Discussion of Calza Monacelli and Stracca "Mortgage Markets, Collateral Constraints and Monetary Policy: Do Institutional Factors Matter?"

Matteo Iacoviello
Boston College

- Question: Do the institutional characteristics of the mortgage market affect the strength of the monetary transmission mechanism?

- Answer: Yes

- How do the authors achieve this?

THE MTM: HOUSEHOLD FINANCIAL ACCELERATOR

Model features: two sectors (consumption and housing), price stickiness in the consumption sector, no capital.

Let IH_t be durables investment (new home purchases)

Budget constraint of borrowers

$$C_t + q_t IH_t + \frac{R^m_{t-1} b_{t-1}}{\pi_t} = b_t + w_t n_t$$

Borrowing constraint

$$b_t = (1 - \chi)\, q_t IH_t + (1 - \xi)\, b_{t-1} \frac{q_t}{q_{t-1}}$$

- Model: For given monetary shock, three effects over and above the substitution effect (working through higher MPC of borrower)

  1. INTEREST RATE EFFECT: Change in policy rate affects repayments on existing stock of debt: effect is more persistent when mortgage is variable rate.

  2. COLLATERAL EFFECT: A drop in q_t reduces available resources for borrowing and consumption: effect is larger the larger steady state debt

  3. DEBT DEFLATION EFFECT: Drop in inflation increases real debt repayment: effect is larger the larger the stock of mortgage debt

- Data: in countries with low downpayments, variable rates, high MEW, consumption responds more to VAR-based monetary shocks

MAIN COMMENTS

1. <u>VAR evidence and model validation</u>

- There is lot of heterogeneity across countries in terms of debt/GDP, fixed/variable rate structure, homeownership, equity withdrawal

- One would expect that looking across countries could shed light on which of these institutional differences matter most for the transmission mechanism

- The paper is silent on this issue: apparently, all of them seem to matter.

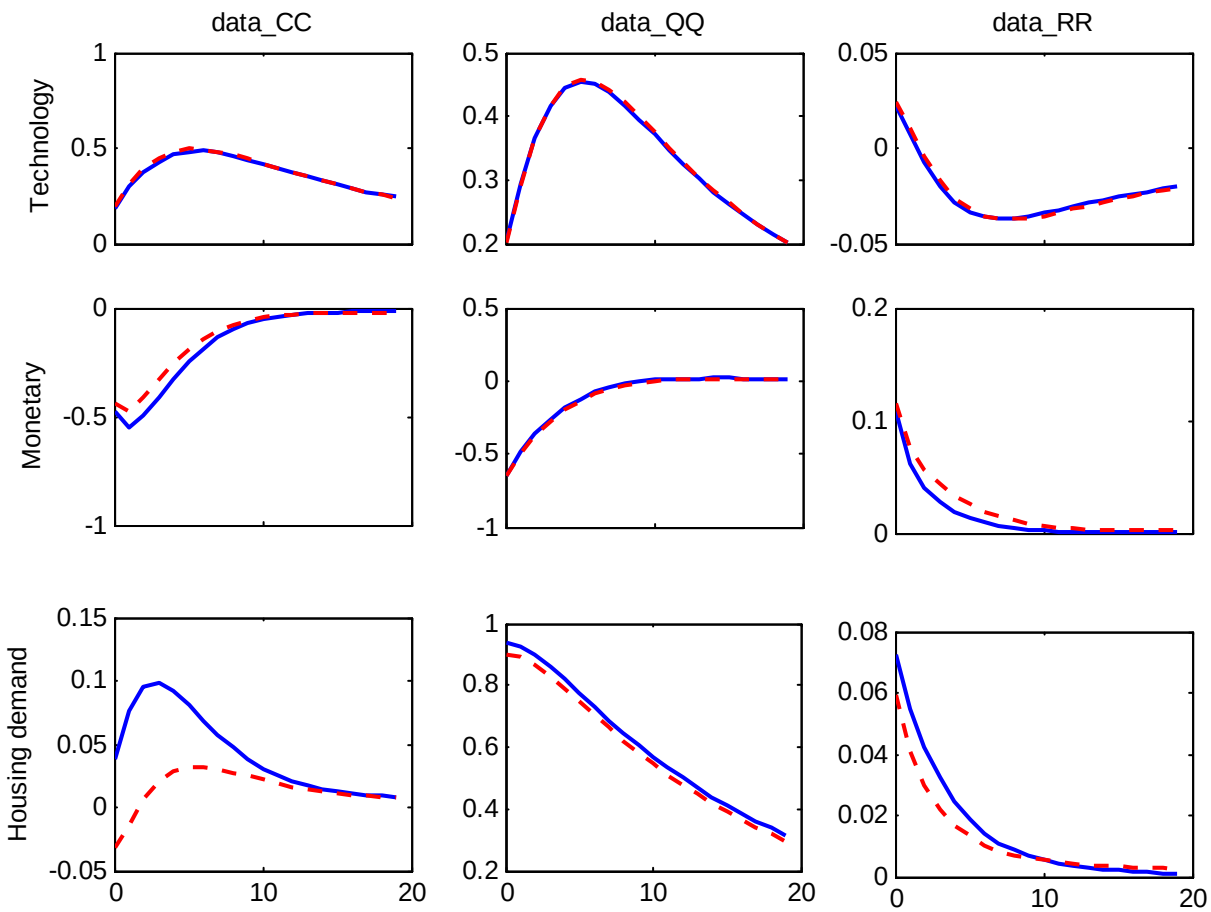
Because all effects work to amplify response of consumption and (to a much smaller extent) house prices to monetary shocks, it is difficult to tell which institutional factors are more relevant, especially given the uncertainty associated with comparing different monetary shocks across countries

