BIS Bulletin

No 55

Rising household inflation expectations: what are the communication challenges for central banks?

Fiorella De Fiore, Tirupam Goel, Deniz Igan and Richhild Moessner

23 May 2022

BIS Bulletins are written by staff members of the Bank for International Settlements, and from time to time by other economists, and are published by the Bank. The papers are on subjects of topical interest and are technical in character. The views expressed in them are those of their authors and not necessarily the views of the BIS. The authors are grateful to David Archer, Claudio Borio, Stijn Claessens, Louise Egan, Jill Forde, Jon Frost, Blaise Gadanecz, Krista Hughes, Benoit Mojon, Daniel Rees, Hyun Shin, Kevin Tracol for their feedback, to Giulio Cornelli and Albert Pierres Tejada for excellent analysis and research assistance, and to Louisa Wagner for administrative support.

The editor of the BIS Bulletin series is Hyun Song Shin.

This publication is available on the BIS website (www.bis.org).

ISSN: 2708-0420 (online)
ISBN: 978-92-9259-568-5 (online)

Fiorella De Fiore
fiorella.defiore@bis.org

Tirupam Goel
tirupam.goel@bis.org

Deniz Igan
deniz.igan@bis.org

Richhild Moessner
richhild.moessner@bis.org

Rising household inflation expectations: what are the communication challenges for central banks?

Key takeaways

- *Household inflation expectations have risen alongside higher inflation. These expectations matter for central banks since they affect consumption decisions and wage demands, shaping the public debate on inflation.*
- *Households are more influenced by the prices of frequently purchased items. This partly explains why they typically perceive current inflation to be higher than official inflation and why their expectations of future inflation exceed those of professional forecasters.*
- *Households may not fully appreciate the link between inflation and monetary policy. Continuous and direct engagement by central banks using simple and relatable messages can make communication more effective.*

Household inflation expectations on the rise

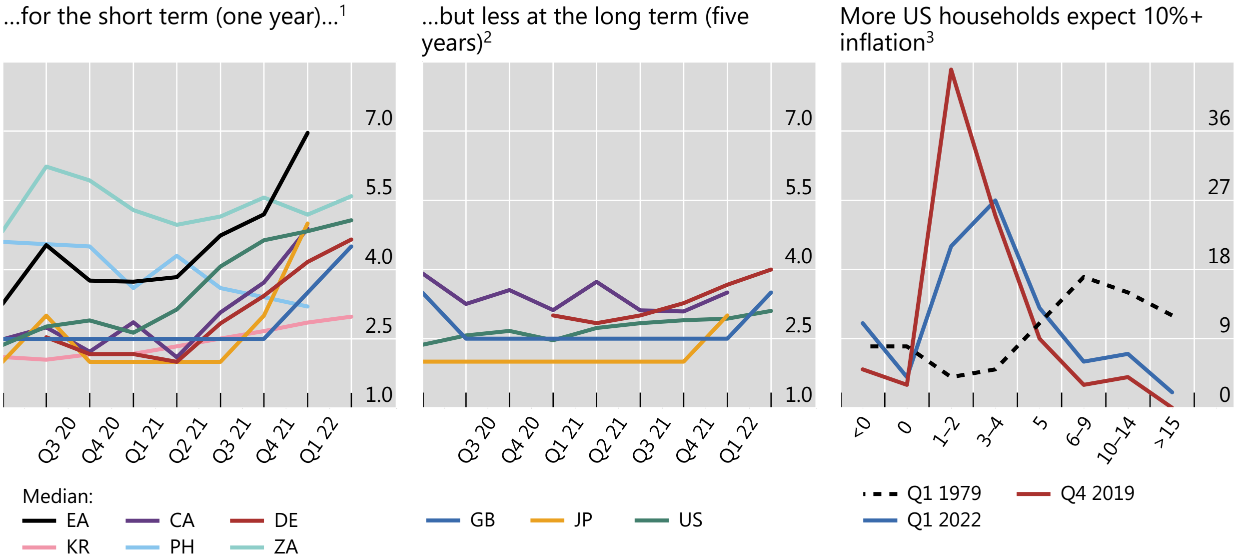
Household inflation expectations are an important input to central bank decision-making and communication strategies since they directly affect consumption decisions and wage demands, which in turn underpin firms' price-setting. Moreover, they are often at the centre of the public debate as inflation erodes purchasing power and arbitrarily redistributes income and wealth, benefiting some and harming others. Yet discussions about inflation expectations often focus on market participants and professional forecasters, partly because data are readily available at high frequency and in many countries. By contrast, household inflation expectations are measured at a lower frequency and in a smaller number of countries.

