Short economic and financial analyses

SMA vs. ECB inflation forecasts: Which forecasts drive interest rate expectations in the euro area?

Author: Gašper Ploj

October 2025

BANKA SLOVENIJE
EVROSISTEM

Collection: Short economic and financial analyses

Title: SMA vs. ECB inflation forecasts: Which forecasts drive interest rate expectations in the euro area?

Author: Gašper Ploj; email address: gasper.ploj@bsi.si

Issue: October 2025

Place of publication: Ljubljana

Issued by:
Banka Slovenije
Slovenska 35, 1505 Ljubljana, Slovenija
www.bsi.si

Electronic edition:

https://www.bsi.si/en/publications/research-publications

Kataložni zapis o publikaciji (CIP) pripravili v Narodni in univerzitetni knjižnici v Ljubljani

COBISS.SI-ID **251638787**
ISBN 978-961-7230-24-6 (PDF)

Table of contents

Abstract

This short paper uses data from the ECB's Survey of Monetary Analysts (SMA) to provide an overview of recent developments in euro area inflation and interest rate expectations and to assess how inflation dynamics influence the formation of interest rate expectations. Comparisons of SMA inflation expectations with the ECB's (B)MPE projections show that differences in forecasted inflation are often pronounced and typically widen with the projection horizon. Despite this divergence, the forecasting performance of the SMA and (B)MPE was broadly comparable over 2021–2025, although the (B)MPE performed slightly better during the post-pandemic inflation surge. Analysis of how inflation forecast errors shape interest rate expectations reveals that SMA participants respond more strongly to errors relative to the (B)MPE than to those relative to their own inflation forecasts. This suggests that analysts participating in the SMA form their interest rate expectations mainly by observing how well inflation outcomes conform to the ECB's inflation forecast. When inflation exceeds expectations, interest rate expectations are revised upwards by more than one-for-one, consistent with both economic theory and the ECB policy reaction function.[1]

JEL codes: E31, E40, E52

Keywords: inflation, interest rates, expectations, ECB Survey of Monetary Analysts, forecast errors, monetary policy

[1] I thank Matic Petriček for helpful comments and suggestions. The views expressed in this paper are solely the responsibility of the author and do not necessarily reflect the views of Banka Slovenije or the Eurosystem.

1 Introduction

Monitoring inflation and interest rate expectations is crucial for central banks, as their combined evolution determines the level of real interest rates and thus the degree of monetary policy restriction in the economy. In the euro area, the Survey of Monetary Analysts (SMA) represents one of the ways to monitor these expectations.

The SMA is an ECB-sponsored survey that collects information on market participants' expectations regarding the future evolution of key monetary policy parameters, financial market variables and the economy. It is conducted eight times a year prior to the monetary policy meetings of the ECB Governing Council, and its respondents are analysts working at major European and global financial institutions. Thus the design of the SMA is optimised for policy relevance, and its results are a regular input to the Governing Council at its monetary policy meetings (Brand and Hutchinson, 2021).

This paper examines the recent dynamics of inflation and interest rate expectations in the euro area through the lens of the SMA data.

Section 2 examines the evolution of inflation and interest rate expectations in the euro area since the SMA was initiated in June 2021. Inflation expectations of market participants are compared with the ECB's (B)MPE inflation projections, and recent (June 2025) differences in the expected path of inflation are placed in historical comparison.

Section 3 then formally examines the forecasting performance of the SMA inflation expectations and benchmarks it against the performance of the ECB's (B)MPE inflation projections.

Finally, Section 4 examines how interest rate expectations of SMA respondents react to unexpected changes in realised inflation. It addresses whether monetary analysts working at major European and global financial institutions care more about inflation forecast errors relative to their own assessment of future inflation (SMA) or relative to the ECB's assessment ((B)MPE).