(continued) <u>VAR evidence</u>: are monetary VARs informative?

1. Monetary policy shocks likely to inform more about strength of fixed vs variable rate mechanism. (INTEREST RATE EFFECT: looks like persistence of consumption is larger under fixed rates...)

2. COLLATERAL EFFECTS (whether driven by high LTV, home ownership) perhaps more easily found in "housing demand" shocks (in the model), or in consumption-housing wealth regressions (in the data).

3. DEBT-DEFLATION EFFECTS more easily found in inflation shocks (if debt deflation matters, bad inflation shocks should be, ceteris paribus, expansionary)



Red: no friction; Blue: estimated financing frictions. From Iacoviello-Neri, in progress

2. <u>Model structure and model validation</u>

1. One would expect that the main advantage of having a two-sector model is to study not only how house prices move, but also how residential investment responds to monetary shocks

2. Empirically, sensitivity of residential investment to monetary shock is much larger than that of consumption. How does the model do on that front?

The advantage of a two-sector model is that it should allow better quantifying the behavior of housing investment.

Typical elasticity of consumption (70% of GDP) to housing prices is around 0.05% (0.03% growth contribution for 1% change in house prices)

Typical elasticity of residential investment (5% of GDP) to housing prices is around 2% (0.10% growth contribution)

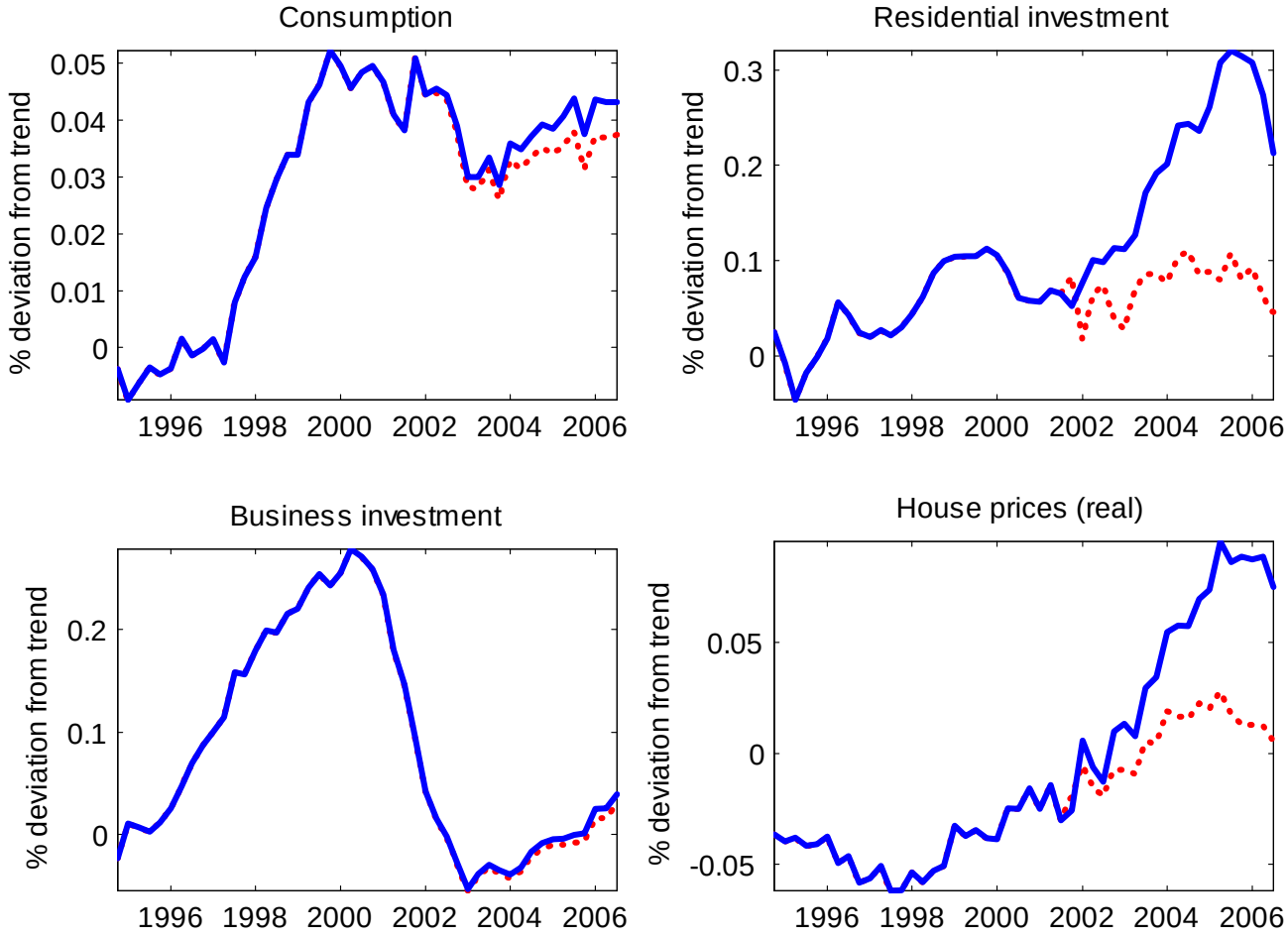
Period	Correlation between	
	$\Delta_4 C_t, \Delta_4 q_t$	$\Delta_4 IH_t, \Delta_4 q_t$
1960-1983	0.38	0.38
1984-2006	0.33	0.50

Isolate "housing demand" shock in a richer model with capital, sticky wages and prices

$$u = (1 - \alpha) \log C_t + \alpha \varepsilon_t \log D_t$$

Source: Iacoviello and Neri (in progress)