Over the past year, household inflation expectations have risen along with actual inflation in many countries. While the median household's short-term expectations have sharply increased (Graph 1, first panel), longer-term ones have risen more moderately (second panel). Beyond the median, the distribution of individual expectations has shifted in some countries, with *more* people expecting *higher* inflation. For instance, today a larger share of US households relative to pre-Covid times expect inflation to exceed 10% five years in the future (third panel). That said, the share of US households expecting double-digit inflation is lower than during the high-inflation 1970s (dashed line in the third panel).

Household inflation expectations have risen…

In per cent

Graph 1



[1] For KR, PH and ZA, mean value. For DE, KR, US and ZA, quarterly average of monthly data. [2] For DE and US, quarterly average of monthly data. [3] Based on the five-year inflation expectations for US households, percentage of respondents per interval.

Sources: Datastream; national consumer surveys (also see Annex Table A1); national data; BIS calculations.

Inflation expectations: households versus professional forecasters

Measuring household inflation expectations is challenging. The main sources of information are sentiment trackers or opinion, knowledge and attitude surveys, which can be quantitative or only qualitative (see online annex). As with all surveys, there is no guarantee that respondents will interpret the questions in the same way as the survey authors, or that they can or wish to respond accurately. Moreover, such surveys are not available in every economy and may not be comparable. And, some surveys do not go sufficiently far back to cover previous periods of high inflation.

A natural starting point for analysis of household expectations is to explore how households *perceive current* inflation. Perceived inflation can depart from official data, often by large margins. In particular, there is a systematic tendency for perceived inflation to be higher than actual inflation (Graph 2, left-hand panel; the dots lie above the 45-degree line). That said, perceived inflation does tend to move in tandem with changes in actual inflation (the fitted line is parallel to the 45-degree line, also see Cœuré (2019)).