2 Inflation and interest rate expectations in the SMA

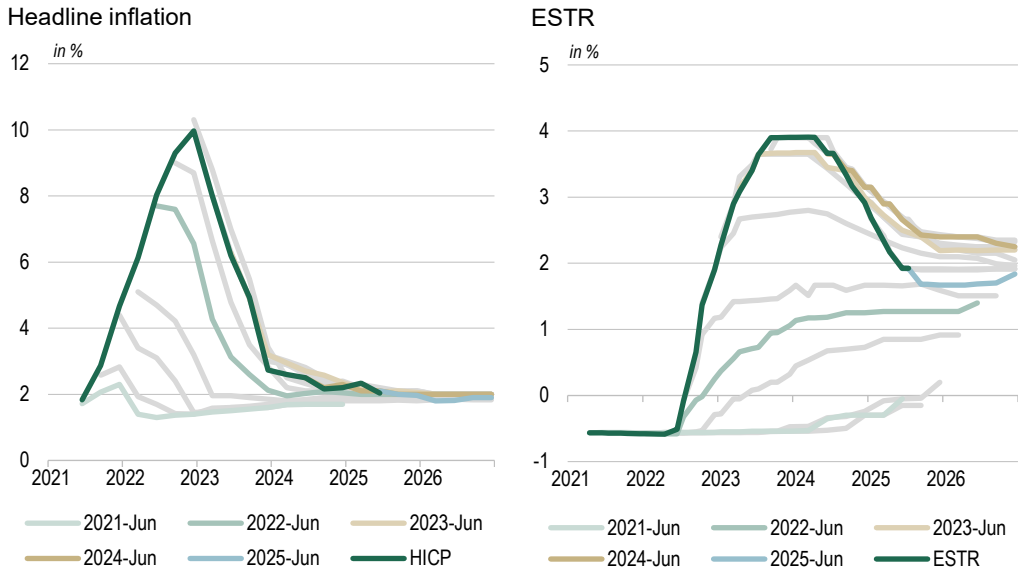
Over the course of 2021–2025 – the period for which SMA results are available – the euro area economy experienced a number of profound shocks. The COVID-19 pandemic, the war in Ukraine and the associated rise in energy prices led to a sharp increase in inflation and resulted in a notable tightening of monetary policy.

As expected, these developments have affected the SMA respondents' assessment of the euro area economy. Figure 1 shows how the median expectations for headline inflation and the euro short-term rate (ESTR)[2] changed in the SMA between June 2021 and June 2025. To preserve clarity and avoid overcrowding, the figure presents only the results of the SMA rounds in March, June, September and December, which are

[2] ESTR is the euro area's benchmark overnight risk-free interest rate that is closely related to the ECB policy rates.

also the rounds that coincide with the ECB's projection rounds. Showing the results for the remaining rounds (January, April, July and October) would not, however, change the message.

Figure 1: **SMA projections for euro area headline inflation and ESTR by survey vintage**



Sources: ECB, Eurostat, own calculations.

As inflation in the euro area increased in 2021 and 2022, SMA respondents repeatedly revised up their short-term inflation expectations. These revisions were large and reflected the unanticipated nature of the post-pandemic inflation surge. For example, while inflation was expected to only mildly overshoot 2% in the June 2021 round, it was already expected to reach almost 8% in the June 2022 round. Once inflation reached its peak in the fourth quarter of 2022, the revisions to the short-term inflation outlook became noticeably smaller. Thus, while the strength of the increase in euro area inflation surprised the SMA respondents – to a large degree due to the unanticipated nature of the inflationary shocks – the subsequent disinflation process evolved broadly in line with the ex-ante expectations.

In parallel to these inflation developments, SMA respondents' interest rate expectations also underwent substantial revisions. While the median expectation for ESTR in early 2024 was at only -0.5% in the June 2021 round, its value was already at close to 1.2% in the June 2022 round and at 3.7% in the June 2023 round. The magnitude of these upward revisions to interest rate expectations was closely related to the magnitude of inflation surprises, as will be discussed later in Section 4 of this paper. Once inflation surprises moderated, the revisions to the interest rate expectations also became more moderate. Nevertheless, they remained subject to greater volatility than inflation expectations – in particular after 2024, when inflation expectations had already firmly stabilised.

2.1 Comparison of SMA inflation expectations with (B)MPE inflation projections

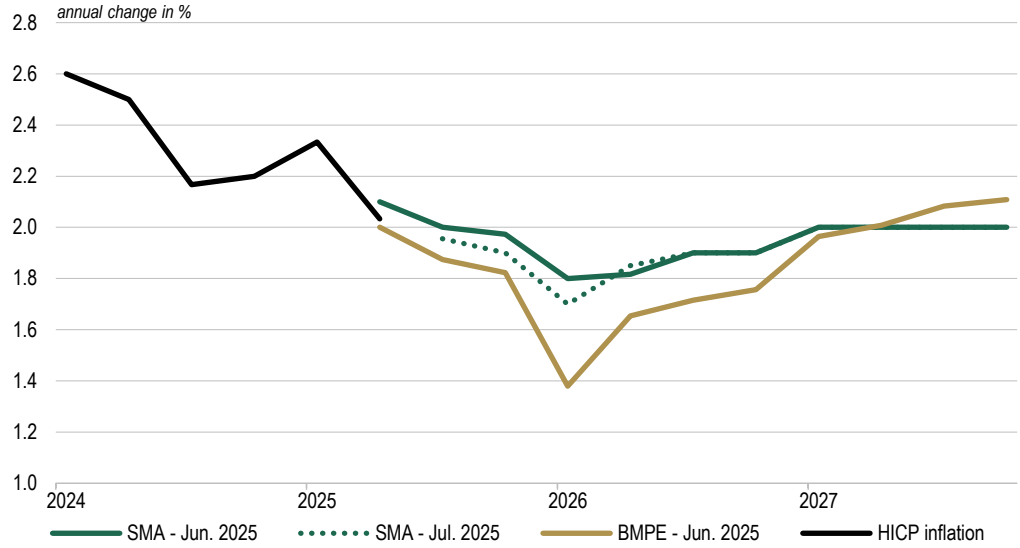
A question that naturally arises when examining the inflation expectations of SMA respondents is how much they deviate from the ECB's official (B)MPE inflation projections.[3] As discussed in this section, the differences can be substantial.

