The Inflation Expectations of the Hand-to-Mouth

Short Proposal

Gabriele Buontempo*

July 17, 2025

Macroeconomic models increasingly incorporate heterogeneity and market incompleteness to explain various distributional dynamics. A growing body of literature suggests that households differ not only in traditional dimensions – such as unemployment risk, income, and wealth – but also in their expectations formation process (Broer et al., 2021, D'Acunto et al., 2022). Understanding the drivers of this heterogeneity is crucial to assess the limitations of the "full-information, rational-expectations" framework and their implications in general equilibrium. Within this framework, this paper identifies four empirical facts distinguishing the inflation expectations of Hand-to-Mouth (HtM) households and non-HtM households, and presents a model of expectations formation to rationalize them.

Using data from the Survey of Consumer Expectations of the Federal Reseve Bank of New York (SCE, 2023), this paper finds that HtM households' inflation expectations (i) are more volatile, (ii) exhibit greater forecast errors, (iii) have larger absolute forecast errors, and (iv) display higher cross-sectional dispersion compared to those of standard optimizing, non-HtM Ricardian households.

The first section of this paper describes how HtM households are identified in the Survey of Consumer Expectations. The identification relies on households' self-reported ability to handle an unexpected expense, and yields a distribution of HtM households across the sample population that is similar to the one reported by Kaplan and Violante (2014), including both *poor* and *wealthy* Hand-to-Mouth households.

*LMU Munich, Department of Economics. Email: gabriele.buontempo@econ.lmu.de.

Data from the Survey of Consumer Expectations of the Federal Reserve Bank of New York are used in this research project, hence the following disclaimer applies. Data source: Survey of Consumer Expectations (SCE), © 2013-2024 Federal Reserve Bank of New York (FRBNY). The SCE data are available without charge at http://www.newyorkfed.org/microeconomics/sce and may be used subject to license terms posted there. FRBNY disclaims any responsibility for this analysis and interpretation of Survey of Consumer Expectations data.

The second section presents empirical facts characterizing the inflation expectations time series of HtM and non-HtM households over the 2014–2024 sample period. First, the inflation expectations of HtM households are more volatile than those of non-HtM households, with a variance more than three times higher (see figure 1 for the time series over the period 2020-2024). Second, during the low-inflation period from 2014 to 2019, both groups exhibit positive forecast errors and absolute forecast errors, with those of HtM households approximately 100 basis points higher. This pattern persists during the high-inflation period from 2020 to 2024, but the gap between HtM and non-HtM forecast errors widens to over 200 basis points (as shown in figure 2). Third, HtM households' inflation expectations are more dispersed in the cross-section, with a root-mean-square deviation from the group mean approximately 25% higher than that of non-HtM households.

The paper then presents an expectations formation model at the household level that, building on the standard noisy information framework (Woodford, 2003), parsimoniously rationalizes the empirical facts. In the model, there is a discrepancy between the *actual* and the *perceived* inflation signal received by the household. This discrepancy arises from (i) a bias in the perceived signal—interpreted as the household's belief that the actual signal underreports true inflation—and (ii) a lower perceived variance of the idiosyncratic signal noise—interpreted as overconfidence in the perceived signal. This section describes how households form inflation forecasts in this setting using the steady-state Kalman filter and how, by assuming different levels of bias and overconfidence between HtM and non-HtM households, the model qualitatively replicates the empirical patterns.

Estimating the parameters of the expectations formation model, as shown in table 1, reveals that, over the sample period 2014–2019, inflation forecasts of both HtM and non-HtM households do not respond to realized inflation. Consequently, the estimated Kalman gain is not statistically different from zero. This finding is consistent with the observed persistence of inflation expectations during this period for both groups, despite significant forecast errors. As a result, in the expectations formation model, inflation forecasts are primarily driven by the perceived bias in households' priors, which tend not to be revised and are higher for HtM households.

Conversely, estimating the expectations formation model over the 2019–2024 period indicates that both household groups update their inflation expectations in response to available inflation information. The estimation suggests that the Kalman gain is higher for HtM households (0.19) than for non-HtM households (0.15) during the inflation surge, as shown in Table 1. This higher Kalman gain implies that even a smaller bias in the inflation signal can generate a larger forecast error for HtM households' expectations.

Future work will integrate the expectations formation model into a HANK framework. In

particular, the goal is to assess the general equilibrium implications of Kalman gains that are not only less than one but also higher for HtM households than for non-HtM households during the inflation surge. It will be especially interesting to understand how this difference in Kalman gains interacts with both the direct and indirect effects through which monetary policy affects aggregate consumption.

I expect to have a research paper, including the model, ready by October 2025.