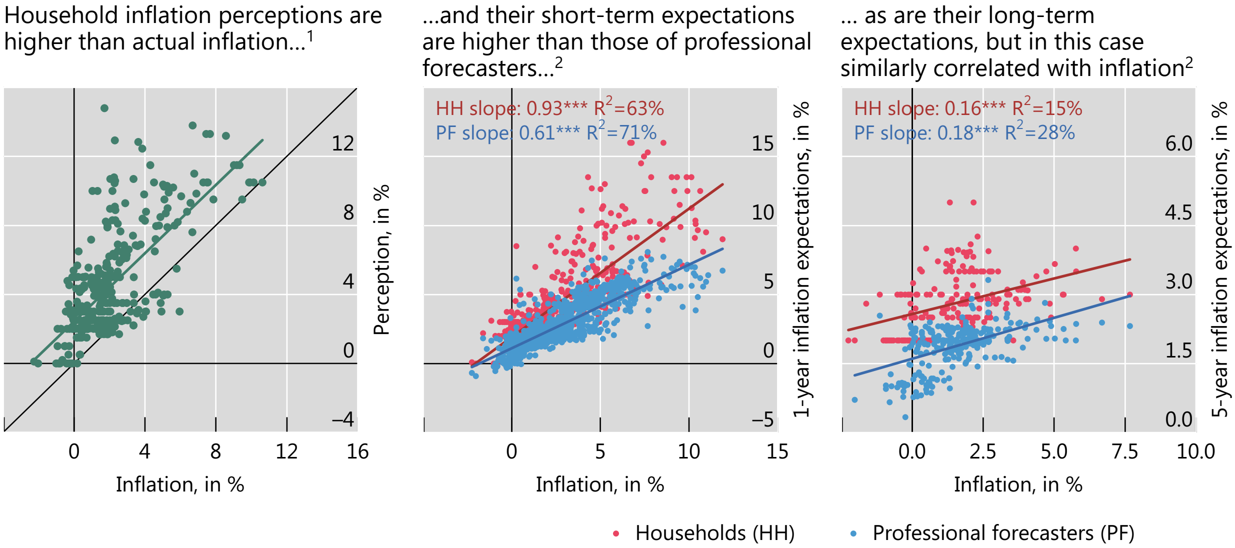
Various factors may account for the gap between household inflation perceptions and the official statistics. One is that households tend to pay more attention to their own cost of living and their own lifelong experience with inflation,[1] and their consumption patterns may not be representative of the aggregate basket captured in the general price index. In addition, households tend to pay special attention to "salient" items, ie those that are purchased frequently or take up a large share of their specific consumption basket. If households are exposed to larger or more frequent price changes in their day-to-day activities such as grocery shopping, they may expect overall inflation to be higher. Indeed, well known examples of salient items include food and gasoline (Singh et al (2022), D'Acunto et al (2019)). Notably, these items are excluded from the core inflation measures that central banks typically focus on precisely because the prices of these items tend to be volatile.

[1] Inflation perceptions, as well as one-year ahead inflation expectations, tend to be higher for survey respondents in higher age cohorts, at the bottom of the income distribution, and among those with lower education levels (see online annex graphs). These differences could stem from differences in inflation experiences, in how inflation affects households, and in the understanding of inflation dynamics.

Turning now to household inflation *expectations*, several insights emerge when comparing them with those of professional forecasters.

For a given level of current inflation, households tend to have higher short-term (one-year) as well as longer-term (five-year) expectations than those of professional forecasters (Graph 2, centre and right-hand panels; the red dots are above the blue dots). The difference could reflect the fact that, over the period considered, households perceive inflation to be higher than it actually was. The upward bias in perceptions can then feed back into higher inflation expectations. Another reason could be that public awareness of economic conditions and central banks' activities and mandates may be lower than that of professional forecasters. The latter may also be more trusting of central banks' commitment to deliver, and thus attach more weight to the target.[2]

Households have biased perceptions, and higher expectations than forecasters — Graph 2



[1] Based on pooled data for CA, DE, EA, GB, IN, JP, KR NZ and SE since 2004 (subject to data availability by country); the black diagonal line indicates the 45-degree line. [2] Based on pooled data for BR, CA, DE, EA, GB, IN, JP, KR, NZ, PH, SE, US and ZA since 2004 (subject to data availability by country). The regression lines are based on a panel OLS of inflation expectations on inflation.

Sources: Consensus Economics; Datastream; national consumer surveys (also see annex Table A1); national data; BIS calculations.

That said, the correlation between expectations and current inflation is weaker in the case of longer-term expectations (the slopes of the regression lines in the right-hand panel are smaller than those in the centre panel) for both households and professional forecasters. This suggests that both households and professionals give less weight to current inflation when forming their long-term inflation expectations.