Thanks to the design of the SMA and (B)MPE, this comparison can be performed cleanly, as both are conducted in parallel, which ensures a comparable information set. Furthermore, there are no information spillovers, as SMA respondents do not have any information about the results of the parallel (B)MPE round when answering the survey. In fact, the (B)MPE results remain confidential until they are published on the ECB website after the respective Governing Council meeting.

To illustrate the timeline of the preparation process and the differences between the SMA and (B)MPE, consider their June 2025 round. The survey period for the June SMA was 19–21 May 2025, and 70 respondents participated.[4] Meanwhile, the June BMPE projections were finalised on 21 May 2025, and the cut-off date for the technical assumptions and the projections for the global economy was 14 May 2025.[5] Thus it can be argued that both the SMA and the (B)MPE should capture the same state of the world.

However, the June SMA and June BMPE resulted in fairly dissimilar profiles for headline inflation in the euro area, as shown in Figure 2. Both see inflation declining over the course of 2025 before reaching a minimum in 2026 Q1. Yet the extent of the decline differs substantially. While the June BMPE projects that inflation will reach a low of 1.4%, the SMA respondents expect inflation at 1.8%, which corresponds to a non-negligible difference of 0.4 percentage points.

Figure 2: **Headline HICP inflation projections in SMA and (B)MPE – June/July 2025 round**



Sources: Eurostat, ECB, own calculations.

[3] (Broad) Macroeconomic Projections Exercises represent Eurosystem/ECB staff macroeconomic projections for the euro area, which are published in March, June, September and December. The Eurosystem staff Broad Macroeconomic Projection Exercises (BMPE) take place in June and December, while the ECB staff Macroeconomic Projection Exercises (MPE) take place in March and September. These projections provide an input to the ECB Governing Council's assessment of economic developments and risks to price stability; however, they are neither endorsed by the Governing Council nor do they necessarily reflect the views of the Governing Council on the outlook for the euro area. For more details, see ECB (2016).

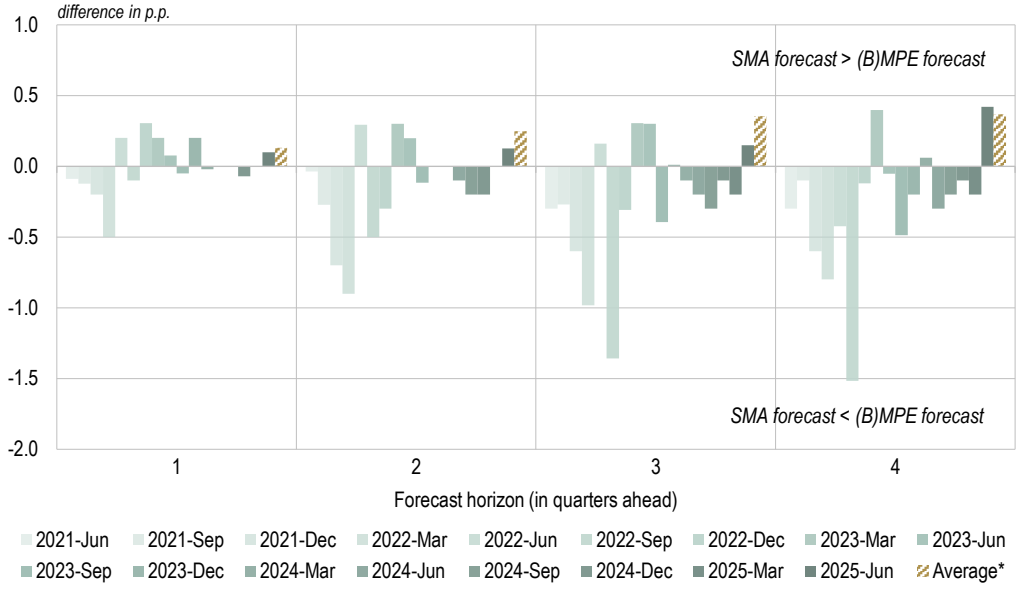
[4] The ECB Survey of Monetary Analysts (SMA), June 2025, Aggregate Results.

