



BANCA D'ITALIA
EUROSISTEMA

2024 Bank of Italy-SUERF Conference on 'Inflation, Inflation Expectations, and Policy: New Perspectives'

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Ladies and gentlemen,

Naturally enough, people's perception of, and expectations about, the inflation rate have attracted much attention in the past few years.* When the Bank of Italy last hosted a conference on inflation expectations two years ago, inflation had surged in many countries to levels not seen in half a century. This was in sharp contrast to a previous era during which inflation had long remained below target, and monetary policy had been very loose. Starting in early 2021, the picture had changed. The recovery from the pandemic shock, supply chain disruptions, and then – most critically – Russia's attack on Ukraine sparked sizable increases in key input prices, which quickly passed through to consumer prices.

For central banks, whose core mandate is price stability, that was a once-in-a-generation challenge. Spikes in global energy and commodity prices could not be neutralised by monetary policy, of course. What we needed to do was to ensure that those price changes did not ignite an inflationary spiral which would then be difficult and costly to stop. Monetary policy had to change course fast. The risk of inflation expectations de-anchoring and the risk of second-round effects had to be tackled forcefully.

In this framework, the perceptions and attitudes of price- and wage-setters were a key link, and obtaining reliable information about them was therefore important. Over time, this has spawned much thinking about the way people form views about inflation and the channels through which such views affect their behaviour. There has also been a renewed interest in data collection. Thus, one legacy of the inflationary episode of the past few years has been a growing body of research, as well as a rich agenda for future work.¹ Today's conference fits nicely in this trend.

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¹ For example, large shocks may generate nonlinearities and 'travel fast' (Cavallo et al., 2024). In exceptional circumstances, agents may also change the way they learn from the economic environment, adjust their level of attention (or inattention) and eventually form their expectations (Weber et al., 2024). Recent studies have provided evidence that inflation expectations matter for economic decisions (Coibion et al., 2020; D'Acunto and Weber, 2024).

I shall briefly touch on three questions that are especially relevant to the concerns of central banks and, while not new in any sense, have been the subject of much thought and analysis in recent years.

The first issue is: how do expectations propagate, and possibly amplify, inflationary shocks?

Expectations can make inflation more persistent or, worse still, initiate self-fulfilling inflationary spirals. I am sure this conference will discuss the relative importance of several such propagation channels. Let me recall a few that are at the centre of policymakers' concerns.

The most obvious channel is the way inflation expectations influence nominal wage and price setting. Anticipating rising general inflation, workers may pre-emptively demand higher wage increases and firms set higher prices. The way in which such expectations are formed (whether and to what extent expectations are backward-looking, for instance) appears crucially relevant to the issue of inflation persistence.

A second channel concerns real interest rates. To the extent that an increase in expected inflation is not immediately reflected in a change in nominal rates, agents will perceive a temporary decrease of the real rate, which may affect their decisions on the inter-temporal allocation of consumption and investment. In the short term, this may in turn push aggregate demand and inflation in the same direction in which expectations initially moved.²

There are further potential effects. Some argue, for instance, that a third channel, which may reinforce the first, works through the conditions that determine firms' pricing power. With low inflation, firms are reluctant to raise prices for fear of losing customers. However, if consumers start to believe that inflation is rising, firms' 'fear of customer antagonism' fades, making it easier for them to pass on a marginal cost increase to their price lists.³

If any of such self-reinforcing mechanisms is at work, understanding inflation expectations and finding ways to influence them is important for policymakers. The question then is: how do you get reliable information on agents' expectations?

One way is to ask agents directly. Surveys in which consumers, firms, or professional forecasters answer questions concerning their subjective beliefs about future inflation are widely used as a tool for research and policy-making.

This brings me to my second point:

How valuable is the information content of survey-based measures of inflation expectations?

Despite widespread reliance on survey data in much empirical literature in the social sciences, the (usually implicit) condition that respondents answer questions truthfully

² Duca-Radu et al., 2021.

³ D'Acunto et al., 2024; Anderson and Simester, 2010.

or meaningfully cannot always be taken for granted. The literature points to several potential sources of noise or bias. In general, survey responses may be driven by strategic considerations, social desirability motives or other specific reasons to misreport the facts. In the absence of monetary or other incentives, respondents may simply be poorly informed, or inattentive ('cheap talk'). Some of these issues are likely to be less important for inflation expectations than for other types of surveys, such as wealth and income surveys, or political opinion polls. Others, however, are specifically relevant to inflation expectations. Especially in the case of consumer surveys, respondents may be unfamiliar with the concept and measure of inflation, confuse it with the level of prices, or just have difficulty handling percentages.⁴ There is plenty of anecdotal evidence of that. Furthermore, their perception may be disproportionately influenced by the prices they observe more frequently, typically those of non-durable goods, or they may unconsciously assign more weight to price increases than decreases.⁵

Caution is therefore in order: self-reported data should never be taken at face value without the corroboration of external information. What does the evidence tell us? It is well known that survey-based measures of inflation expectations are systematically biased upwards relative to ex-post outcomes, though *changes* in actual inflation and changes in consumers' inflation perceptions and expectations appear to be highly correlated.⁶ Furthermore, survey-based inflation expectations are substantially dispersed across agents and volatile in the time series: they differ systematically across demographic groups – gender, age, income, and other characteristics – and reflect the specific price changes that individuals observe in their daily lives⁷. Some studies have also shown that changes in the variance and skewness of households' inflation expectations are predictive of near-term inflation developments.⁸

So, despite all the noise and bias, there *is* signal in survey data after all.

