Discussion of "The effects of monetary policy through housing and mortgage choices on aggregate demand"

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Discussed by

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[1] The views expressed here are my own, and do not represent those of the Bank of Spain or the Euro-system

Summary

- **What**: life-cycle HA model w/ lumpy investment + fixed costs, calibrated to U.S. 1989-2013, to quantify role of housing & mortgage decisions on transmission of MP to agg (non-durable) C
- **Main Results**:
  1. Agg C & portfolio choices: ↑ liquidity due to housing & mortgage adjustments explains **more than 50%** of response in C. **1/3:** Δ housing; **2/3:** refinancing. Hh making such adjustments: **only 6%**
  2. Agg C & earnings: "GE" response of **earnings** accounts for roughly the **other 50%**.
  3. Mortgage contracts & pass-through: **FRM vs ARM matters** for transmission if **pass-through to ST and LT rates is different**.
- **Key ingredients & Mechanism**
  1. Frictions in housing & mortgage market: down-payment requirement, transaction costs selling / buying, refinancing costs.
  2. Endogenous house prices

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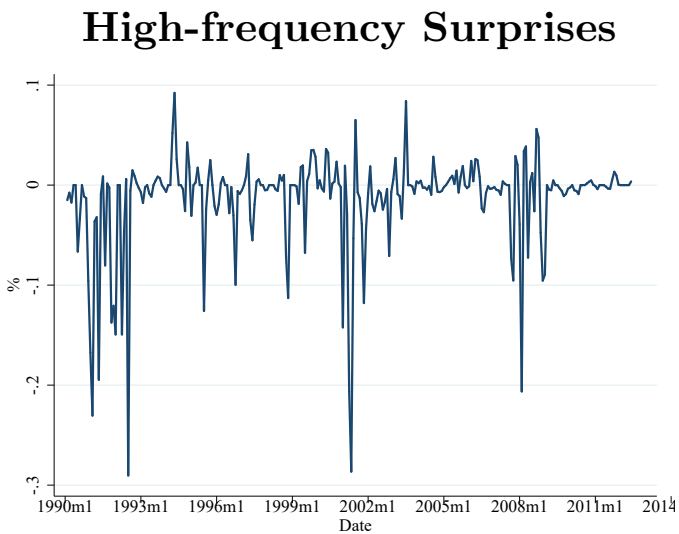
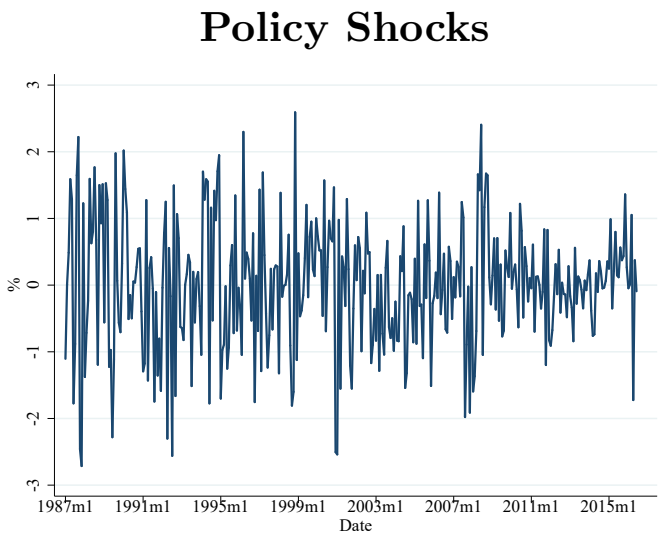
Outline

1. Size of shock, non-linearities, and durables
2. Housing and Rental Markets
3. Role of income response

Size of shock and non-linearities, and durables





Notes: The first panel shows the raw financial market surprises from Gertler and Karadi (2015)). The second panel show the implies monetary policy shocks from the proxy-VAR in the paper. We deviate from this paper in re-estimating the sample period to match that of our micro-data: 1986-2016.

