Discussion of: "Subjective Housing Price Expectations, Falling Natural Rates and the Optimal Inflation Target"

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Joint Spring Conference on
"Monetary Policy and Expectations of Households and Firms"

23-24 June 2022

The opinions expressed are those of the author and do not necessarily reflect the views of the Bank of Finland.

SUMMARY OF THE PAPER

- Deviation of households' housing price expectations from rational expectations (RE) benchmark in several key aspects

- **This paper:** empirical evidence + structural equilibrium model which quantitatively replicates how HH's expectations differ from RE

- Main contributions:
  1. Empirical properties and dynamics of housing price expectations based on survey data
  2. Quantitative, sticky price model with capital gain extrapolation and ZLB constraint
  3. Optimal monetary policy, decline of natural rate, optimal inflation target
  4. Implications for macroprudential policy

MY TAKE

Great paper with high policy relevance:

- Mechanisms and macroeconomic implications of departure from RE in housing price expectations in general equilibrium
- Role of secular decline in natural rate
- Central implications for monetary policy: increase in average inflation + leaning against housing price swings
- Design of effective macroprudential tools challenging

My main comments focus on:

- Structural drivers behind low natural rate and implications for housing markets
- Design and role of macroprudential tools
- Implications for monetary policy strategies

Empirical dynamics and results

Documentation of the deviation of **HHs' housing price expectations from full-information RE expectation**

1. Too sluggish revision of expectations about future housing prices over time

2. Positive covariation of capital gain expectations with market valuation (price-to-rent ratio) - negative covaration of actual future capital gains and market valuation

3. Dynamics: initial under-reaction of HH's capital gain expectations to observed capital gains, followed by subsequent over-reaction ($\geq$ 12 quarters)

Main mechanisms in small-scale model

- Simple housing model with optimizing households and subjective beliefs about housing price dynamics
- Bayesian belief updating $\rightarrow$ weak capital gain extrapolation
- Model captures large and persistent swings in price-to-rent ratio + 3 deviations of household expectations from RE setting
- Main results:
    - Substantially lower variance of the price-to-rent ratio under RE benchmark
    - Interconnection between the secular decline in r^* and higher housing price volatility
    - Mechanism: lower r^* $\rightarrow$ more pronounced effects of belief fluctuations on equilibrium housing prices

Quantitative model: optimal monetary policy

Model:

- Housing sector and capital gain extrapolation:
  - HH and firm expectations about all other variables (except for housing prices) assumed rational
  - Agents maximize utility under subjective belief measure
- ZLB constraint
- Otherwise standard New Keynesian model

Optimal monetary policy:

- RE benchmark: housing prices always at efficient value
- Effects of housing price gaps on monetary policy:
  1. Negative cost-push factors resulting from inefficiently high housing prices
  2. Increased housing price volatility translates into increased volatility of the natural rate $\rightarrow$ exacerbation of ZLB problem

Implications for monetary policy

- **Pronounced increase in optimal inflation target under low** r^* (1% fall in natural rate: 1/3 % increase in average inflation; RE benchmark: practically invariant)

- Mechanisms: increased volatility in the natural rate and cost-push channels $\rightarrow$ ZLB more restrictive

- Monetary policy **leans against housing price movements** under capital gain extrapolation

- **Macroprudential policy:** not capable of significantly alleviating the monetary policy trade-offs in a realistic setting

Figure 7: Average inflation under optimal monetary policy
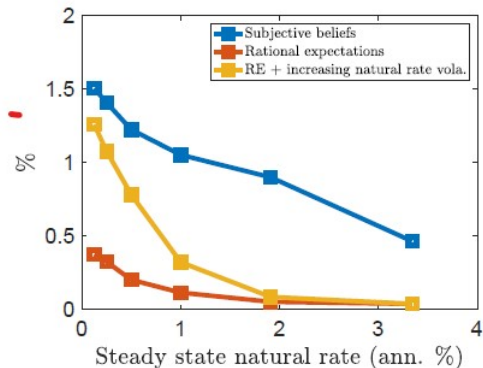
COMMENTS: STRUCTURAL DRIVERS OF LOW NATURAL RATE

- Drop in r^* generated via shift in discount factor
  - Consistent with the literature
  - Not a structural explanation/ endogenous explanation behind the decrease in r^*
- Mechanisms under low r^* robust under structural drivers?
- Some of the factors behind secular decline in r^* may be particularly interlinked with the housing market
  - Ageing
  - Inequality
  - Productivity slowdown
- Importance of HH heterogeneity and modeling of buying vs. renting choice?

Comments: Macroprudential tools and search for yield

- Could there be other forms of macroprudential tools studied in this framework?
- Absence of financial frictions and related crisis risk $\rightarrow$ Robustness for the non-role of macroprudential policy? Interaction between monetary and macroprudential policy and their relative ranking?
- Low natural rate as a trigger for search-for-yield behavior $\rightarrow$ increased risk in the housing market $\rightarrow$ implications for optimal inflation?

Comments: monetary policy strategies/ other

- How would various monetary policy strategies perform in this expectation environment (make-up strategies, ZLB problem)
- Optimal inflation target under optimized Taylor rules under this expectation structure (Andrade et al. (2019))

Further comments:

- Asymmetric rather than symmetric housing preference shock
- Robustness: alternative measures to Holston et al. (2017)
- clearer distinction between shifts in the long-run and transitory r^*

CONCLUSION

- Very interesting, technically demanding and policy relevant paper!

- Addresses key challenges posed by deviations from RE setup in housing prices and decline in natural rate