Macroeconomic Expectations of Households and Firms

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The Role of Expectations for Household Decisions...

- Key variable for economic decisions: perceived real interest rate

$$r_t^i = i_t - \mathbb{E}_t^i \pi_{t+1}$$

- Most **households'** choices depend on inflation expectations
  - Consumption/saving choices (D'Acunto, Hoang, and Weber, 2018)
  - Mortgage Uptaking, Type (Malmendier and Nagel, 2015)
  - Stock Market Participation (Das, Kuhnen, and Nagel, 2019)
  - Wage bargaining

- Normal times: $\Delta i_t \longrightarrow \Delta r_t$ if expectations anchored

- **Especially important when nominal rates low!**
  (Coibion, Gorodnichenko, Kumar, and Pedemonte, 2018)
  - Policy needs to manage households' expectations
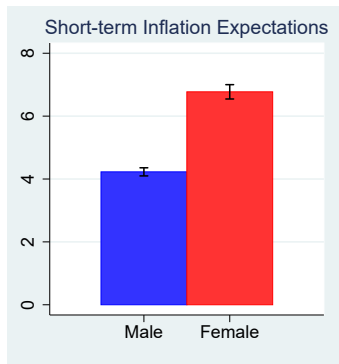 - Examples: Unconventional Fiscal Policy, Forward Guidance

BUT Households have dispersed knowledge...
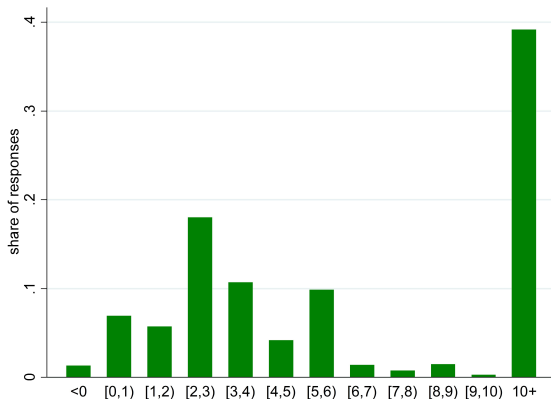
Source: Coibion, Gorodnichenko, Weber, JPE (2022):
"Monetary Policy Communication and Households' Inflation Expectations"

- Expectations react to info and determine consumption choices

Within-Household Inflation Expectations: Gender Gap

Source: D'Acunto, Malmendier, Weber, PNAS (2021):
"Gender Roles Produce Divergent Economic Expectations"

- Women have (more) positively biased inflation expectations

Why Are Women (More) Biased? They Do the Groceries!

Source: D'Acunto, Malmendier, Weber, PNAS (2021):
"Gender Roles Produce Divergent Economic Expectations"

- Large difference in inflation expectations by gender *within* household

- Unconditional difference driven by differences in grocery shopping

Shopping is the Most Important Source of Information
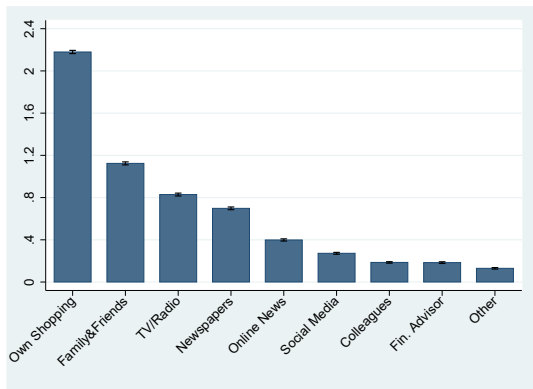
Source: D'Acunto, Malmendier, Ospina, Weber, JPE (2021):
"Exposure to Grocery Prices and Inflation Expectations"

- Most relevant sources of information when we asked their inflation expectations
- Own (and family) shopping much more common than media, other sources

Variation in Households' Bundles → Inflation Expectations
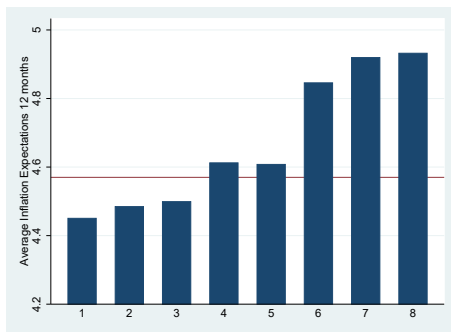
Source: D'Acunto, Malmendier, Ospina, Weber, JPE (2021):
"Exposure to Grocery Prices and Inflation Expectations"

