

Discussion of
“Consumer Memory, Inflation Expectations and the
Interpretation of Shocks” by Gabriel Züllig

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EPFL, Swiss Finance Institute, and CEPR

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Summary

- ▶ Main question: how do consumers update their inflation expectations in response to shocks hitting the economy?

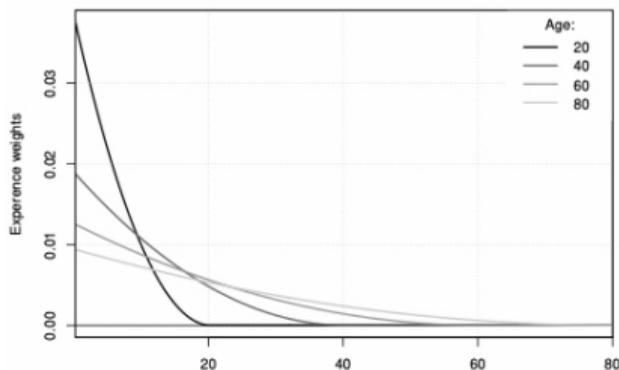
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- ▶ Answer: (1) overall quite rationally, but (2) the strength of updating depends partly on their lifetime experiences – “**shock memory**”
 - ▶ E.g. somebody who lived through 1970s stagflation may have “supply shock” lens
 - ▶ vs. somebody who has only experienced more recent recessions where inflation fell

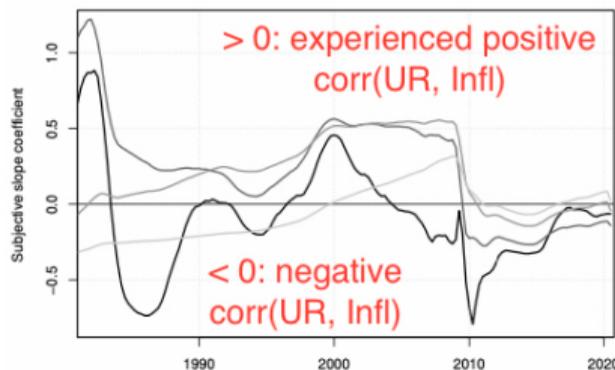
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(a) Memory weights



(b) Memory \mathcal{M}^{III} by age over time



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 - ▶ “As theory predicts” — $\pi^e \downarrow$ if $i \uparrow$
 - ▶ but more strongly so for those with more supply shock memory
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- ▶ “Case study”: COVID-19 age gradient in inflation expectation changes

Relationship to existing literature

- ▶ Malmendier and Nagel (2016): individual lifetime experiences matter for inflation expectations
- ▶ Approach: “univariate” — assume that individuals estimate coefficients of an AR(1) model for inflation, using only data from their lifetime & downweighting more distant data

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- ▶ Malmendier and Nagel (2016): individual lifetime experiences matter for inflation expectations
- ▶ Approach: “univariate” — assume that individuals estimate coefficients of an AR(1) model for inflation, using only data from their lifetime & downweighting more distant data
- ▶ Can match e.g. that Michigan survey respondents $< 40y$ had inflation expectations much above average in 1970s and below average during the Great Recession

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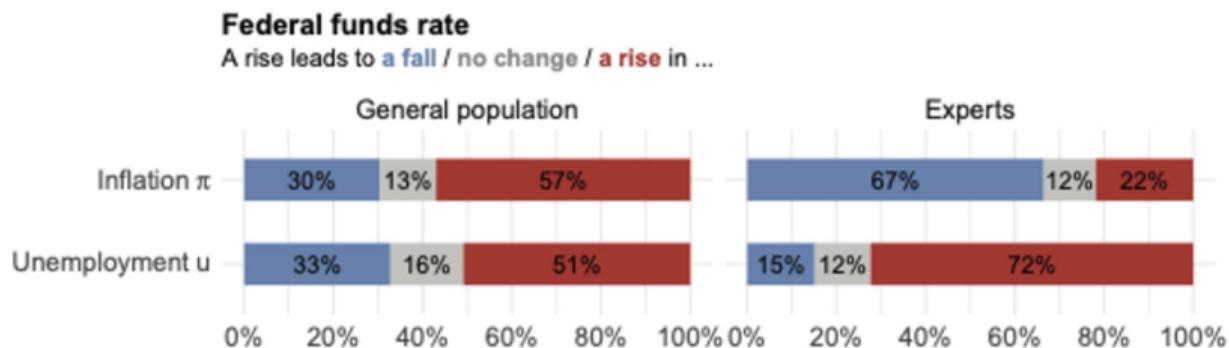
- ▶ Andre, Pizzinelli, Roth and Wohlfart (2022): subjective macroeconomic models very heterogeneous and partly shaped by “what comes to mind”
 - ▶ And differ substantially between households and experts
- ▶ Approach: online survey where elicit expected changes in UR and π in different hypothetical scenarios; attempt to measure what comes to mind

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- ▶ Approach: online survey where elicit expected changes in UR and π in different hypothetical scenarios; attempt to measure what comes to mind
- ▶ E.g. *“Imagine the fed funds target rate is unexpectedly 0.5 percentage points higher (...) Imagine the [FOMC] announces change comes with no change in their assessment of the economic conditions.”*

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55% of experts express the conventional view that the interest rate shock increases unemployment and decreases inflation, vs. only 11% of households.

