A Welcome Revision
Rather Than a Revolution
A Welcome Revision Rather Than a Revolution

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Abstract
This contribution is a preliminary analysis of the effect of the ECB’s new strategy, notably the revised inflation target, on inflation expectations. We show that the announcement of the new strategy, although necessary for several reasons, had a minor effect on inflation expectations. This reveals that the reform was either already partially anticipated by the market or too timid. Therefore, we present alternative outcomes of the strategy review.

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<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>AIT</td>
<td>Average-inflation targeting</td>
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<td>ECB</td>
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<td>ELB</td>
<td>Effective-lower bound</td>
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<td>Global financial crisis</td>
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<td>HICP</td>
<td>Harmonised index of consumer prices</td>
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<td>NGEU</td>
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<td>OOH</td>
<td>Owner-occupied housing</td>
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<td>PCE</td>
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EXECUTIVE SUMMARY

- In July 2021, the European Central Bank (ECB) announced the outcome of the review process of its monetary policy strategy, the main change being the revision of the inflation target. It was decided to change the inflation target from "close to but below 2%" into a symmetric target of 2%.

- The ECB justifies this reform to better anchor inflation expectations. But this reform may also be essential because it considers the recent changes in the economic environment, in particular the decrease in the natural rate of interest and key interest rate. The increase in the numerical target may provide additional buffer for the conduct of monetary policy.

- We conduct a preliminary assessment of the impact of the new ECB strategy on inflation expectations. We first assess the reaction of market-based inflation indicators to the announcement of the revision. Second, we investigate whether we identify some changes in the dynamics of inflation since July 2021.

- We find that the new strategy has had a minor immediate effect on inflation expectations. Inflation expectations have not significantly increased since the announcement.

- The small effect of the strategy revision on inflation expectations can be interpreted on the one hand by the fact that this information had already been integrated by the markets, and on the other hand by the timidity of the reform.

- It is too early to judge the long-term effects of the review. However, we may wonder whether the ECB could have more seriously considered alternative options for the inflation target. We mention three of them: a higher inflation target, adopting a strategy of average inflation targeting as was decided upon by the Federal Open Market Committee (FOMC), and setting a range around the target point.

- The weakness of inflation in the euro area since the global financial crisis may also result from other forces such as fiscal policies or labour market reforms, recalling that inflation is not exclusively determined by monetary policy. Raising the inflation target may not be enough if the strategy does not address the issue of coordination with other policies affecting price stability.
1. INTRODUCTION

In July 2021, the European Central Bank (ECB) announced the conclusion of the review process of its monetary policy strategy. The main outcome of the review has been the adoption of a revised inflation target, i.e. a symmetric 2% inflation target. Moreover, the new strategy has confirmed the medium-term orientation of monetary policy. This medium-term orientation is meant to avoid short-term monetary tightening decisions after temporary shocks on prices as it provides the ECB with some policy flexibility to assess the demand or supply nature of shocks and their expected length.

Clarifying the symmetry of the inflation target is meant to better anchor inflation expectations in the euro area. In a situation of very low policy rates, driving inflation expectations up can be viewed as the optimal monetary policy when debts are high and may cause deleveraging (see Eggertsson and Krugman, 2012).

In contrast with the Federal Reserve (Fed), though, the ECB has not adopted an average inflation targeting regime. Symmetric deviations from the target are considered as “equally undesirable” by the ECB but they are supposed to be only transitory whereas, in the US, positive deviations over a long horizon are possible if monetary policy has undershot the inflation target in the past. Yet, absent an average inflation targeting regime, past unfavourable outcomes, like inflation undershooting, will never be entirely compensated which may limit the scope for hikes in inflation expectations.

Against this backdrop, we propose a preliminary assessment of the impact of the new ECB strategy on inflation expectations. We draw on two complementary empirical analyses. First, we ask whether the announcement has had an immediate impact on expectations while, second, we check whether the inflation expectations data process has changed since the announcement of the new strategy. Our results point to the fact that the new strategy has only had a very minor impact on inflation expectations. There are several reasons behind this result. First, the announcement might be too recent and only time will tell about its impact. Second, it may also be that the announcement of a symmetric inflation target has made official a feature that had already been incorporated by market participants over the last few years (Reichlin et al., 2021). Third and relatedly, the changes that appeared were not only expected for long (Blot et al., 2019): they have been only quite limited. As we argue in Section 3, the review has given rise to a reform, not a revolution.