Data further indicate that households have a greater tendency to overpredict inflation than professional forecasters do. The distribution of forecast errors – measured by the difference between one-year expectations and observed inflation one year ahead – is biased towards positive values, especially in the case of households (Graph 3, left-hand panel; the red line is skewed further to the right).[3]

Furthermore, households are generally less certain about the evolution of inflation than professional forecasters are, and especially so today. This is evident from surveys where respondents report their subjective probabilities of where euro area inflation will be in the long term. Both pre- and post-pandemic,

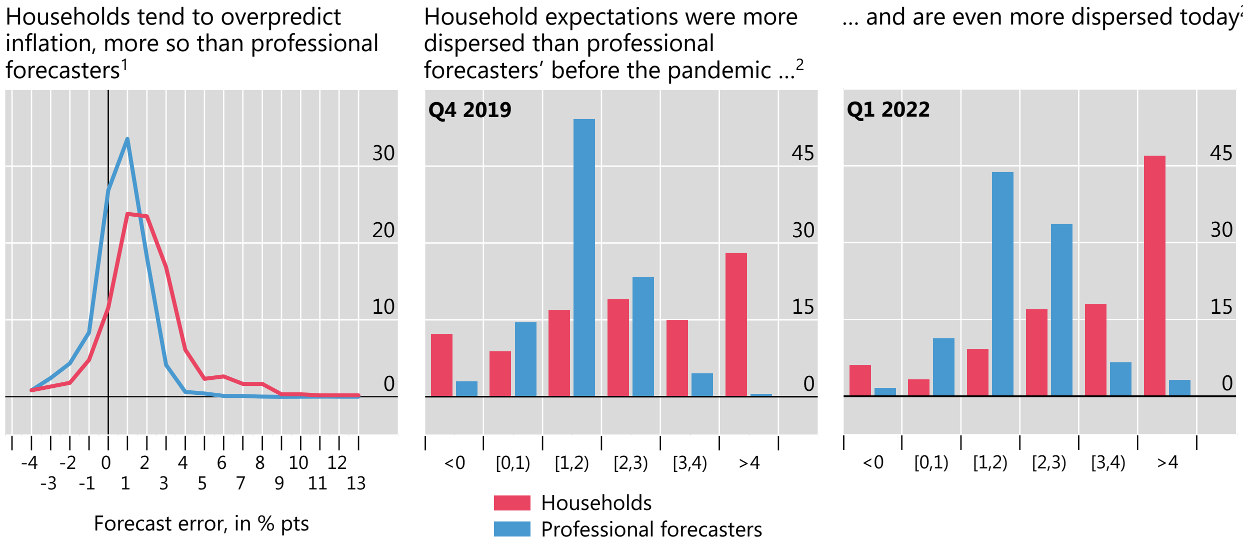
[2] The pass-through of higher inflation to professional inflation expectations tends to be greater in economies where expectations have been less well anchored in the past (Goel and Tsatsaronis (2022)).

[3] The tendency to overpredict may be greater in a low-inflation regime, such as after the Great Financial Crisis in several advanced economies. Indeed, US data for the 1980s indicate that household forecast errors tended to be negative.

the distribution of probabilities attached by households to possible inflation outcomes indicates greater uncertainty than for professional forecasters (Graph 3, centre and right-hand panels respectively).

Household expectations are less accurate and more dispersed than forecasters'

In per cent Graph 3



[1] Forecast error measured as the difference between one-year inflation expectation of households (for BR, CA, DE, EA, GB, IN, JP, NZ and US, median value. For KR, PH, SE and ZA, mean value) or professionals (mean for all countries) and actual inflation during the next year. Pooled data since 2004 (subject to data availability by country), except for the US where data showed have been available since 1989. [2] Based on a survey of Dutch households for their views on 10-year ahead euro area inflation, and on the ECB Survey of Professional Forecasters (SPF) for their views on five-year ahead euro area inflation. In each survey, respondents report their subjective probabilities across various inflation intervals. The average probability across respondents per inflation interval is shown in the form of bars.

Sources: Galati et al (2021, 2022); ECB, *The ECB Survey of Professional Forecasters*; Consensus Economics; Datastream; national consumer surveys (also see Annex Table A1); national data; BIS calculations.

