs housing market**

**2. Model vs relevant institutional factors**

# Comment 1: model vs housing market

**The model replicates (in response to a MP shock)**

- **negative response of house prices and consumption**
- **positive relation between indicators of mortgage market flexibility and peak response of  $C$  and  $P^d$**
- **higher volatility of house prices relative to inflation**

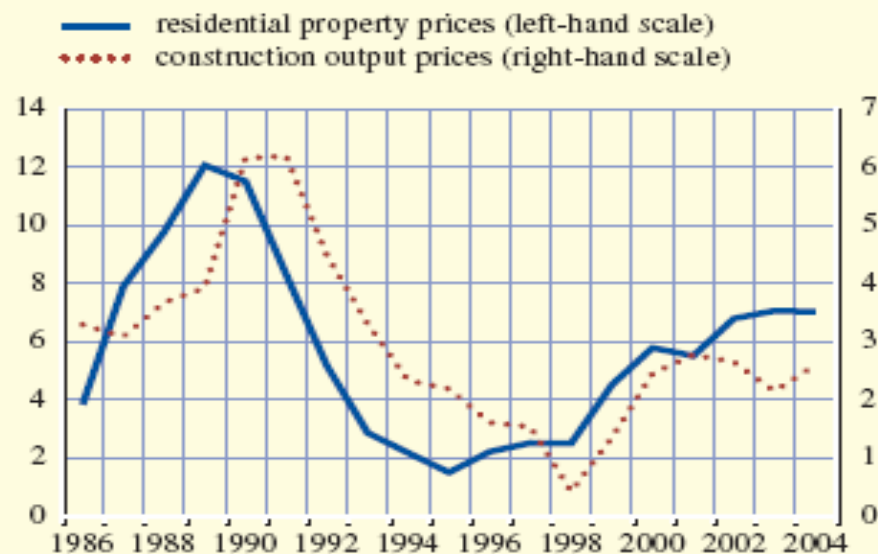
# Comment 1

## BUT it neglects

- **Determinants of house price movements (land vs marginal costs)**
- **Houses cannot be divided. For most households, one house in a lifetime**
- **Spending on housing is also constrained by labor income (30% rule-of-thumb)**

Chart II Construction output prices and residential property prices

(annual percentage changes)

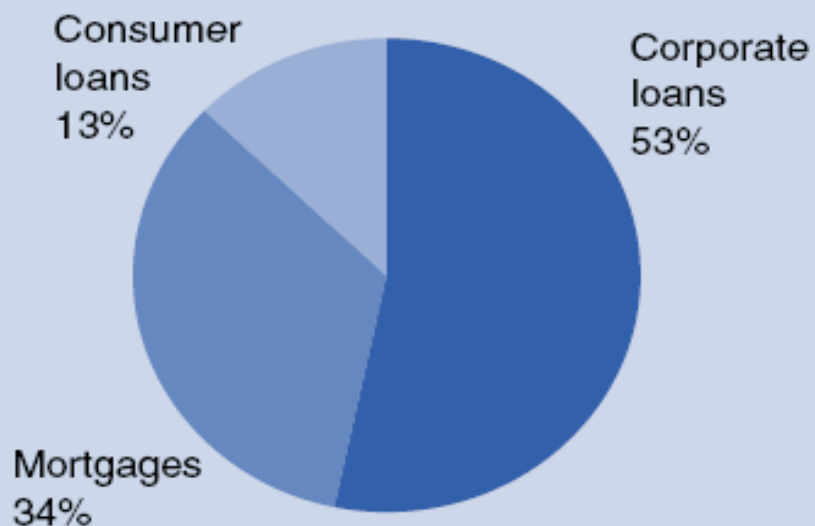


Sources: Eurostat and ECB calculations based on national data.

# Comment 1

- The spread between mortgage rates and risk free rate depends on collateral value
- Large share of non-performing mortgages (default)

## Distressed loans on the books of the German banks



Source: Roland Berger

# Comment 1

- **Response of residential investment**
  - **Correlation between house prices and residential investment positive in US data (Iacoviello and Neri (2007))**
  
- **Response of house prices and consumption to shocks other than MP**

# Comment 1

## Modelling choices

### 1. Collateral constraint

- Lowering debt is only possible by depleting the stock of housing. This generates endogenous persistence
- Alternatively investment in housing could be constrained by the current flow of income, as in Carlstrom and Fuerst (2006).

 Persistence could be reduced


A fixed bankruptcy cost would generate higher volatility of housing demand relative to labor income

# Comment 1

**2. Quantity constraint (Kyiotaki and Moore (1997)): no default in equilibrium, no buffer possible.**

**Alternatively costly state verification (Bernanke, Gertler and Gilchrist (1999)):**

- **mortgage rates reflect net worth**
- **default occurs in equilibrium**
- **houses can be accumulated, but borrowing does not move one to one with the value of the housing stock**

 **Amplification could be enhanced or reduced depending on whether the spread is pro-cyclical or counter-cyclical.**

# Comment 2: model vs institutional factors

## Institutional factors in the model (all exogenous):

- Repayment rate and mortgage refinancing,  $\xi$ , down-payment rate,  $\chi$  :

$$B_t \leq (1 - \chi) \left[ \sum_{s=0}^{\infty} (1 - \xi)^s (D_{t-s} - (1 - \delta)D_{t-s-1}) \right] P_{d,t}$$

- Interest rate mortgage structures (fixed vs variable):

$$R_t^m \leq \left( \sum_{k=0}^{m-1} \tau^k \right)^{-1} \sum_{k=0}^{m-1} \tau^k E_t \{ R_{t+k} \}$$

- Share of constrained borrowers:  $\omega$

# Comment 2: model vs institutional factors

**Institutional factors in the model  
(ordered by peak effect on consumption):**

- **Interest rate structure**
- **Share of constrained borrowers**
- **Down-payment rate**
- **Repayment rate / Mortgage refinancing**

# Comment 2

## Institutional factors in the VAR

Average peak response of C is

- 0.56 (0.08) in countries with (without) mortgage refinancing
- 0.42 (0.19) in countries with mostly variable (fixed) interest rates
- other institutional factors matter less

 The model does not replicate the relative importance of the different institutional factors. Explicit modelling of home equity release needed (as e.g. in Aoki (2004)).

# Conclusions

- **Nice paper**
- **Relevant question**
- **More work to be done on the institutional details in order to match the facts**