[5] Eurosystem staff macroeconomic projections for the euro area, June 2025.

Although a deeper investigation of the drivers behind this discrepancy falls outside the scope of this paper, the main reason for the large difference seems to lie in differing inflation forecasts for non-core components (i.e. energy and food). Since both the June BMPE and June SMA project core inflation in 2026 Q1 at 2.1%, and the sharp drop in headline inflation in 2026 Q1 in the June BMPE can be attributed to the energy component, it is likely that the divergence between the SMA and BMPE mainly reflects differences in the ECB's and SMA respondents' assessments of energy inflation. This difference in the assessment appears to be intentional and informed, as a large gap in inflation forecasts persisted even in the July SMA that took place after the public availability of the June BMPE. Although the median SMA inflation forecast was revised slightly downwards in the July SMA relative to the June SMA, the gap relative to the June BMPE still remained substantial at 0.3 percentage points (see Figure 2).

Looking at the differences in inflation expectations/projections more broadly, it becomes clear that notable differences are more the norm than the exception. Figure 3 shows by how much SMA and BMPE inflation projections differed across different projection rounds. Only the March, June, September and December rounds of SMA – which coincide with (B)MPE rounds – are considered. The figure shows that inflation projections for one quarter ahead tend to largely agree (the average absolute difference is 0.1 percentage points), however, the degree of agreement declines substantially as the forecast horizon widens. At the four-quarter-ahead horizon, the average absolute difference between the SMA and (B)MPE inflation projections amounts to 0.4 percentage points, which means that the difference in the inflation forecast for 2026 Q1 in the June SMA and BMPE (0.4 percentage points) does not particularly stand out in historical comparison. However, what does stand out is the sign of the difference. As the figure shows, the four-quarter-ahead inflation forecast tended to be much lower in the SMA than in the BMPE when looking at the available data since 2021.

Figure 3: **Deviation of SMA inflation projections from (B)MPE inflation projections by survey vintage**



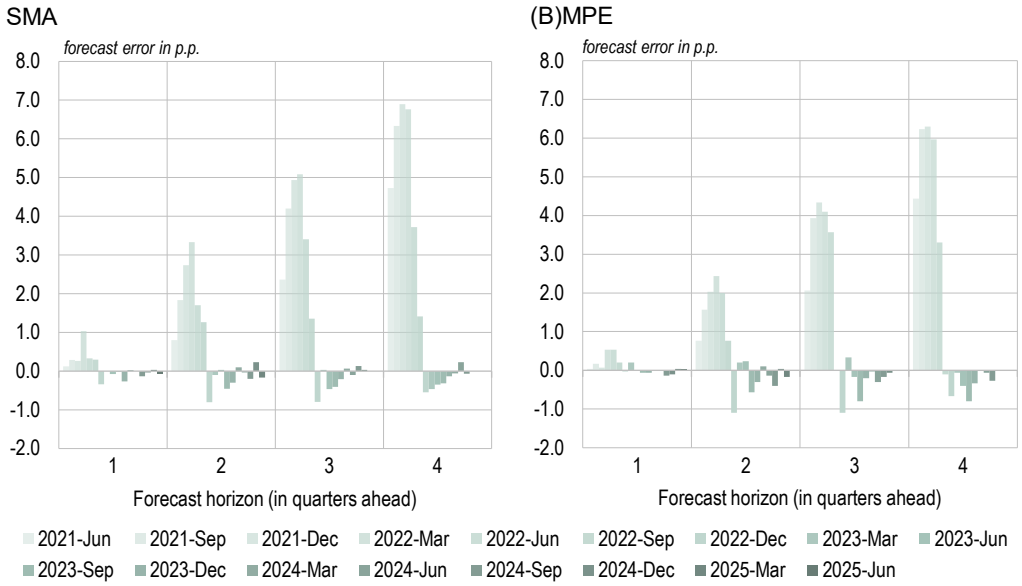
Sources: ECB, own calculations.
Note: *Average stands for the average absolute difference.

3 Forecast performance of SMA and (B)MPE inflation forecasts

The notable differences in inflation projections discussed in the previous section raise the question of whether the SMA or (B)MPE has historically been more accurate in forecasting inflation.