- Sort households into bins by grocery price changes
- High-low portfolio: difference in expected inflation of 0.5 percentage points
- Economically sizeable given inflation target of 2%
- Higher weight on positive prices changes of frequently purchased goods

Men and Women often Think about Individual Goods
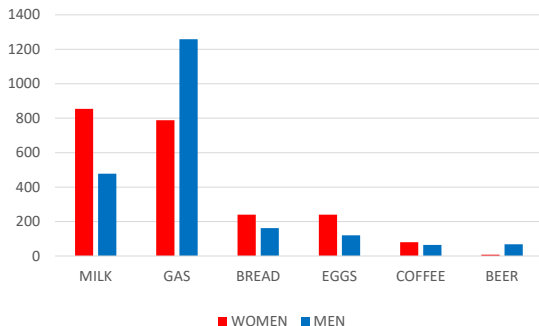
Source: D'Acunto, Malmendier, Weber, PNAS (2021):
"Gender Roles Produce Divergent Economic Expectations"

- Individuals often focus on price changes if specific items

- Inflationary impulse in narrow categories can result in spike in inflation expectations
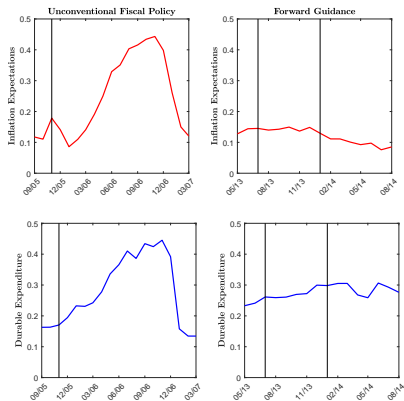
Forecast Accuracy and Expectations
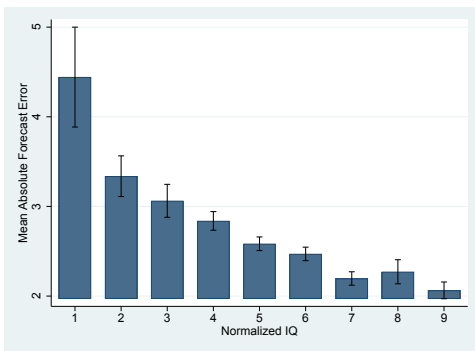
Source: D'Acunto, Hoang, Paloviita, Weber, Restud (2022):
"IQ, Expectations, and Choice"

- IQ data for all men in Finland from military
- Men with low IQ: absolute forecast error for inflation of 4.5%
- Decreases monotonically with IQ
- Effect unrelated to income and education

Simple Policies vs Complex Policies

Source: D'Acunto, Hoang, Weber, RFS (2022):
"Managing Household Expectations with Unconventional Policies"

- Pre-announced VAT increase (left): inflation expectations AND spending react
- Fwd guidance announcements (right): nothing moves
- Both policies theoretically operate through identical channel: Euler equation

Policy Message Matters
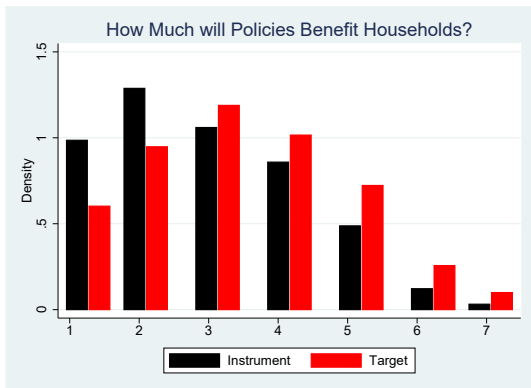
Source: D'Acunto, Hoang, Poloviita, Weber, (2021):
"Effective Policy Communication: Targets versus Instruments"

- Target Communication: specifies aims of policy
- Instrument communication: details implemented measures
- Households higher level of trust in CB for target than instrument communication

Policy Medium Matters

$$\mathbb{E}_i^{post}\,\pi - \mathbb{E}_i^{pre}\,\pi = a + b \times Treatment_i + \beta X_i + error_i$$

Population growth	$-0.224*$	$-0.271**$
	(0.116)	(0.120)
Past inflation	$-1.170***$	$-1.241***$
	(0.114)	(0.120)
Inflation Target	$-1.087***$	$-1.130***$
	(0.113)	(0.120)
Fed inflation forecast	$-1.166***$	$-1.240***$
	(0.113)	(0.120)
FOMC statement	$-1.284***$	$-1.298***$
	(0.113)	(0.119)
USA today coverage	$-0.469***$	$-0.555***$
	(0.116)	(0.121)
Unemployment	$-0.348***$	$-0.352***$
	(0.115)	(0.121)
Gas Price	$1.490***$	$1.420***$
	(0.125)	(0.130)
Controls for demographics	No	Yes
Nobs	19,654	17,979