Size of shock and non-linearities, and durables

Solution to the household problem:

$$V_j(\boldsymbol{x}) = \max_k V_j^k$$

with $k \in$ {buy, refinance, move, stay, rent}

Size of shock and non-linearities, and durables

	Buyers	Refinancers	Movers	Stayers	Renters
Buyers	0.2 (2.4)	-	-	-	7.8 (0.5)
Refinancers	-	1.8 (4.7)	14.4 (0.2)	-10.9 (0.4)	14.1 (0.0)
Movers	-	7.6 (0.1)	1.5 (2.3)	-12.2 (0.3)	0.2 (0.2)
Stayers	-	14.3 (2.0)	6.9 (0.8)	0.1 (59.5)	27.7 (0.4)
Renters	-4.2 (0.3)	-11.9 (0.1)	-3.6 (0.1)	-18.3 (0.3)	0.6 (25.9)

Table 5: Consumption responses and shares (%)

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94%

Size of shock and non-linearities, and durables

1. In **Cloyne et al. (2020, REStud)** we investigate empirically and ina DSGE model, role of liquidity and housing tenure for the transmission of a 25bp MP shock.
2. **Empirics:** restrict to households who **dont change** tenure.
3. **Model:**
   - Non-durables, durables and housing modelled explicitly
   - three types of hh which endogenously separate into renters, mortgagors, outright owners.

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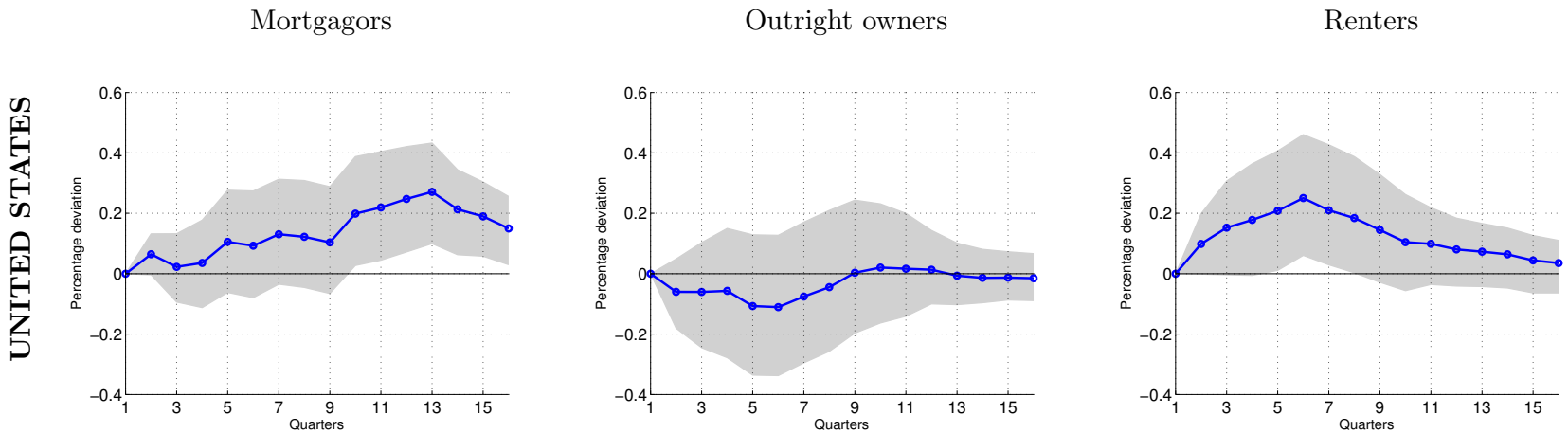

Figure 3: Dynamic effects of a 25 basis point unanticipated interest rate cut on the consumption of non-durable goods and services