Figure 4 presents the historical forecast errors of the SMA and (B)MPE for the survey/projections rounds starting with June 2021. The figure clearly shows that the period 2021–2025 has been a very challenging one for inflation forecasters. Forecast errors are pronounced, especially in 2021–2023 and for forecast horizons that are more than one quarter ahead. Upon a quick visual inspection, forecast errors in the SMA and (B)MPE appear to be of similar size and direction. In general, the SMA and (B)MPE underpredicted inflation when it was rising (2021–2022) and overpredicted it when it was falling (2023 onwards). Recently, projection errors have been very moderate for both the SMA and the (B)MPE.

Figure 4: **Forecast errors of SMA and (B)MPE inflation projections**



Sources: ECB, Eurostat, own calculations.

Figure 5 summarises the inflation forecast performance of the SMA and (B)MPE by computing the mean absolute error (MAE, equation 1), a widely used and easily interpretable metric for evaluating forecast performance. The MAE is calculated separately for each forecast horizon (h).

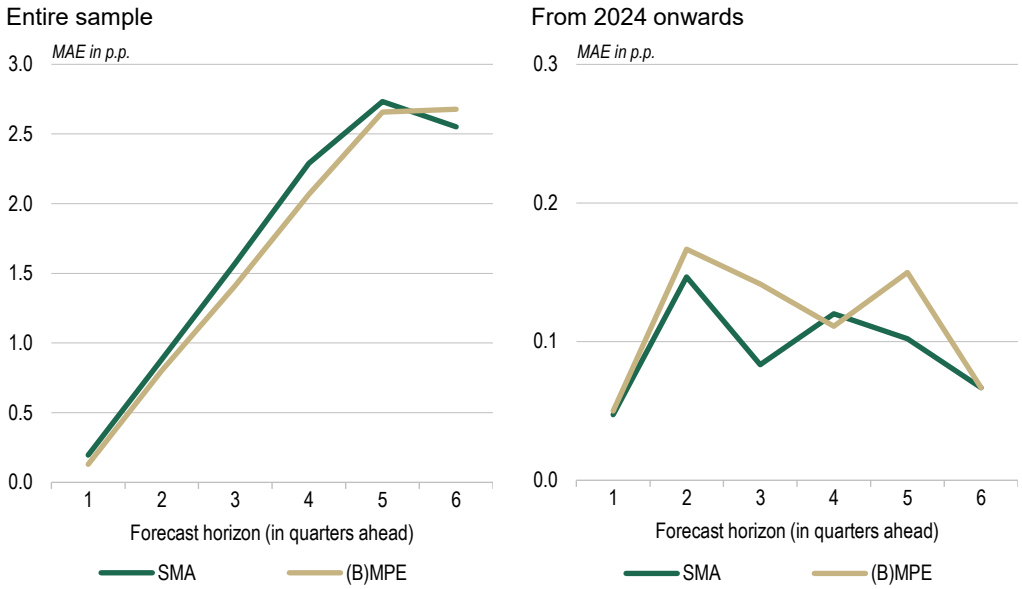
$$\mathrm{MAE}^h = \frac{1}{n}\sum_{t=1}^{n}|\text{Actual inflation}_t - \text{Projected inflation}_t| \quad (1)$$

As the figure shows, the MAE of the SMA is very similar to that of the (B)MPE for the full sample (from 2021 onwards), as well as for the post-2024 sample. Over the full sample, the (B)MPE inflation forecasts perform slightly better, whereas in the post-2024 sample, the SMA has a modest advantage. The slightly better performance of the (B)MPE over the full sample reflects the fact that the (B)MPE inflation forecasts were slightly more accurate than those of the SMA in forecasting inflation during the post-

pandemic inflation surge, as evident from the lower peaks of the forecast errors in 2021 and 2022 shown in Figure 4.

Nevertheless, the overall historical forecast performance of the SMA and (B)MPE suggests that there is no strong reason to ex ante prefer one set of inflation forecasts over the other, as both have been similarly accurate (or inaccurate) in predicting actual inflation.

Figure 5: **Forecast performance of SMA and (B)MPE inflation projections: mean absolute error by sample period**



Sources: ECB, Eurostat, own calculations.

4 Sensitivity of SMA interest rate expectations to inflation forecast errors

Given the pronounced differences in inflation forecasts between the SMA and (B)MPE (Section 2), but their broadly similar forecasting performance (Section 3), this final section examines which forecast errors are more important for steering interest rate expectations of SMA respondents. Do monetary analysts working at major European and global financial institutions[6] place greater weight on forecast errors relative to their own assessment of future inflation (SMA) or relative to the ECB's assessment ((B)MPE)?