The role of Housing demand shocks in the last decade



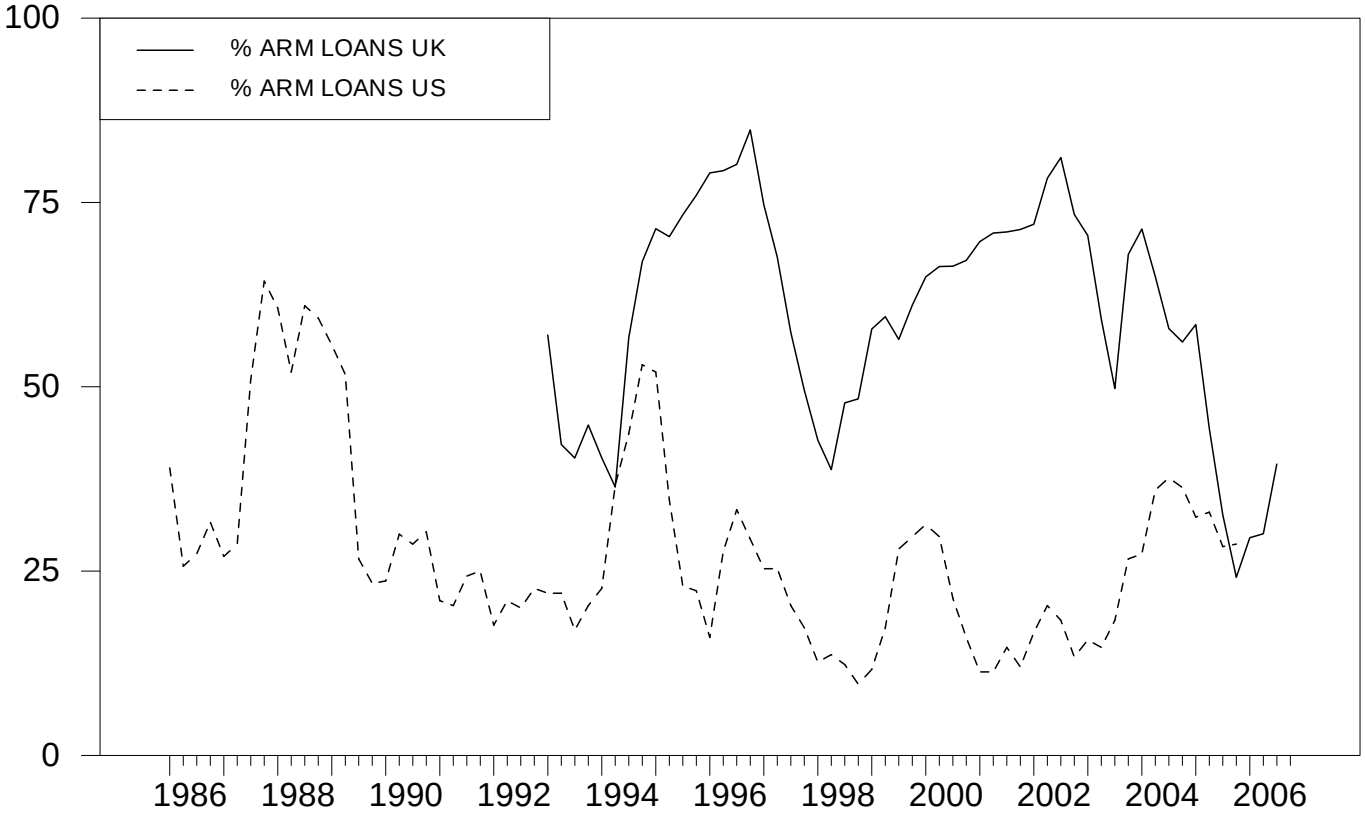
3. Are institutional factors really exogenous?

