Uncovering the Heterogeneous Effects of News Shocks to Underlying Inflation

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Motivation

- Many economies have been experiencing inflation rates systematically below their inflation targets in a context of low interest rates.
- Central banks have been implementing unconventional monetary policies.
- Heterogeneous effects of standard monetary policy shocks are well understood (see, e.g. Cloyne et al., 2020).
- No empirical evidence on how shifts in underlying inflation affect different types of households.

This Paper

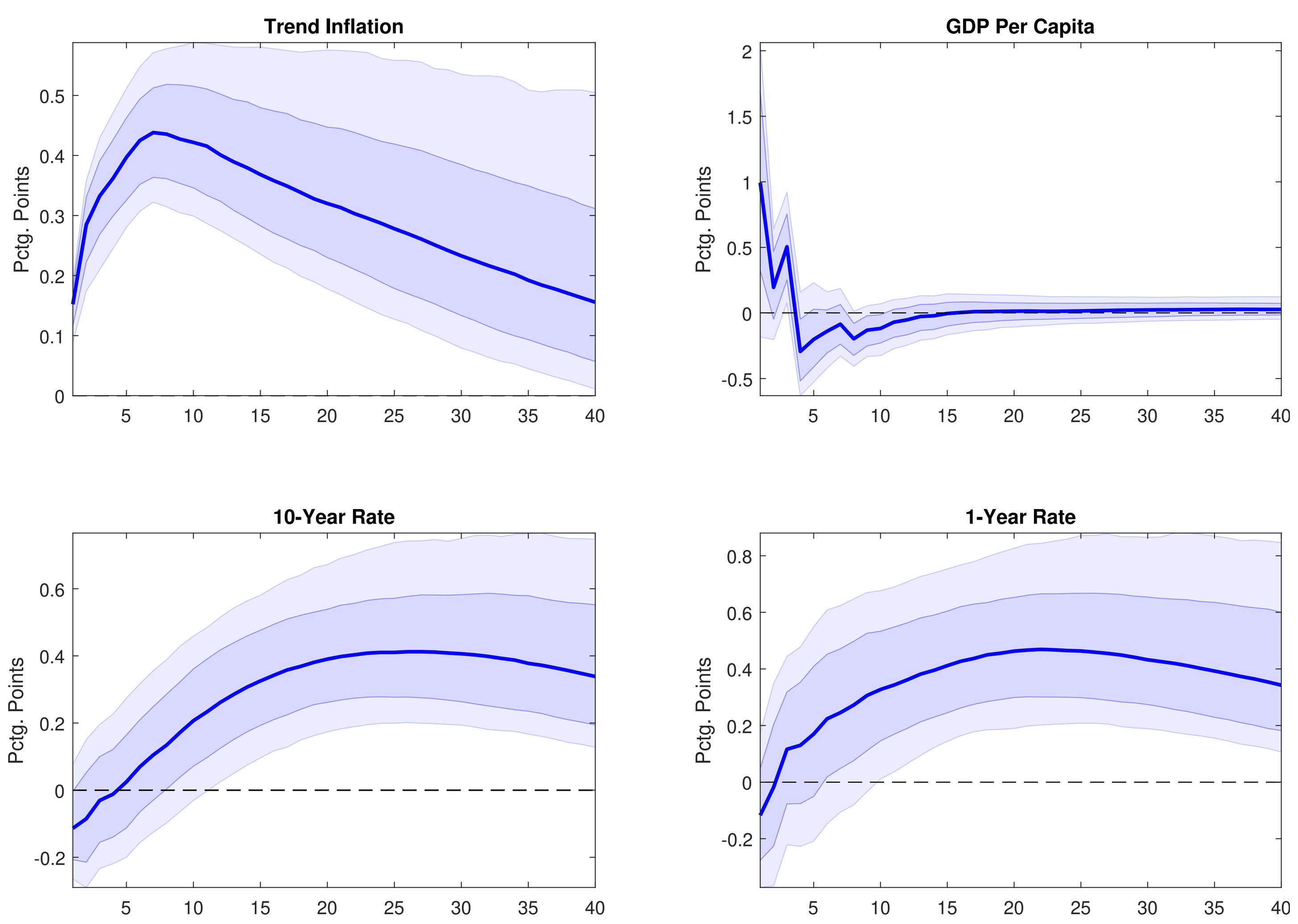
- Identifies News Shocks to Underlying Inflation (NUI) in the U.S. using medium-run restrictions (Kurmann and Sims, 2021).
- Estimates its aggregate effects on economic activity, inflation, and interest rates.
- Estimates its heterogeneous effects on consumption and income by household type using data from Consumer Expenditure Survey (CEX).