The rest of the paper is organised as follows. Section 2 argues that the strategy review was necessary and that its main insight should be to drive inflation expectations. Section 3 presents the main outcomes of the review and empirical evidence on the impact of the inflation target symmetry. Section 4 discusses alternative outcomes of the strategy review and Section 5 concludes.
2. A NECESSARY REVIEW

There were obviously at least four good reasons to review the ECB’s monetary policy strategy in 2021, as discussed for instance in Blot et al. (2019).

First, the previous review of the monetary policy strategy in 2003 happened in a completely different macroeconomic context. The frequency of global crises has substantially increased ever since. These crises have led to long periods of low growth and below-target inflation that require a reappraisal of the ECB’s strategy, if not of its mandate (see infra). They have also led to the use of new policy instruments, like the so-called unconventional monetary policies, that require an assessment and a clarification as to their capacity to be part of the usual or conventional ECB toolkit.

Second, the persistent decline in GDP growth has also brought a reduction in the value of the natural rate of interest (or long-term equilibrium interest rate). This latter phenomenon induces lower policy rates. Although targeting a low inflation rate may have helped anchoring inflation expectations until the 2000s, it might not be sufficient in a low natural rate of interest environment: when both natural rates and inflation are low, there may not be enough monetary room for manoeuvre to reduce policy rates in response to an economic slowdown. To gain traction for monetary policy, a rise in the inflation target or a price level targeting strategy may be contemplated.

Third, academic knowledge advances have permitted to highlight new transmission channels of monetary policy, like the signalling effect, new roles for communication, notably as a driver of inflation expectations, and a better understanding of how decision-making processes in monetary policy committees shape policy decisions.

Fourth, new forms of communication have emerged since 2003, like social media, and may require central banks to target a new audience with new tools and a new, more casual, tone.

Blot et al. (2019) sketched two different strategies for a successful review, the first one with the given mandate and the second one requiring a change in the mandate. Within the current mandate, a clarification regarding the inflation target – its value, its range, deviations around it, the horizon for price stability and also its measure (overall or core) – was meant to be helpful in driving expectations on future ECB policy moves or in driving inflation expectations. As the ECB does not set its mandate which is defined in the Treaty, the strategy review has unsurprisingly introduced only a few changes within the mandate.
3. **A REFORM, NOT A REVOLUTION**

3.1. **The content of the review**

The environment in which the ECB operates has changed since its strategic assessment in 2003, prompting the ECB to reassess its strategy on 8 July 2021. Although the changes made are relatively minor, they cover several aspects: a modification of the definition of the objective, a change in the operational framework and a strengthening of the consideration of climate action.

The first aspect, directly related to its price stability mandate, aims to bring more transparency to monetary policy to better anchor inflation expectations, which have remained low since the beginning of 2019.

Previously, the ECB’s objective was inflation "close to, but below" 2% in the medium term. Euro area inflation had reached this target, with an average of 1.7% since the introduction of the euro. However, this inflation average mixes the period before 2008, when inflation was close to 2%, with the last decade, when inflation has averaged 1.3% and has been negative on several occasions.

Figure 1: HICP inflation and core inflation in euro area

![Figure 1: HICP inflation and core inflation in euro area](image)

Source: Reichlin et al. (2021) from Eurostat.

The ECB is now setting a symmetrical inflation target at 2%, with an emphasis on the medium-term horizon. The ECB therefore means that it will react symmetrically to the overshooting and the undershooting of the target. This revision makes the ECB’s actions more flexible, as deviations from the inflation target, while undesirable, will be tolerated. However, unlike the Fed, the ECB will leave to the past what is in the past and will not pursue a catch-up policy, i.e. it will not attempt to make up for past inflation deviations from the target.
The change about the inflation target improves the clarity of the objective. It should help anchor inflation expectations because it is intended to be more transparent and better understood by the public.