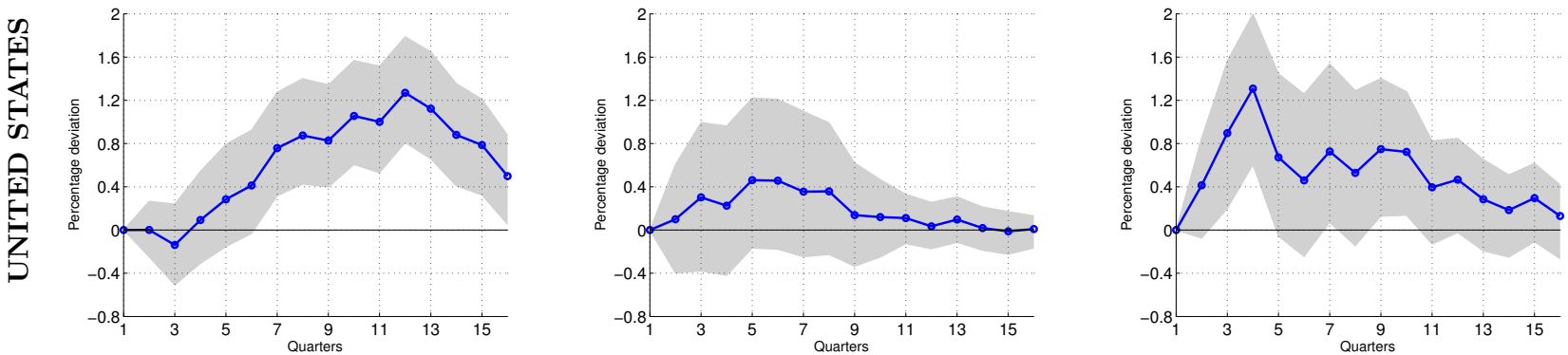

Figure 4: Dynamic effects of a 25 basis point unanticipated interest rate cut on the expenditure of durable goods by housing tenure group.

Modelling the housing and rental markets

1. Discrete grid for rental and ownership units:

$$\begin{aligned} \text{Rental units grid} \equiv \tilde{S} &= \{\underline{s}, s_2, s_3, ..., \bar{s}\} \\ \text{Ownership units grid} \equiv \tilde{H} &\subset \tilde{S} \end{aligned}$$

2. Foreign-owned competitive rental firms with long horizon

$$\underbrace{p_{r,t}}_{\text{rental rate}} = \underbrace{(1-\beta_f)p_{h,t} + \beta_f(\delta_r + \tau_h)p_{h,t+1}}_{\text{user cost}} + \underbrace{\beta_f \Delta p_{h,t+1} \frac{S-\bar{S}}{S}}_{\text{gains on transactions}}$$

3. No segmentation in rental-ownership markets: in equilibrium, p_h and S^D such that

$$\begin{aligned} \bar{H} &= H_t + S_t^D \\ S_t^S &= S_t^D \end{aligned}$$

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These three modelling choices (that have become relatively standard) imply:

1. Total housing stock can be re-shuffled at no cost between the different grid points
2. A particular distribution of households on the housing,liquidity space
3. In response to a shock:
   - House price and rental rate moving in the same direction
   - A particular movement in prices and quantities. See**Guren & Greenwald (2022)**

Big role of income response!

1. Take off-the-shelf estimated path for aggregate income Y (Auclert et al. (2020))
2. Assume earnings of all working-age households adjust proportionally:

$$\Delta log(y_{i,j}) = irf(Y) \times log(y_{i,j}) = irf(Y) \times \left(\alpha_i + g(j) + \eta_{ij} + \nu_{ij}\right)$$

	FRM	FRM (ΔY = 0)	ARM	ARM (ΔY = 0
Δ C, optimal portfolio choices	0.70	0.29	0.99	0.59
Δ C, steady-state discrete choices	0.34	-0.03	0.58	0.06

Table 12: Consumption responses under ARMs versus FRMs (%)

Overall

- Very relevant and timely question, which requires a model with sufficient heterogeneity and details in order to provide a quantitatively meaningful answer.
- The paper delivers on that front!
- Makes crystal clear one of the main reasons why such structural models are crucial: provide the correct counterfactual
- Far from a general equilibrium model, which might imply a drawback when studying "monetary policy", but still a very useful exercise