Econometric Strategy

- We estimate a BVAR that includes a proxy for underlying inflation (for ex: Trend of PCE inflation computed by Mertens (2016)), GDP growth, 10Y yield, and 1Y yield.
- NUI are defined as linear combination of BVAR innovations that:
  - Accounts for the maximum FEV of underlying inflation at a 5-year horizon.
  - Can affect underlying inflation contemporaneously.
- We assume a diffuse Normal-inverse-Wishart prior distribution for the reduced-form VAR parameters.
- Main events in the News Shocks to Underlying Inflation series are related with changes in inflation target and unconventional MP.

Aggregate Effects

- IRFs to a News Shock to Underlying Inflation:



- The identified shock explains 60% of fluctuations in 10Y yield 10 years ahead.

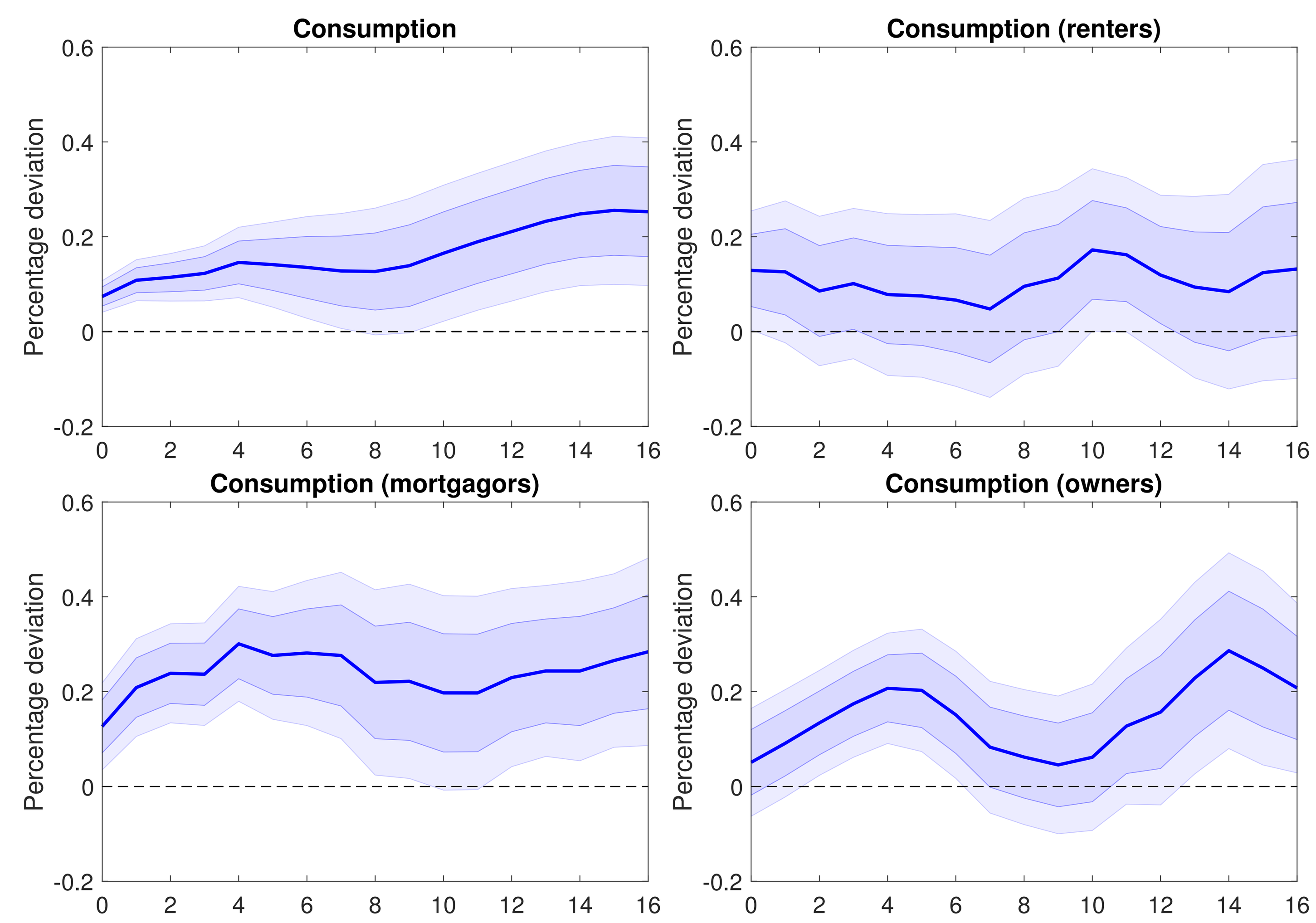
Heterogeneous Effects

- We estimate the effects on different types of households:

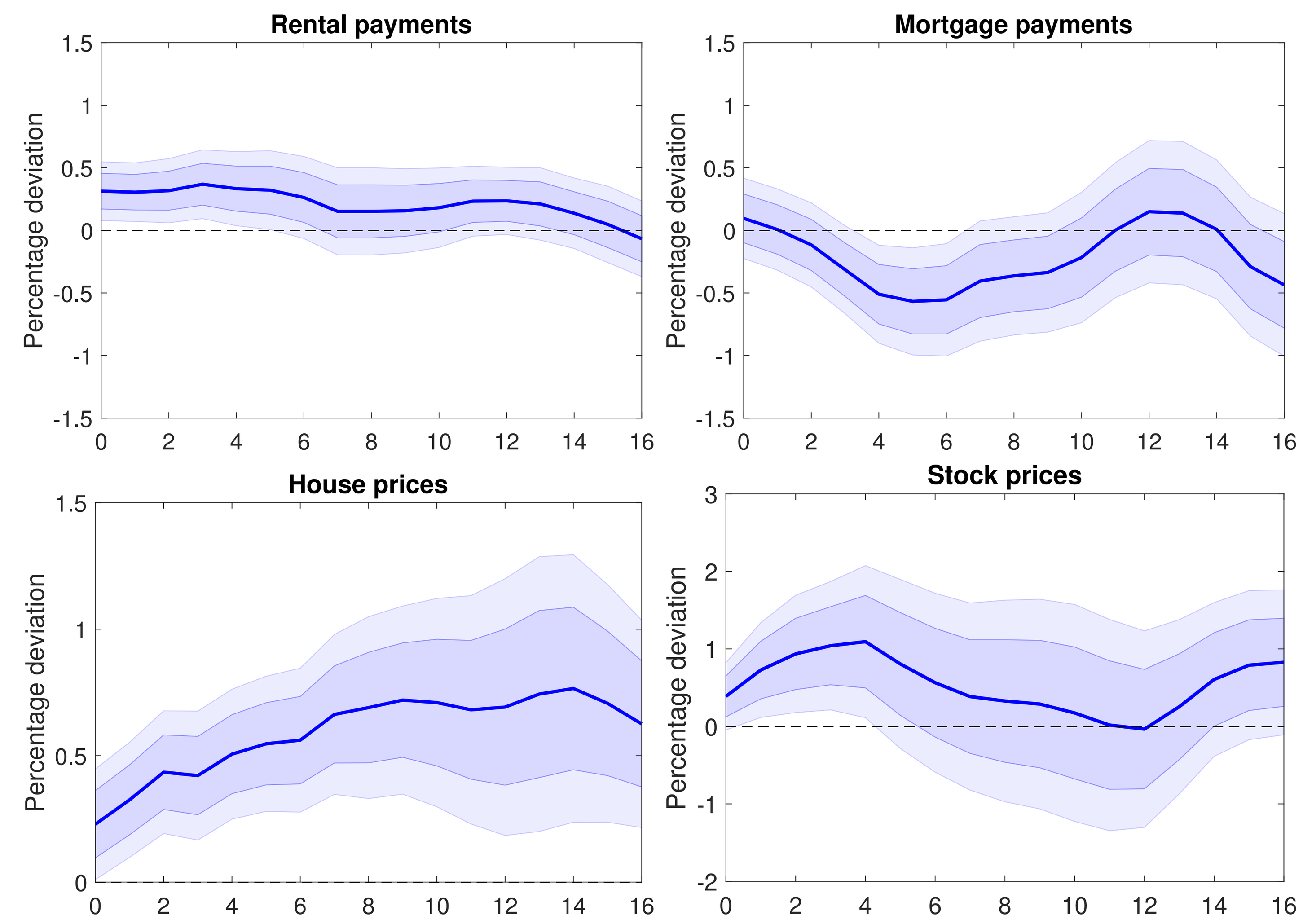
$$y_{i,t+h} = \alpha_{i,t} + \beta_{i,h}\epsilon_t^{NUI} + \gamma_i X_t + u_{i,t+h}$$

where $0 \leq h \leq 16$ quarters and $i =$ {renter, mortgagor, owner}.

Consumption responses by household group:



- Similar income response for all the groups.
- No significant change in liabilities for all the groups.
- Asset prices and housing payments are key to understand the heterogeneous response of consumption.



Conclusions

- News Shocks to Underlying Inflation relate to unconventional monetary policy shocks and to changes in the monetary policy stance.
- News Shocks to Underlying Inflation induce mild effects on output but they affect significantly more mortgagors' and owners' than renters' consumption.
- Wealth effects from increases in real house prices and the reduction in mortgage payments are key for understanding heterogeneous dynamics.