The review also embraces other important issues which may influence the conduct of monetary policy: the definition of the price index, which is considered as representative of price stability, the use of non-standard measures, the trade-off between price stability and financial stability, and the incorporation of climate change considerations in the policy framework. A full analysis of these items is beyond the scope of this paper. Yet, they are summarised and presented in the following box.
Box 1: Complementary outcomes in the monetary policy strategy review

**Change in the operating environment**

- **The price index and housing costs**

  The price index currently used by the ECB as a medium-term inflation target is the Harmonised Index of Consumer Prices (HICP). This index considers rents paid by tenants but does not consider the evolution of homeowners’ housing prices. In some cases, there may be a disconnection between rents and housing prices, particularly when there are regulations on rents like ceilings.

  Thus, the HICP, since it does not consider the evolution of owner-occupied housing (OOH) prices, only partially considers the evolution of housing prices. The ECB proposes to make it more relevant by including the costs of owner-occupied housing. There are a number of methodological and conceptual options and issues related to the inclusion of OOH costs into HICP, which are discussed in great detail in the second set of papers prepared for this Monetary Dialogue.

- **Communication on tools**

  If monetary policy is now symmetrical in terms of target, it is not symmetrical in terms of policy instruments. Indeed, the existence of the zero lower bound (ZLB) or effective lower bound (ELB) forces central banks to resort to unconventional policy instruments to ensure price stability when key interest rates are at their lowest. These unconventional tools have been used by the ECB since 2008. In its strategic review, the ECB clarifies their use by insisting that key interest rates remain the main instruments of its monetary policy and states that it will continue to use unconventional monetary policy tools on an exceptional basis to cope with the monetary policy restrictions imposed by the ZLB/ELB. The ECB confirms the use of unconventional tools in times of crisis and has included them in its toolkit. Thus, the ECB settles the debate on the permanent use of unconventional monetary policy tools.

- **Financial stability**

  A final change to the ECB’s operational framework concerns the revision of its pillars. The ECB’s strategy has always been based on two pillars. To justify its decisions, the ECB relies on two axes: an economic axis and a monetary axis. In 1999, the monetary axis was the prominent axis (reference value of the M3 aggregate). In 2003, at the time of the first strategy review, the ECB de facto reversed the priority given to the two pillars and dropped the reference value for M3. From now on, the ECB has decided to give a financial stability dimension to the monetary pillar. Indeed, the use of unconventional monetary policy tools has led to large-scale asset purchases. As these unconventional tools increase the potential for a build-up of financial vulnerabilities and imbalances, central banks must redouble their efforts to assess financial stability risks.

- **Taking climate issues into account**

  The final point is the consideration of climate issues in the operational framework of monetary policy. The ECB promises to take this into account when designating the private securities it buys and those it accepts as collateral for its loans to banks. While the precise measures have yet to be defined, the principle at work is to make "brown" assets progressively less attractive for banks and to buy fewer of them.
Why did the ECB consider changing its interpretation of the price stability objective? The revision aims to update the strategy to the new challenges faced by central banks. As emphasised above, the ECB had to account for the low inflation environment which has been prevailing since the global financial crisis. In this economic context, the revision may have also amended the drawbacks of the former strategy. At the outset of the ECB, in 1999, price stability was defined as a "year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2 %". For a newly created institution, the first task was to rapidly establish its credibility by communicating on a low inflation target (Hartman and Smets, 2018). With this formulation, the ECB signalled that it had an upper limit: inflation above 2 % was deemed inconsistent with the price stability objective enshrined in the Treaty. However, such a definition made unclear what the precise target was and could mean for instance that a zero inflation rate would be compatible with the definition of price stability. To make it clear, it implied that the monetary policy stance would be made "systematically" restrictive when inflation was above 2 % but it did not imply that it would be expansionary for any inflation rate between 0 and 2 %. If we consider that the implicit target lay somewhere in the middle between 0 and 2 %, the ECB would be able to motivate a restrictive monetary policy stance if the inflation stands at 1.5 % for instance. A first review of the strategy occurred in 2003. It stated that inflation should stand "below, but close to 2 %". It recognised that the first definition of the objective would not be sufficient to avoid deflation and prevent the ECB from hitting the ZLB/ELB. The clarification was expected to bring some buffer in the case of negative shocks.

