

Inflation Expectations and the Supply Chain

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discussed by Michael Weber

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Big Picture

Inflation expectations are terribly important. We spend a lot of time watching them.

Jerome Powell (2021)

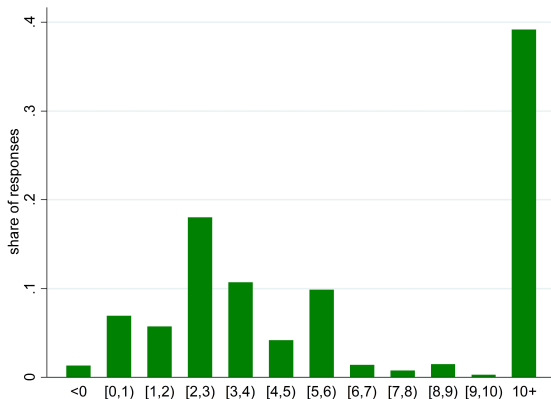
The Role of Expectations for Decisions...

- Key variable for economic decisions: perceived real interest rate

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

- Most **households' & firms'** choices depend on inflation expectations
 - Consumption/saving choices (D'Acunto, Hoang, and Weber, 2022)
 - Mortgage Uptaking, Type (Malmendier and Nagel, 2015)
 - Stock Market Participation (Das, Kuhnen, and Nagel, 2019)
 - **Wage and price setting** (Coibion et al, 2018, 2020)
- Normal times: $\Delta i_t \rightarrow \Delta r_t$ 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

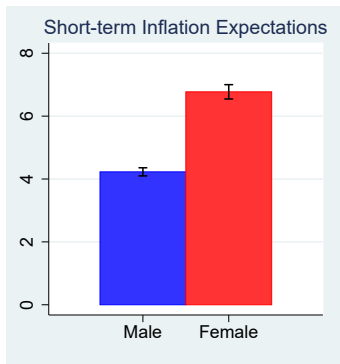
BUT Agents have dispersed knowledge...



Source: Coibion, Gorodnichenko, Weber, JPE (2022):
“Monetary Policy Communication and Households’ Inflation Expectations”

- Expectations do react to info and determine actual consumption in scanner data

Heterogeneity in Inflation Expectations: Gender Gap



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

- Women have (more) positively biased inflation expectations

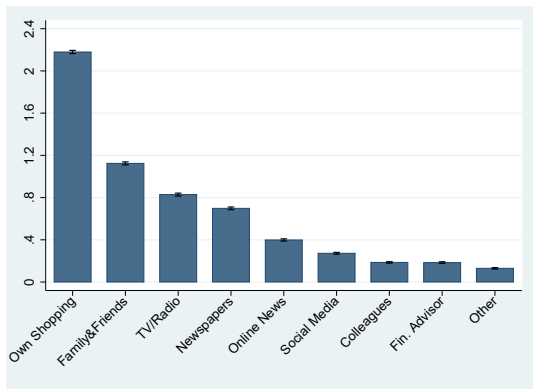
Why Are Women (More) Biased? They Do the Groceries!



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

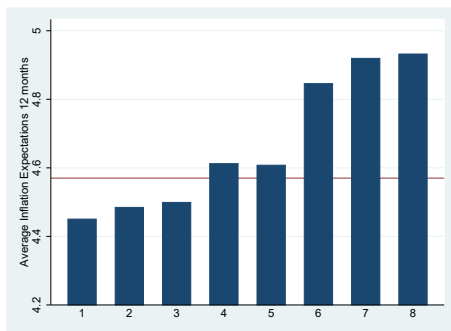
Shopping is Most Important Source of Information for HHs



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

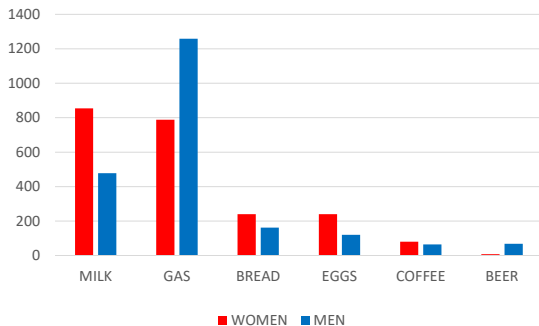
Variation in Households' Bundles → Inflation Expectations



