



Monetary policy strategy: “Old issues and new challenges”

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Andreas Schabert

University of Dortmund

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

by Alessandro Calza, Tommaso Monacelli and Livio Stracca

Comments on

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

by Alessandro Calza, Tommaso Monacelli, and Livio Stracca

Andreas Schabert
University Dortmund, TI

I SUMMARY

II COMMENTS

Topic

- Starting point
 - Mortgage lending can amplify responses to aggregate shocks (Iacoviello, 2005, Campbell and Hercowitz, 2005)
 - Monetary transmission can differ in countries with different financial systems (Allen and Gale, 2004, Borio, 1996, Cecchetti, 2000)
- Particular question of the paper: Do institutional characteristics of mortgage markets matter for monetary transmission?
 - Empirical evidence suggest that they do matter!
 - Mortgage market flexibility accelerates responses to monetary policy shocks

Tommaso's paper

- Main contribution of the paper
 - New empirical evidence on cross country mon. transmission differences
 - Developing a general equilibrium model with institutional characteristics
- Main task: Modelling a long-term contract in 1.-order recursive structure
 - Down payment \simeq decline in collateral value (Campbell/Hercowitz, 2005)
 - Interest rate structure \simeq long-run rates on one-period mortgage lending

Empirical analysis

- Significant differences in mortgage market flexibility between countries (contract duration, down-payments, interest rate structure)
- More flexible mortgage markets in "market-based financial systems" than in "bank-based systems" (UK, US... vs. Italy, Germany...)
- VAR-analysis
 - Decline in consumption and house price in response to interest rate shocks
 - Contractionary responses are more pronounced for flexible mortgage markets

The model I/III

- Two-sector model: durables (housing D) and non-durables (consumption C)
 - Both goods produced with labor
 - Firms are monop.. comp. and might face price adjustment costs
- Two types of households: Borrowers (impatient) and lenders (patient)
 - Consumption and housing increase utility and labor decreases utility
 - Borrowing/lending only via secured debt contracts (B)

The model II/III

- Collateral/borrowing constraint (like in Campbell and Hercowitz, 2005)

– Impatient household borrowing is constrained by accumulated housing

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

$$\Rightarrow b_t = (1 - \chi) q_t (D_{t-s} - (1 - \delta) D_{t-1-s}) + (1 - \xi) b_{t-1} \frac{q_t}{q_{t-1}}$$

– Borrowing constraint is permanently binding (only) for impatient households

- One-period debt contracts with gross nominal risk-free interest rate R_t^m

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

The model III/III

- Monetary policy: Shocks to an inertial interest rate rule
 - No public debt nor money
- Solution procedure
 - Identifying a steady state with a permanently binding collateral constraint
 - Local approximation assuming sufficiently small shocks
 - Calibration with different mortgage market specifications

Results I/II

- Responses to monetary policy shocks amplified by mortgage lending
 - Monetary contraction leads to a reduction in consumption and housing
 - Market value of housing declines, tightening the borrowing constraint
 - Impatient households can borrow less such that spending further decline

- Lenders may want to increase consumption of durable goods
 - Contractionary behavior of borrowers tends to dominate!

Results II/II

- Variations of down payment rate ξ and repayment rate χ
 - Reducing ξ or χ leads to stronger consumption responses
 - More flexible markets tend to amplify monetary policy effects
- Interest rate structure: variable vs. fixed interest rates
 - Less variable interest rate dampens the contractionary effect
 - Interest rate pass through matters significantly!

I SUMMARY

II COMMENTS

1) On the VARs

- VAR-analysis is aimed at identifying the role of mortgage lending
 - Variables: C, CPI, real HP, R, Exrate
 - Monetary policy measure: innovations to 3 month nominal interest rate

- Different consumption responses might be due to interest rate pass through
 - Why not using an overnight rate as a policy variable?
 - Including a "primary loan rate" might account for pure pass through effects

2) Collateral vs. borrowing constraint

- Kiyotaki and Moore's (1997) justification for a collateral constraint
 - Lenders cannot force borrowers to repay unsecured debt
 - Lending requires repayment not to exceed the value of collateralized assets
- Collateral constraint: Borrowing B_t in t and repaying $R_t^m B_t$ in $t + 1$
 - Borrowing in t with repayment in $t + 1$ secured by expected net housing value

$$R_t^m B_t \leq E_t P_{d,t+1} (1 - \delta) D_t \quad (\text{CC})$$

- Here: Constraint (BC) is expressed in terms of B_t and current price $P_{d,t}$
 - For $R_t^m > 1$, debt is *not* fully secured. Why not using (CC)?

3) On the interest rate

- Term structure of interest rate with m -period rates $R_t^m = (1 + i_{m,t})$

$$(1 + i_{m,t})^m = \prod_{i=0}^{m-1} (1 + i_{1,t+i})$$

approximated $\ln(1 + i_{m,t}) \approx i_{m,t}$ by

$$i_{m,t} = \frac{1}{m} \sum_{i=0}^{m-1} i_{1,t+i}$$

- Here, R_t^m is the weighted (τ^i) average of future one-period rates
 - Shouldn't deviations from the term structure be arbitrated away?

4) On lending/saving

- Lenders/savers can only invest in collateralized debt and housing
 - Fixed interest rates also affect the saving behavior of lenders

- What kind of asset is carrying the one-period interest rate R_t ?
 - If the central bank controls R_t , it should be relevant for some asset

- Why not allowing savers to invest in variable interest rate assets (T-bills)?
 - Effects of mortgage duration might be less pronounced

5) Monetary policy rule

- One-period nominal interest rate satisfying an inertial feedback rule

$$\ln \frac{R_t}{R} = (1 - \phi_r) \phi_\pi \ln \frac{\pi_{j,t}}{\pi} + \phi_r \frac{R_{t-1}}{R} + \zeta_t$$

where the ζ_t 's might be serially correlated by ρ

- No information on the ϕ 's !
 - How large is the feedback from inflation? Zero?
 - Is there a feedback from the lagged interest rate even for $\rho > 0$?

Minor comments

1. In contrast to Iacoviello (2005) supply of housing is endogenous
 - Why is housing not accumulated to avoid a binding borrowing constraint?

2. What happened to government transfers?
 - Shouldn't $T_t + \tilde{T}_t = 0$?