However, despite the evolution, it was still not clear what the precise target was. What does "below, but close to" mean? 1.7, 1.8 or 1.9? Besides, despite the apparent clarification, the formulation of the objective was still considered as asymmetric, which it was de jure since no lower bound was defined. Consequently, it suggested that the ECB was more concerned – and reacted more promptly – when inflation exceeded 2 % than when it undershot the target. The risk of asymmetry was clearly perceived by the ECB and brought its former President Mario Draghi to state in the introductory statement of the 25 July 2019 meeting that "the Governing Council is determined to act, in line with its commitment to symmetry in the inflation aim". He was even more clear when answering questions from the media by claiming the ECB would not tolerate deviations from the target "on both sides" and that 1.9 % was "close to, but below, 2 %". With the July 2021 review of the strategy, it makes no doubt that the ECB will consider a symmetric reaction when inflation is below and above the target. Furthermore, it also made clear what the target is by providing a single numerical figure: 2 %.

Even if the revision of the inflation target has been announced only a few weeks ago, we may wonder whether it has already had an impact. As the revision has been clearly communicated on 8 July 2021, it may have triggered a reaction on financial markets. Monetary policy decisions are indeed scrutinised by financial markets, which react to news related to the economic and the monetary outlook. A large empirical literature has been devoted to the effect of central banks' communication emphasising notably the reaction of asset prices to monetary policy announcements. Communication on the monetary policy strategy was also assessed, notably for central banks announcing the adoption of an

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1 At that time, neither the Federal Reserve nor the Bank of Japan had formulated a numerical target for their inflation objective whereas it was clearly defined as 2 % for the Bank of England.
2 Central banks do not follow such an automatic rule. The objective is defined in terms of medium-term inflation and some exceptional circumstances may always explain a short-term deviation from the target and prevent the central bank from reacting systematically once the inflation rate exceeds the threshold.
3 On 8 May 2003, Otmar Issing was asked to explain the meaning of the "close to 2 %" statement and answered that the ECB expected "inflation expectations remaining in a narrow range of between roughly 1.7 % and 1.9 %".
inflation targeting strategy. Gürkaynak et al. (2010) show that the Bank of England’s communication on its monetary policy strategy, entailing the announcement of an inflation target, has helped to anchor long-term inflation expectations. The announcement in January 2012 that the Federal Reserve would adopt a 2\% inflation target has reduced the response of long-term inflation to news as illustrated by Bundick and Lee Smith (2018).

\[\text{footnote}{^5}\text{ The Bank of England became independent in 1997, with the aim to achieve a 2\% inflation target.}\]
3.2. The revised inflation target: a preliminary analysis

The revision of the strategy announced by the ECB entails several dimensions but the reformulation of the inflation target with now an explicit numerical target of 2% is a transparent announcement, of which the consequences are easily understood by financial markets and may rapidly be embedded in inflation expectations if the announcement is credible.

The review of the strategy is a very specific event, which is supposed to convey information about monetary policy over several years. Although the former review dates back 2003, it may be noticed that the new review has been a long process since Christine Lagarde has contemplated the possibility after her first Governing Council meeting on 12 December 2019. Thus, the presentation of the review on 8 July 2021 did not come as a surprise although it was undoubtedly a significant event containing announcements aiming to influence the conduct of monetary policy for several years. It should consequently be embedded in long-term expectations.

However, the 5-year-5-year forward inflation expectations, which is the preferred measure of long-term inflations in the empirical literature, has not increased in the days following the announcement (Figure 2). It may be noticed that expectations were decreasing during the days preceding the announcement. The decrease has slowed down after the revision and expectations started to increase by the end of July. Yet, the increase may not be related to the change in the strategy but rather to news occurring after. The rise in oil prices and other information related to the inflation outlook have triggered an increase of inflation during summer 2021, which may also be mirrored in the long-term inflation expectations.