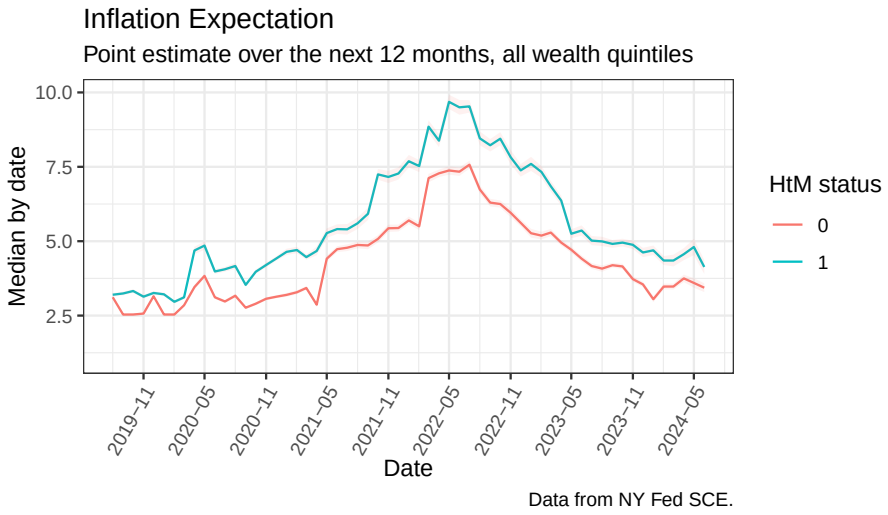


Figure 1: Time series of the inflation expectation over the period 2019-2024. In blue the series for the Hand-to-Mouth households, in red for non Hand-to-Mouth.

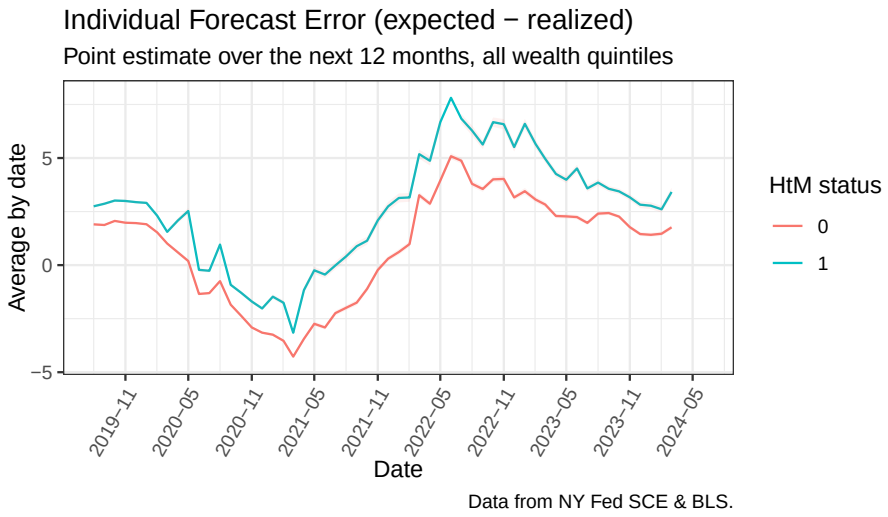


Figure 2: Time series of the average inflation expectation individual forecast error over the period 2019-2024. In blue the series for the Hand-to-Mouth households, in red for non Hand-to-Mouth.

Table 1: Estimation of the model of inflation expectations

	Year-on-year inflation expectations: $\hat{\Pi}_{t+4\|t}$			
	2014-2019		2019-2024	
	HtM	non HtM	HtM	non HtM
	(1)	(2)	(3)	(4)
Lagged expectations: $\hat{\Pi}_{t+3\|t-1}$	0.776***	0.780***	0.753***	0.742***
	(0.002)	(0.002)	(0.003)	(0.003)
Quarterly inflation: π_t	0.061	-0.021	0.655***	0.439***
	(0.045)	(0.027)	(0.039)	(0.023)
Constant	0.864***	0.724***	1.094***	0.905***
	(0.021)	(0.013)	(0.034)	(0.020)
Implied $\hat{\rho}$	0.776***	0.780***	0.934***	0.874***
Implied $\hat{\mathbf{K}}$	0	0	0.193***	0.151***
Implied $\hat{\mu}$	-	-	1.670***	2.062***
Observations	46,309	68,810	29,478	42,456
Adjusted R^2	0.6192	0.6275	0.5991	0.5859

Note: Regressions are estimated with OLS, and heteroskedasticity robust standard errors are reported in parentheses. The standard errors of the implied parameters are estimated using the delta method. Superscripts ***, **, and * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively. Regressions are run using survey data from the SCE over the period 10-2014 - 08-2024.

REFERENCES

Broer, T., Kohlhas, A., Mitman, K., & Schlafmann, K. (2021). Information and Wealth Heterogeneity in the Macroeconomy. *CEPR Discussion Papers* (cit. on p. 1).

D'Acunto, F., Hoang, D., Paloviita, M., & Weber, M. (2022). IQ, Expectations, and Choice. *The Review of Economic Studies* (cit. on p. 1).

Federal Reserve Bank of New York, Center for Microeconomic Data. (2023). Survey of Consumer Expectations, Data Bank. (Cit. on p. 1).

Kaplan, G., & Violante, G. L. (2014). A Model of the Consumption Response to Fiscal Stimulus Payments. *Econometrica*, *82*(4), 1199–1239 (cit. on p. 1).

Woodford, M. (2003). Imperfect Common Knowledge and the Effects of Monetary Policy. In P. Aghion, J. Stiglitz, R. Frydman, & M. Woodford (Eds.), *Knowledge, Information, and Expectations in Modern Macroeconomics: In Honor of Edmund Phelps*. Princeton University Press. (Cit. on p. 2).

Acknowledgment

The author, Gabriele Buontempo, acknowledges that the research was supported by standard PhD funding from the University of Munich, and declares no financial relationships or other potential conflicts of interest.