Here comes the third question:

What do the data tell us about the proposed expectations-based channels of inflation propagation?

I do not need to tell this audience that this is a vast field. Just to mention a few policy-relevant topics, key questions include the time structure of the correlation (i.e., ultimately, whether expectations are forward- or backward-looking, and, possibly, in which direction causality runs); the cross-section dimension (i.e., the extent to which individual responses reflect each household's characteristics and the way they process information, as heterogeneity may influence the transmission of monetary policy); the role played by the information available to the respondent in the formation of expectations.

⁴ Bruine de Bruin et al., 2011; Binetti et al., 2024.

⁵ D'Acunto et al., 2021.

⁶ Arioli et al., 2017.

⁷ D'Acunto et al., 2023.

⁸ Reis, 2021.

One should always bear in mind that a conceptual distinction should be made between issues pertaining to predictive accuracy (i.e., the ability of respondents to predict future inflation correctly) and issues pertaining to behavioural relevance (i.e., the correspondence between what people say in surveys and what actually drives their behaviour: their underlying, implicit structure of expectations, if you wish). While both count, policymakers arguably have an even keener interest in the latter. Survey data offer some useful evidence of this. Certain studies, for instance, show that consumers' behaviour in experiments appears consistent with the expectations they report in surveys;⁹ other studies, making use of external data on businesses, lend support to the idea that expectations have a discernible impact on firms' actual economic choices.¹⁰ But there is, I believe, still a lot of ground to be explored; I see that some of the papers that will be presented today pursue just such a line of research.

Another set of policy-relevant questions concerns nonlinearities and state-dependence. Agents may be rationally inattentive to inflation when it is low and stable, but switch to a different mode when it increases and becomes more volatile. This fact, which is intuitively plausible and has some empirical corroboration, may generate nonlinearities in agents' behaviour, including their response to policy intervention.¹¹ Accounting for the endogeneity of inattention is therefore important for modelling. The issue of (in) attention also has a bearing on the discussion about communication, with agents possibly responding differently to central bank communication depending on the inflation state.¹² Survey data, if taken with a pinch of salt and accurately checked against other evidence, may offer insights into all these possibilities.

One could, of course, go on. Be assured that I shall make no attempt to draw an exhaustive list. My only point was to emphasise the notion that judicious and creative use of survey data can be very productive from the policymaker's point of view. It is for this reason that central banks and other institutions keep collecting data on expectations, and strive to improve their quality.

At this point, it may be appropriate for me to spend just a few words on the Bank of Italy as a producer of data. We do, in fact, have a long tradition in the collection, processing and dissemination of various sets of statistics, including statistics from surveys. Let me take this opportunity to mention a few that interest us here.

On the firms' side, since 1999 we have conducted a quarterly survey of businesses' inflation and growth expectations. This survey supplies a rich set of data at a comparatively high frequency. In this as in other cases, having our own survey yields some useful flexibility. The Bank, for instance, was one of the first institutions to experiment with the randomised supply of external data to a subset of respondents, an experiment that was meant to

⁹ D'Acunto and Weber, 2024.

¹⁰ Coibion et al., 2020.

¹¹ Afrouzi and Yang, 2023; Kiley, 2021.

¹² Coibion et al., 2022.

explore the issue of how firms react to an extended set of information.¹³ This approach has subsequently gained popularity.¹⁴

As for households, our longstanding Survey on Household Income and Wealth allowed us to collect data on household inflation expectations in several waves between the late 80s and early 90s and, more recently, since 2016. While the survey is biennial and thus unfit for cyclical analysis, being able to cross-compare expectations with a comprehensive set of household characteristics has enabled us to study a number of structural aspects of expectation formation in some detail.¹⁵

To conclude: survey data are a valuable tool, whose usefulness can be enhanced by combining them with administrative and other external data whenever feasible. Cooperation between central banks, statistical offices and other data-collecting institutions is precious.

These two days promise to be rich and productive, with many stimulating presentations. Today we shall also have the pleasure of hearing Professor Michael Weber's keynote speech and Philip Lane delivering the Marjoline Lecture whereas, tomorrow, Professor Pierpaolo Benigno will be giving a speech on the non-linearity of the Phillips curve – that elusive, mutable, but ultimately ever-resurgent 66-year old concept.

Enjoy the conference!

¹³ Coibion et al., 2020.

¹⁴ Haaland et al., 2024.

¹⁵ Rordinelli and Zizza, 2020.

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