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6 The 5-year-5-year forward inflation indicator stems from swaps and represents the expected inflation in 5 years for a 5-year period. It is the most used indicator to capture long-term market-based inflation expectations and it is less influenced by short-term inflation developments and may provide information on the long-term expectations anchor.
Figure 2: The 5-year-5-year forward inflation expectations in the euro area around the revision (8 July 2021), in %

Source: Datastream (Eikon Reuters).

The comparison of the inflation expectations dynamics in the euro area and in the United States around the announcement of the revision would suggest that the Federal Reserve’s communication has been more effective or that the review of the strategy was substantial in the United States. The Federal Reserve has announced the outcome of the revision of its strategy in August 2020. The numerical target was not modified but it was stated that the Federal Open Market Committee (FOMC) would “seek to achieve inflation that averages 2 percent over time”, a strategy called average inflation targeting since it entails that the central bank would tolerate an inflation above 2% if inflation has been below 2% for some periods. Before and after this announcement, it may be noticed that long-term inflation was increasing in the United States (Figure 3).
In the following, we proceed with an event study approach to estimate the possible effect of the ECB announcement on inflation expectations. We regress the daily change in the market-based inflation expectations indicator on a dummy variable equal to 1 on the day of the revision.

The following equation is estimated for the euro area:

$$\Delta E\pi^t = c + \text{revision}_t + E\pi_{\text{bank}}^t + \text{mpshock}_t + \epsilon_t$$

where \text{revision} is a dummy variable which equals 1 on 8 July 2021 and zero otherwise. The equation is estimated with daily data from January 2014 to 11 October 2021. In the baseline equation, we control for the dates of other ECB meetings – with a dummy variable equal to 1 when there is a Governing Council during which a monetary policy decision was taken and followed by a press conference – and for monetary policy shocks calculated as the change in the 2-year overnight interest rate swap (OIS) rate on the days of Governing Council meetings. Two measures of market-based inflation expectations have been considered: the 5-year-5-year forward inflation expectations and the 10-year forward inflation expectations. The event study methodology assumes that no other important news has been released on the day of ECB press conferences.

Columns (1) and (2) of Table 1 confirm the visual inspection of Figure 1 since the parameter associated with the day of the revision is negative and statistically significant. We have also tested the effect only on days of Governing Council meetings. In that case, the variable \(E\pi_{\text{bank}}^t\) is removed from the regression. With this specification, we test whether information conveyed by the revision differs from the standard information – about the monetary policy stance – communicated by the Governing Council. We have finally tested whether additional information could have been transmitted during the Governing Council meeting following the announcement of the revision. This meeting was held on
22 July 2021, and it was the first meeting during which the policy statement accounts for the consequence of the revision. Financial markets have then become aware of the new formulation of the inflation objective within the statement. These results are displayed in columns (3) to (6) and do not suggest a positive response of market-based inflation expectations. The reaction of inflation expectations on 22 July 2021 was also negative and significant. It may either suggest that financial markets did not consider that the new objective formulated in the introductory statement would change the dynamics of inflation or that they expected expansionary monetary policy measures that did not occur.

Table 1: The market reaction to the announcement of the ECB revision of the strategy

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Source: Authors' estimations.

Note: p-values in brackets. The estimations accounts for robust standard errors.

Not only market-based expectations matter though. Indeed, central banks do not only talk to "Wall Street" but also to "Main Street"7. This dimension of communication to the general public is usually assessed through surveys. Those surveys may either be conducted with professional forecasters, which may not be strictly speaking considered as part of the general public – or with a panel of households. However, in the case of the euro area, data from household surveys are scarce and the review of the strategy has been announced too recently to be noticeable in the data8. Here, it may be worth comparing with the situation in the United States where the review of the strategy has been made public a few months ago. Both the Michigan Survey – conducted with households – and the survey of professional forecasters suggest that long-term inflation expectations have increased in the United States after the August 2020 announcement by the FOMC (Figure 4). Such an upward revision is consistent with the expectation that the FOMC will target higher inflation (above 2 %) in the coming years since inflation has undershot the target in the recent past. This interpretation is yet challenged by Coibion et al. (2020) who have conducted a specific survey to assess whether households had heard about the review of the strategy and if they had revised their inflation forecast. To that end, they used a daily survey interviewing a panel of households before and after the announcement. They show that only a very small share of households was aware of the decision by the Federal Reserve to adjust its monetary policy strategy. Furthermore, those who received the information did not change their expectations about inflation.