Central bank communication challenges

Central bank communication can help anchor household inflation expectations, by explaining why and how the central bank is taking the appropriate monetary policy actions to achieve its objectives. However, such communication efforts face several challenges.

First, household perceptions and expectations are shaped by forces that go beyond the considerations deemed most relevant for professional forecasters or the indicators on which central banks typically put the most weight. Yet, to the extent that these "behavioural" forces also influence the public debate, they are no less important. For instance, household biases resulting from overreliance on salient price changes (as discussed above) may result in pressure on central banks to act earlier or faster than they would do based on official inflation figures.

Households are also harder than professional forecasters to reach via official central bank communications as they may be rationally inattentive to monetary policy discussions and actions. Crucially, households may be insensitive to price changes when inflation is low[4] but become more sensitive and rapidly revise their expectations upward when inflation is high. This could then herald an entrenchment of inflation. Even if the necessary monetary policy actions have already been taken, they need time to take effect. During this crucial time, central bank communication efforts would need to focus on clarifying the

[4] Inattention on households' part is understandable when their purchasing power is largely preserved over time. Moreover, when inflation settles at a low level, its evolution tends to reflect primarily idiosyncratic price changes (Borio et al (2021)). In this case, the economy-wide inflation rate is less representative of the one individual households face, and thus less relevant for them.

central bank's objectives and actions, and that household inflation expectations do not drift away from the inflation target and become self-fulfilling.

A second challenge arises because central banks' official communication typically reaches households indirectly. If households hear about monetary policy at all, it is mostly indirectly, through sources such as traditional media commentators or posts on social media by third parties. While media sources tend to play the biggest role in shaping the narrative of the public debate on inflation, they may not fully relay monetary policy news or all its nuances (Pinter and Kočenda (2021)).

Moreover, most households may not fully appreciate the link between inflation and monetary policy. It is hard to expect them to be well versed on the trade-offs that central banks face in stabilising inflation and real activity (De Fiore et al (2021)). And some households may overestimate central banks' ability to influence inflation or they may lose faith in central banks when inflation rises (Grosse-Steffen (2022)).

Regardless of their accuracy, household perceptions and expectations matter for individual decisions, for inflation dynamics more broadly, and for the public debate, all of which in turn impinge on the central bank as well as the government. Failure to effectively communicate with households and build understanding could hurt central bank credibility and public trust.

Navigating the communication challenges

Monetary policy actions are the primary means of aligning inflation expectations with a central bank's medium-term inflation objectives, with communication playing a complementary role. When higher inflation has already been reflected in higher inflation expectations, communication by itself is insufficient.

To the extent that communication can play a role, the credibility earned by the central bank in the past is key, but communication channels used by central banks and the tone and quality of the messaging will also be important. More generally, awareness of how households process information can guide central banks in their communication. With these points in mind, some considerations are worthy of note.

First, central banks may seek to articulate policy objectives and actions more directly to the public, rather than relying on intermediaries to get the message through. For example, evidence suggests that when the public reads central bank communications directly on the central bank website, their inflation expectations are more aligned with actual inflation measures (Jung and Kühl (2021)). Direct outreach by central banks to specific stakeholder groups, where there is greater opportunity for dialogue to facilitate understanding, can also help build trust over time. Households may also trust the central bank more than they trust information intermediaries (Coibion et al (2022)). There is also tentative evidence that households who rely on traditional media for information have more accurate inflation perceptions, and that those using social media may display greater errors in their inflation expectations (Lamla and Vinogradov (2021)). That said, central bank use of social media and outreach to directly deliver messages can help to reach groups beyond the traditional audiences of monetary policy experts and central bank watchers (Ehrmann and Wabitsch (2022)). With the growth of social media and curated news content, central banks will have to resort to cleverer and more targeted techniques to reach stakeholders. This includes tailoring of messages and targeting particular segments of society.