To address this question, I examine how SMA expectations for the future path of the ECB deposit facility rate (DFR)[7] change between two consecutive quarters ($q \rightarrow q+1$) in relation to the realised one-quarter-ahead inflation forecast error, evaluated with respect to the inflation projections made in the base quarter (q).

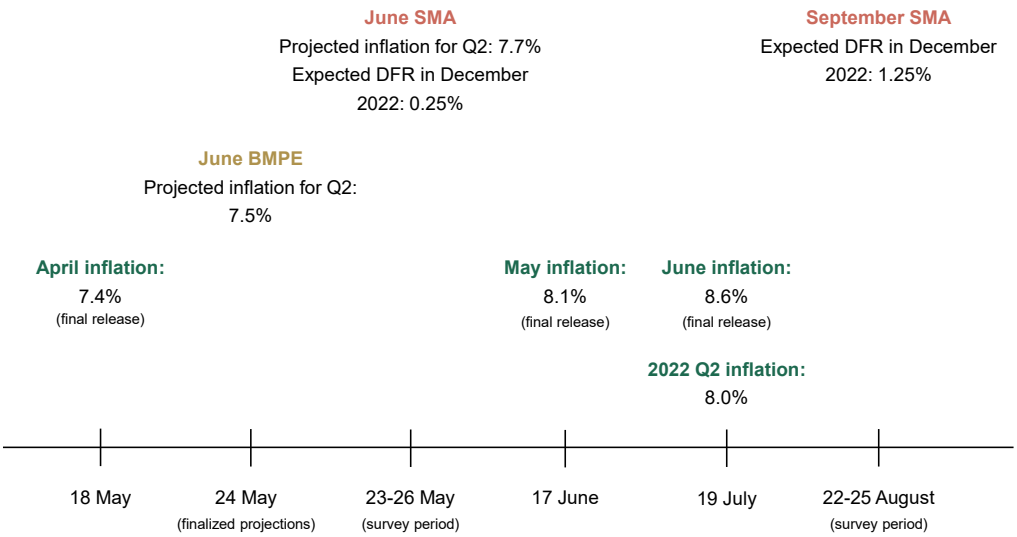
Figure 6 illustrates the timeline of events involved in this analysis, using the June 2022 round of SMA/(B)MPE as an example. The Governing Council meeting in June 2022

[6] For the list of institutions participating in the SMA, see: ECB Survey of Monetary Analysts – List of survey respondents.

[7] In an environment of abundant liquidity, the deposit facility rate (DFR) is the rate through which the ECB steers the monetary policy stance. As part of its 2024 operation framework review, the Governing Council of the ECB reaffirmed that it will continue to steer the monetary policy stance by adjusting the deposit facility rate. See Changes to the operational framework for implementing monetary policy.

was the final meeting before the ECB began to raise interest rates in response to surging inflation.[8]

Figure 6: **Timeline of events related to the June 2022 SMA**



Sources: ECB, Eurostat, own calculations.
Note: The SMA projections refer to the median expectation of the SMA respondents.

At that point in time, the June SMA expected inflation at 7.7% in 2022 Q2, while the June BMPE projected it at 7.5% for the same period. The only available inflation data point for 2022 Q2 was April's inflation, at 7.4%. The June SMA expectation for the DFR at the end of 2022 was 0.25%.

By the time the September SMA was conducted, inflation outcomes for May and June had become available, showing inflation at 8.1% in May and 8.6% in June. This meant that the average inflation in 2022 Q2 was 8.0%, implying a one-quarter-ahead forecast error of 0.3 percentage points relative to the June SMA and 0.5 percentage points relative to the June BMPE. In the September SMA, the expectation for the DFR at the end of 2022 was subsequently revised to 1.25% – a full percentage point increase relative to the expectation in the June SMA.

To extend this type of analysis to all available data points (all the SMA/(B)MPE rounds), regression analysis is employed (equation 2) that relates changes in the SMA median expectation for the DFR between two consecutive quarters (q and q+1) to the SMA/(B)MPE inflation forecast errors in the base quarter (q).[9]

$$\Delta_{q\to q+1} E\left[DFR_{GovC\ meeting_h}\right]_q = \alpha + \beta Inflation\ forecast\ error_q^{\{SMA,(B)MPE\}} + \varepsilon_q \qquad (2)$$

The change in interest rate expectations is calculated as the difference in the expected value of the DFR at a particular date-specific Governing Council meeting[10] between

[8] Although interest rates increased for the first time in July 2022 (by 50 basis points), the ECB's initial response to rising inflation predates this decision. In March 2022, the schedule for APP net purchases was revised downward, and APP net purchases were abolished altogether in June 2022.