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 - ▶ And differ substantially between households and experts
 - ▶ Approach: online survey where elicit expected changes in UR and π in different hypothetical scenarios; attempt to measure what comes to mind
- ⇒ **Difference:** here, expectations measured over 40-year period; rely on “naturally occurring” variation in memory
- ▶ Also, variation across respondents may reflect both differences in information sets and differences in interpretation

Relationship to existing literature

- ▶ Andre et al. and a number of other papers (Kamdar 2019, Coibion et al. 2023) find evidence suggesting that households in the US and elsewhere typically have a “supply-side” view of inflation (i.e. high π associated with economic slowdown)

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 - ▶ Other work documents that majority of households appear clueless about monetary policy (e.g. Coibion et al. 2020, 2021; Lamla and Vinogradov 2019; De Fiore et al. 2021)
- ⇒ **Difference:** here, findings suggest that households quite good at interpreting different types of shocks
- ▶ In particular, respond to monetary policy shocks “like experts” (tightening shock = lower expected inflation)
 - ▶ Robust to using either VAR-implied mon. pol. shocks, Romer-Romer narrative shocks, or Jarocinski-Karadi (2020) high-frequency-identified shocks
 - ▶ Average effect highly statistically significant (e.g. t -stat > 9 for Romer-Romer shocks)

Comment 1 – what is driving the monetary policy shock result?

- ▶ Partial replication attempt – individual-level 6-month change in inflation expectations, regressed **only** on mon. pol. shock series (summed over $t - 6$ to $t - 1$)
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- ▶ Results: tightening shocks either have no effect or **increase** inflation expectations (in line with earlier work, but opposite of Gabriel's findings)

	R&R shocks	J&K shocks	
$\Delta r_{t-6 \rightarrow t}^{shock}$	0.003 (0.052)	1.174*** (0.170)	
MP shock		0.183 (0.227)	
CB info shock		2.635*** (0.325)	
Constant	-0.395***	-0.217***	-0.197***
Obs.	60620	52809	51861
Years	1981-2007	1990-2016	

Robust standard errors in parentheses

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1. Gabriel additionally includes his estimated VAR supply and demand shocks.

In principle, this should not matter, unless mon. pol. shocks are actually partly predictable? (Bauer and Swanson, 2022)

Comment 2 – why does memory matter for monetary policy interpretation?

- ▶ Differential updating of inflation expectations by those with higher “supply shock” memory:
 - ▶ Stronger increase in π^e when economy hit by supply shock – ✓
 - ▶ No differential increase in π^e when economy hit by demand shock – ✓ (?)
 - ▶ Update inflation expectations downward more strongly after monetary policy tightening shock – why?

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 - ▶ Update inflation expectations downward more strongly after monetary policy tightening shock – why?
- ▶ Last result arguably surprising because monetary policy generally **less** potent against supply shocks
- ▶ “Explained” by separate results showing that those with higher supply shock memory appear more attentive to interest rates
- ▶ Verbal sketch of rational inattention story that could generate this ⇒ **explore more**

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- ▶ Potential issue: estimated from the perspective of today, but in real time the shock interpretation may have been different
 - ▶ Would estimating the model on a rolling basis be feasible, so no look-ahead bias?
- ▶ Potential alternative “real time” and model-free way of quantifying beliefs about type of shock – look at changes in expectations of professional forecasters (e.g. Casta 2022)
 - ▶ Supply shocks dominate if expected changes in UR and π move in same direction; demand shocks if opposite direction

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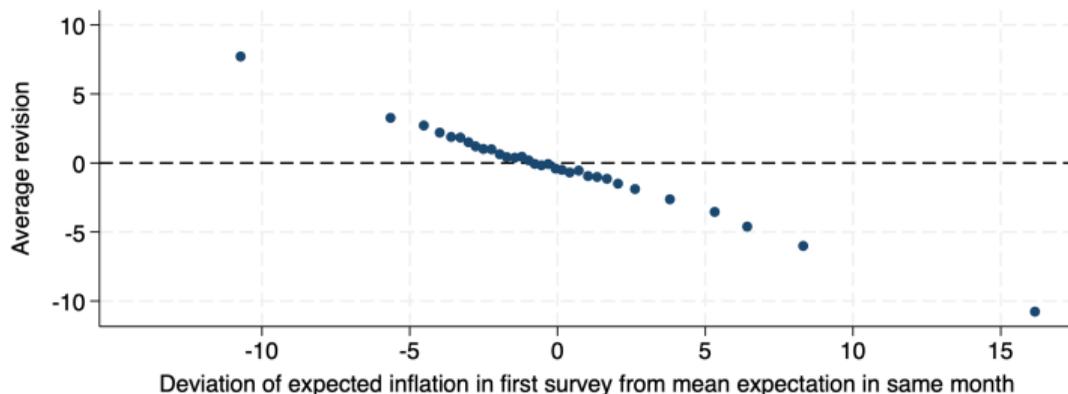
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Conclusion

- ▶ Very interesting & rich paper – potential to make an important contribution to our understanding of heterogeneity in inflation expectations & time-varying policy transmission
- ▶ The evidence in this paper, along with related work, strongly suggests that shock memory matters for expectations
- ▶ Still much to learn about how to best model memory & about how households think about effects of interest rates — and whether/how this should affect central bank communication