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**
- Consistent with Lucas island model (1972)

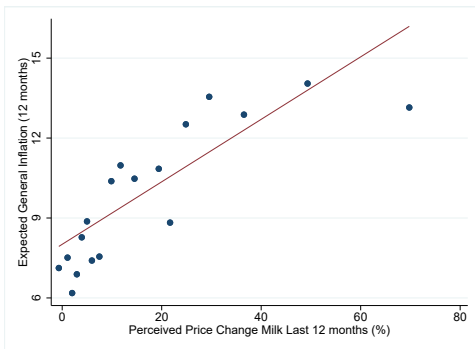
Men and Women often Think about Individual Goods



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

- Individuals often focus on price changes if specific items
- NB: gas price changes largely uniform across US, can't drive dispersion in $\mathbb{E}\pi$
- Inflationary impulse in narrow categories can result in spike in inflation expectations

From Recalled Good-Specific Signals to Aggregate Beliefs

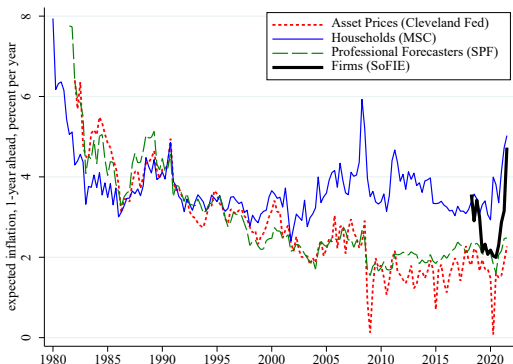


Source: D'Acunto and Weber (2022):
"Memory and Beliefs: Evidence from the Field"

- **Survey January 2022:** Elicit recalled milk prices, milk inflation
- Perceived milk inflation correlates with general inflation expectations

Firms, Households, Professionals, and Markets

Figure 1. Mean Inflation Expectations.



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

- Lack of available data for firms
- Limited evidence suggests firms more similar to households than to professionals

This Paper

- Assembles unique data on input prices and inflation expectations
- 10 pp. higher input costs \rightarrow 0.1 pp. higher inflation expectations
- Input cost inflation orthogonal to current CPI inflation
- Consistent with Lucas island model
- Firms tend to lower inflation expectations with higher GDP growth
- Firms set own prices with a coefficient of 1 on expected inflation
- Supports forward-looking NK PC at firm level

Location in the Supply Chain

- Upstream most inputs are largely energy and oil
- Downstream accumulation of intermediate inputs and wages
- Wages more important further downstream
- Price flexibility tends to decrease the further downstream

Pasten, Schoenle, Weber (2020)

- Does expectations formation differ across the supply chain?
- Does NK PC coefficient differ along supply chain?
- Implications for monetary policy?
 - Targeting sticky- vs flexible-price sectors?

Specification

- Regress cumulative *change* in $\mathbb{E}(\pi)$ on two lags of realized inflation
- Also includes firm fixed effects and two lags of dependent variable
- Adding firm fixed effects akin to change of change
- Change on level specification needs more motivation

Interpretation

- Authors add lags of CPI inflation to specification
- Argue that FIRE implies zero coefficient on supply-chain inflation
- But: maybe supply chain component \perp current π predicts π
- Lack of predictive power of future CPI inflation alleviates concern
- Paper: results causal given input price inflation exogenous to $\mathbb{E}(\pi)$
- Both might be affected to shocks to industry, etc.
- Firm fixed effects alleviate concerns but discuss concerns more

Random Rants

- Cross validate average of firm input price inflation with PPI
- Possible to get wage bill?
- Spatial variation in expectations formation?
- Chance to merge balance sheet data?
- Do expectations matter for hiring and wage setting?

Conclusion

- Great paper everyone should read!
- Paper provides convincing new evidence for an important question
- Few minor quibbles to address empirically