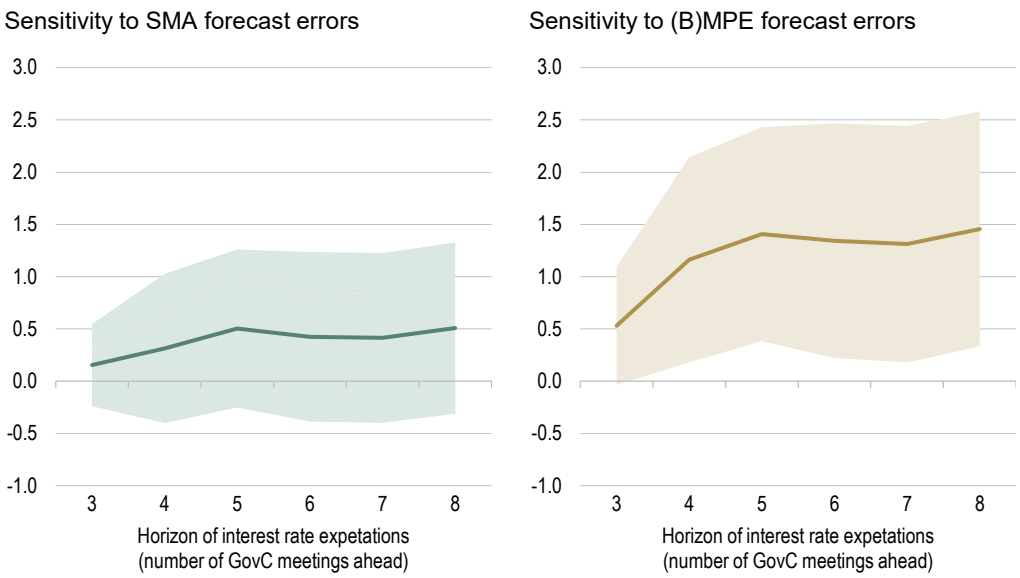
[9] The March SMA/(B)MPE round represents Q1, the June round Q2, the September round Q3 and the December round Q4.

[10] To be more precise, the interest rate expectations refer to the level of the DFR for the reserve maintenance period following the respective Governing Council meeting.

two SMA rounds, where the horizon of expectations (h) reflects the distance of the respective Governing Council meeting from the base SMA round (q). For example, the earlier discussed change in the DFR expectations for December 2022 between the June SMA and the September SMA corresponds to $h = 5$, as the December 2022 meeting is the fifth meeting after the June SMA survey date.

Figure 7 presents the estimated sensitivities for different horizons (h) of DFR expectations. The left panel shows the estimated β coefficients for forecast errors relative to the SMA inflation forecast, while the right panel shows the estimated β coefficients for the forecast errors relative to that of the (B)MPE. The results show that the estimated responsiveness of interest rate expectations of SMA participants is higher for the (B)MPE inflation forecast errors than for the SMA inflation forecast errors.

Figure 7: **The estimated sensitivity of SMA DFR expectations to inflation forecast errors**



Source: Own calculations.
Notes: The shaded areas shows 95% confidence intervals, which should be interpreted with caution, as the number of observations involved in the estimation is small due to the SMA being available only since June 2021.

These findings suggest that analysts participating in the SMA form their interest rate expectations primarily by observing how well inflation outcomes conform to the published ECB inflation forecast. When inflation surprises on the upside, interest rate expectations are revised upwards, in line with economic theory and the ECB's policy reaction function. The largest estimated responses are for the meetings that are five to eight meetings ahead of the base quarter. In these cases, the estimated β coefficient is clearly larger than 1, and it can thus be inferred that the interest rate formation process of SMA participants also conforms to the Taylor principle.[11] This finding mirrors the conclusions of Bernardini and Lin (2024), who find that the SMA interest rate expectations aligned well with the prescription of a standard Taylor rule in the period 2022–2023.