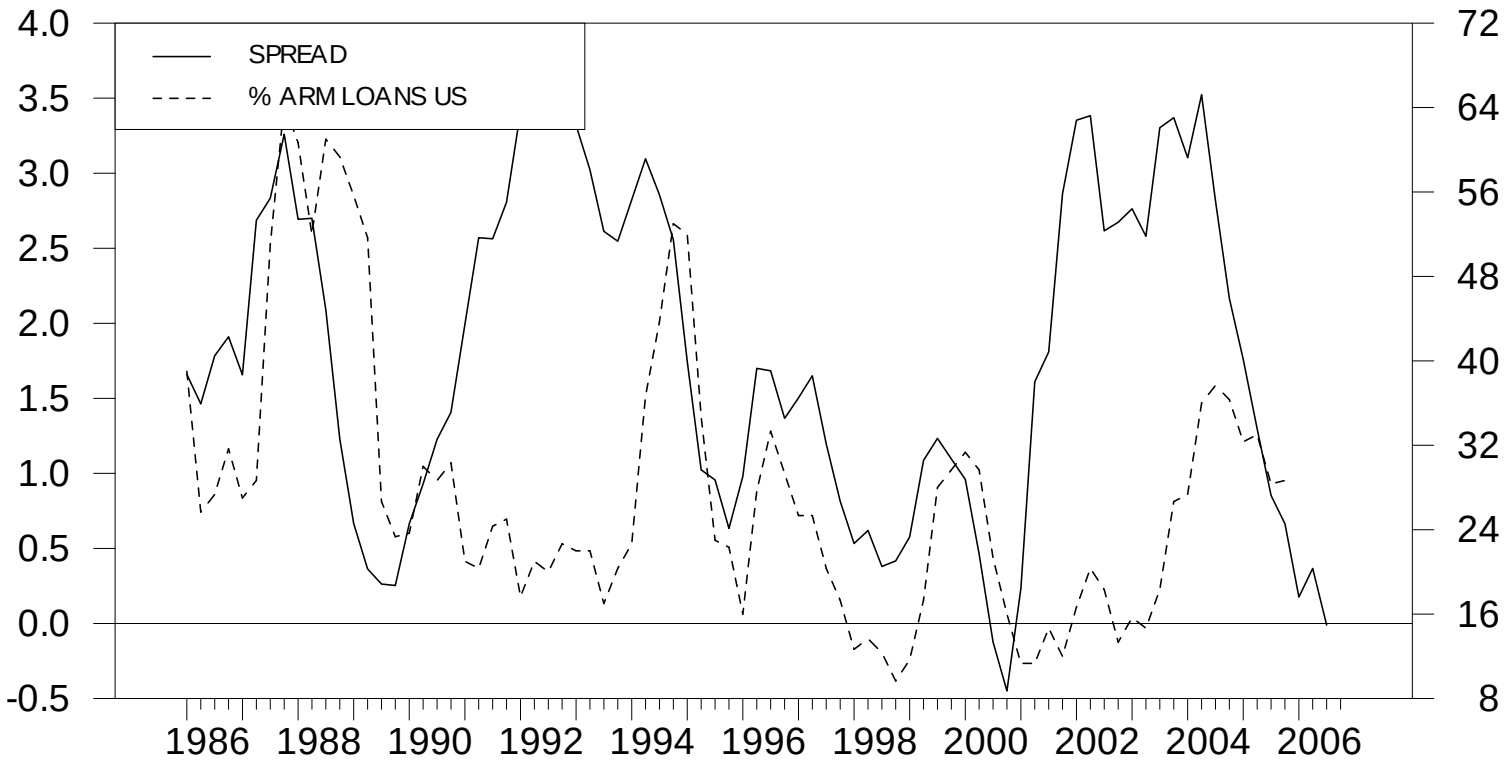
In the US and many other developed economies, it is up to the borrowers to choose many characteristics of the mortgage.