Source: Coibion, Gorodnichenko, Weber, JPE (2022):
"Monetary Policy Communication and Households' Inflation Expectations"

- Print media less effective because less trustworthy in US

Policy Sender Matters

White respondents   Black respondents
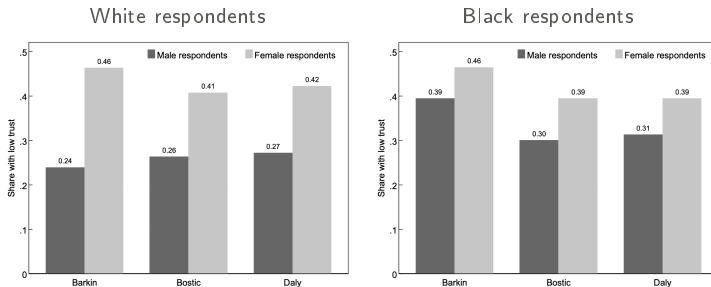
Source: D'Acunto, Fuster, Weber, (2021):

"Diverse Policy Committees Can Reach Underrepresented Groups"

- Show survey participants identical forecasts for inflation and unemployment
- Vary picture of policy maker attached to forecasts
    - Mary Daly (white), Raphael Bostic (black), Thomas Barkin (white)
- Female and Black survey participants ...
    - More likely to react to forecasts
    - Less distrustful
- ... when observe forecast with Daly and Bostic rather than Barkin

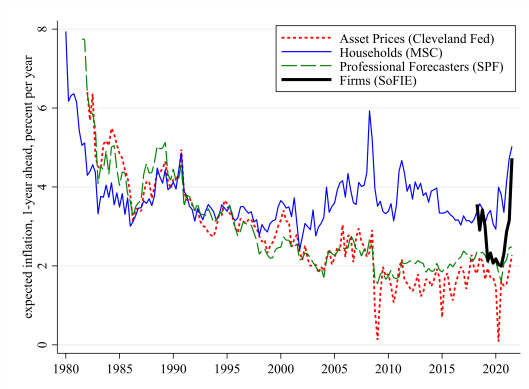# Δ in long- and short-term Inflation Expectations Comove
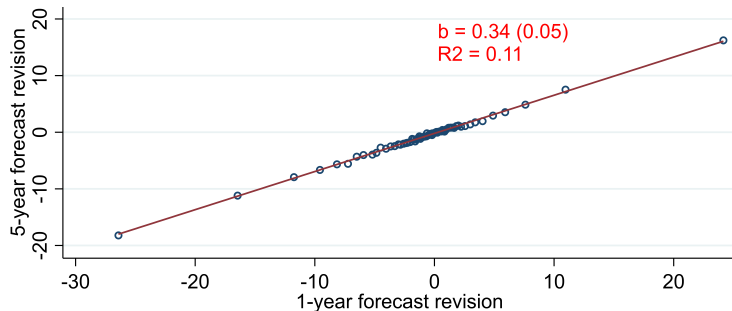
Source: Weber, D'Acunto, Gorodnichenko, Coibion, JEP (2022):
"The Subjective Inflation Expectations of Households and Firms"

- Central banks aim for stable long-term inflation expectations
- Short-term expectations might temporarily move due to shocks
- Households with high trust should have well anchored long-term expectations
- When households revise short-term expectations, so they so for long-term as well

Firms and Households Form Expectations Alike

Source: Weber, D'Acunto, Gorodnichenko, Coibion, JEP (2022):
"The Subjective Inflation Expectations of Households and Firms"

- Limited evidence for firms suggest general biases of HH also prevalent for firms

Recent Reviews of This Literature

- **"What Do the Data Tell Us About Inflation Expectations?"**
  D'Acunto, Malmendier, Weber, Handbook of Subjective Expectations (forthcoming)

- **"The Subjective Inflation Expectations of Households and Firms: Measurement, Determinants, and Implications"**
  Coibion, D'Acunto, Gorodnichenko, Weber, Journal of Economic Perspectives (forthcoming)

- **"The Expected, Perceived, and Realized Inflation of U.S. Households before and during the COVID19 Pandemic"**
  Coibion, Gorodnichenko, Weber, IMF Economic Review (forthcoming)

Take Aways

- Households focus on specific goods to form expectations

- Spike in inflation in narrow categories $\rightarrow$ in spike in expectations

- Larger weight on positive price changes
  - $\mathbb{E}\,\pi$ will stay elevated even if π comes down

- Messaging by Central Bank important

  - Message, medium, and sender matter