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:

Heterogeneous Effects
• We estimate the effects on different types of households:

\[ y_{i,t+h} = \alpha_i + \beta_{i,h}NUI + \gamma_iX_t + u_{i,t+h} \]

where \(0 \leq h \leq 16\) quarters and \(i \in \{\text{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’ consumption.
• Wealth effects from increases in real house prices and the reduction in mortgage payments are key for understanding heterogeneous dynamics.