Second, controlled experiments suggest that simple and relatable communication is more effective. For instance, informing US households about the whole content of FOMC statements does not have a larger impact than informing them about simple inflation statistics and/or the policy target (Coibion et al (2022)). Layered content, augmenting technical reports with summaries targeted at less-specialist audiences, can help improve reach, establish central bank credibility, and thus more closely align expectations with central bank policies (Haldane and McMahon (2018)). Sustained economic literacy campaigns (eg the Reserve Bank of India's Financial Education Initiative) can also help central banks to engage better with households.

Finally, it is unclear how much information central banks should provide on the degree of uncertainty surrounding forecasts and their ability to reach the inflation target. False precision could hurt their credibility. Yet, not being precise enough could create confusion. This challenge may be greater when communicating with households because they may be less attuned to central banks' policy trade-offs. While there are no clear answers, there is some evidence suggesting that conveying the diversity of views on the economic outlook among monetary policymakers could limit the risk that missing the target undermines credibility (Jansen and Moessner (2016)). That said, this may only matter over and above taking actions consistent with medium-term objectives, and provided that households continue to trust the central bank in the first place.

References

Borio, C, P Disyatat, D Xia and E Zakrajšek (2021): "Monetary policy, relative prices and inflation control: flexibility born out of success", *BIS Quarterly Review*, September.

Cœuré, B (2019): "Inflation expectations and the conduct of monetary policy", speech at an event organised by the SAFE Policy Center, Frankfurt am Main, 11 July.

Coibion, O, D Georgarakos, Y Gorodnichenko and M van Rooij (2021): "How does consumption respond to news about inflation? Field evidence from a randomized control trial", *American Economic Journal: Macroeconomics*, forthcoming.

Coibion, O, Y Gorodnichenko and M Weber (2022): "Monetary policy communications and their effects on household inflation expectations", *Journal of Political Economy*, vol 130, no 6.

D'Acunto, F, U Malmendier, J Ospina and M Weber (2019): "Salient price changes, inflation expectations, and household behavior, *SSRN Working Papers*, March.

De Fiore, F, M Lombardi and J Schuffels (2021): "Are households indifferent to monetary policy announcements?", *BIS Working Papers*, no 956, August.

Ehrmann, M and A Wabitsch (2022): "Central bank communication with non-experts – A road to nowhere?", *Journal of Monetary Economics*, forthcoming.

Galati, G, R Moessner and M van Rooij (2021): "Anchoring of consumers' long-term euro area inflation expectations during the pandemic", *DNB Working Papers*, no 715.

———— (2022): "Reactions of household inflation expectations to a symmetric inflation target and high inflation", *DNB Working Papers*, no 743.

Goel, T and K Tsatsaronis (2022): "Anchoring of inflation expectations: has past progress paid off?", *BIS Bulletin*, no 51.

Grosse-Steffen, C (2022): "Anchoring of inflation expectations: do inflation target formulations matter?", *Bank of France Working Papers*, no 852.

Haldane, A and M McMahon (2018): "Central bank communications and the general public", *American Economic Association Papers and Proceedings*, vol 108, pp 578–83.

Jansen, D and R Moessner (2016): "Communicating dissent on monetary policy: Evidence from central bank minutes", *DNB Working Papers*, no 512.

Jung, A and P Kühl (2021): "Can central bank communication help to stabilise inflation expectations?", *Scottish Journal of Political Economy*, vol 68, no 3, pp 298–321.

Lamla, M and D Vinogradov (2021): "Is the word of a gentleman as good as his tweet? Policy communications of the Bank of England", *University of Lüneburg Working Papers*, no 403.

Pinter, J and E Kočenda (2021): "Media treatment of monetary policy surprises, and their impact on firms and households' expectations", available at SSRN 3982546.

Singh, D, A Mishra and P Shaw (2002): "Taking cognisance of households' inflation expectations in India", *RBI Working Papers*, no 02.

Previous issues in this series

All issues are available on our website www.bis.org.