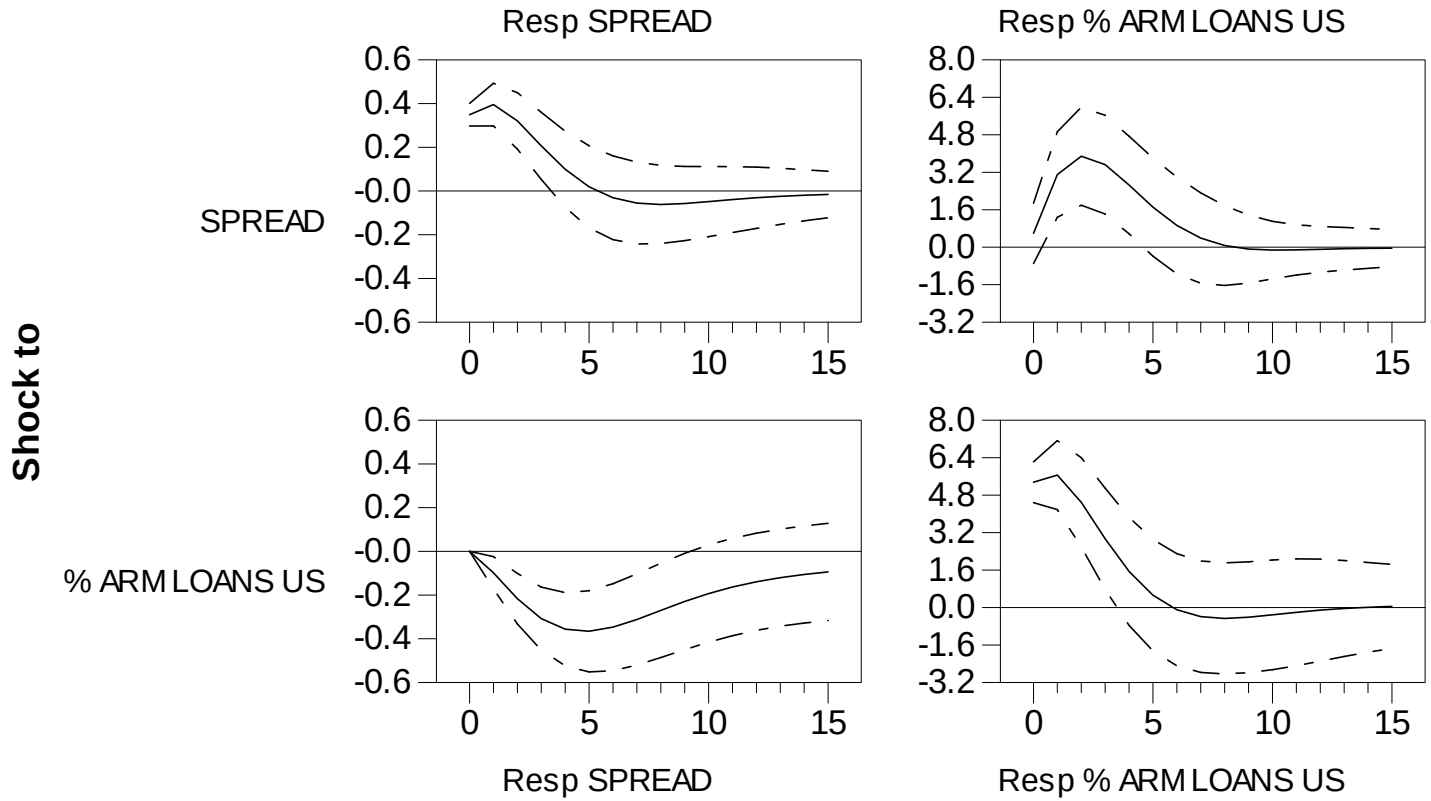
Duration of the loan, fixed vs variable depend on idiosyncratic and business cycle factors and are choice variable from the borrowers' perspective.

- E.g.1: when long-short spreads are high, people might find less attractive the option of locking in a 30-year fixed rate mortgage, and choose a variable rate loan

- E.g.2 : people with high labor mobility choose ARM over fixed-rate mortgages. But then labor mobility might affect other aspects of the transmission mechanism itself.


% ARM LOANS UK
% ARM LOANS US
100
75
50
25
0
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006


SPREAD
% ARM LOANS US
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
72
64
56
48
40
32
24
16
8
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006


Resp SPREAD
Resp % ARM LOANS US
Shock to
SPREAD
% ARM LOANS US
0.6
0.4
0.2
-0.0
-0.2
-0.4
-0.6
8.0
6.4
4.8
3.2
1.6
0.0
-1.6
-3.2
0
5
10
15
Resp SPREAD
Resp % ARM LOANS US

Two minor comments

- Correlation vs causation: what do we learn from cyclical correlations?

  Better to distinguish the importance of institutional factors by looking at "conditional" correlations between house prices and consumption.

  Unconditional correlations might be uninformative, unless we have good reasons to believe that underlying economic shocks are the same.

- The ratio mortgage debt-GDP is not necessarily informative about the extent of financial accelerator effects. What matters is the cross-sectional distribution of debt (how many people have taken LTV's in excess of, say, 90%?)

Conclusions

1. Paper offers supportive evidence that financial accelerator effects on the household side might explain heterogeneous responses of consumption to monetary shocks across countries

2. As for me, they are preaching to the convert

3. It might be harder to convince those who do not believe in the macro relevance of these frictions that this is conclusive evidence.

4. Key goal: integrate the paper insights into CEE-SW...

   which is, by the way, what 80% of the papers in this conference are going for.