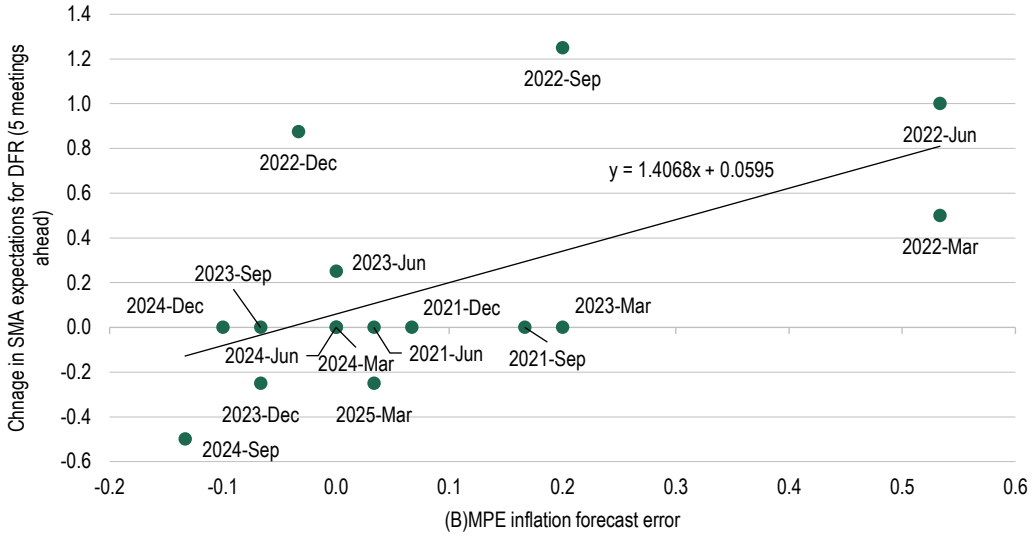
These results suggest that the SMA analysts perceive the ECB's reaction function as credible and inflation-stabilising. Inflation surprises lead to an immediate upward repricing of interest rate expectations along the forward curve that is stronger than the inflation surprise itself, implying an increase in real interest rates. Such dynamics contribute to a tightening of financing condition that supports price stability, even in the

[11] The Taylor principle embedded in the Taylor rule (1993) states that the nominal interest rate should be raised more than point-for-point when inflation rises so that the real interest rate increases.

absence of an immediate increase in the ECB's (spot) policy rates. Overall, this indicates that monetary analysts regard the ECB's policy reaction function as credible in its commitment to price stability.

Finally, to see how data points from different survey/projection rounds influence the estimated sensitivity, Figure 8 presents the observations used to estimate the sensitivity of the DFR to (B)MPE inflation errors at the five-meeting-ahead horizon. The scatter plot shows that the data are well-behaved, with no evidence that clear outliers are driving the results. Thus the estimated sensitivity can be considered representative of the entire estimation sample.

Figure 8: **(B)MPE inflation forecast errors and changes in SMA expectations for DFR**



Sources: Eurostat, ECB, own calculations.

5 Conclusions

This paper examined the recent dynamics of inflation and interest rate expectations in the euro area using data from the ECB's Survey of Monetary Analysts (SMA). The analysis shows that both inflation and interest rate expectations evolved rapidly over the course of the post-pandemic inflation surge and the subsequent monetary policy tightening.

The comparison of SMA inflation expectations with the ECB's (B)MPE inflation projections reveals that differences are more the norm than the exception and that the disagreement between the SMA and (B)MPE tends to increase as the projection horizon widens. While the one-quarter-ahead inflation expectation in the SMA differs from that of the (B)MPE by an average of 0.1 percentage points in absolute terms, the difference rises to 0.4 percentage points at the four-quarter-ahead horizon.

Despite these differences, the forecasting performance of the SMA and (B)MPE was broadly comparable over 2021–2025, although the (B)MPE performed slightly better

during the post-pandemic inflation surge. Inflation forecast errors were particularly pronounced in 2021–2022 for both the SMA and (B)MPE but have moderated substantially in subsequent periods.

Lastly, when examining the role of inflation forecast errors in shaping SMA respondents' interest rate expectations, the analysis finds that these expectations respond more strongly to (B)MPE forecast errors than to SMA forecast errors. This suggests that SMA inflation expectations are less influential than (B)MPE inflation projections in steering market expectations regarding the future path of policy rates.

6 References

Bernardini, M., & Lin, A. (2024). Out of the ELB: Expected ECB policy rates and the Taylor rule. *Economics Letters*, 235, 111546.

ECB (2016). *A guide to the Eurosystem/ECB staff macroeconomic projection exercises*. ECB. https://www.ecb.europa.eu/pub/pdf/other/staffprojectionsguide201607.en.pdf

Brand, C., & Hutchinson, J. (2021). The ECB Survey of Monetary Analysts: An introduction. In *ECB Economic Bulletin,* vol. 8/2021. https://www.ecb.europa.eu/press/economic-bulletin/articles/2022/html/ecb.ebart202108_01~3b44a83b7a.en.html

Taylor, J. B. (1993). Discretion versus policy rules in practice. *Carnegie-Rochester Conference Series on Public Policy*, 39, 195–214.