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7 As stressed by Blinder et al. (2008) in their survey about communication: "It may be time to pay some attention to communication with the general public".
8 Those surveys are realised quarterly.
An alternative strategy to assess the potential effect of the revisions is to test whether the data-generating process of inflation expectations have changed since the announcement. Here again, daily data on market-based inflation forecasts may help to provide a first and quick analysis. We may indeed expect that if the upward revision of the target is credible, it would rapidly be mirrored in the expected inflation dynamics inducing notably a change either in the constant or in the autoregressive component of the long-term inflation forecast in the following equation:

\[
E_{\pi_t} = \alpha + \rho. E_{\pi_t-1} + \beta . X_t + \epsilon_t
\]

where \(X_t\) is a vector of control variables including an indicator of stock market implied volatility (Vstoxx), the lagged value of the overnight interest rate in the euro area (Eonia) and the 1-year ahead market-based inflation forecast. This last variable enables to capture the current inflation dynamics. Even if the explained variable is a long-term inflation expectations indicator, we cannot exclude that its dynamics is not driven by news regarding current inflation. The parameter \(\rho\) captures the persistence of inflation forecasts and \(\frac{\alpha}{1-\rho}\) measures the long-term – when no shocks occur – value of the inflation forecast. We estimate two alternative specifications according to whether we consider a break only in the constant term (\(\alpha\)) or in both the constant and the autoregressive terms (\(\alpha\) and \(\rho\)):

\[
E_{\pi_t} = (\alpha + \text{revision}_t) + \rho. E_{\pi_t-1} + \beta . X_t + \epsilon_t
\]

\[
E_{\pi_t} = (\alpha + \text{revision}_t) + (\rho . E_{\pi_t-1} + \text{revision}_t . E_{\pi_t-1}) + \beta . X_t + \epsilon_t
\]
where \( \text{revision\_ecb}_t \) is a dummy variable equal to 1 from 8 July 2021 until the end of the sample. Both equations are estimated with daily data from 1 January 2014 until 11 October 2021. According to the null hypothesis, if the revision of the inflation target changed the data-generating process of market-based inflation expectations, then the dummy variable \( \text{D\_revision}_t \) would be significantly positive. It would lead to an increase in \( \frac{\alpha}{1-\rho} \). Finally, long-term inflation expectations (\( \text{E}\_\pi_t^{11} \)) are measured by the 5-year-5-year forward inflation expectations or the 2-year, 3-year, 4-year, 5-year and the 10-year ahead inflation expectations. All data come from Datastream.

The results for the estimations are displayed in Table 2 and Table 3. In the last two rows, we calculate \( \frac{\alpha}{1-\rho} \) before and after the break.

When we only allow for a break in the constant term, we find that it is significant and trigger an increase in the long-term inflation forecast (Table 2). Actually, the dummy variable \( \text{revision\_ecb} \) is positive and statistically significant (at 10%). With the 5-year-5-year forward inflation indicator, the expected inflation would then increase by 0.2 percentage points from 1.7% to 1.9%. It would suggest that the review has helped anchor inflation expectations on a higher long-term value. This is also the case for 2-year ahead, 3-year ahead, 4-year ahead, 5-year ahead and 10-year ahead expected inflation indicators even though the long-term value is weaker, which is partly consistent with the horizon considered.

However, we need to remain cautious because the conclusion is not robust when we allow for a break in the constant and the autoregressive term (Table 3). For all those estimations except the 3-year ahead inflation forecast, neither the change in the constant nor the change in the autoregressive parameter are significant even if the implicit long-term value for inflation expectations increases by 0.2-0.3 percentage points. It may be noticed that at the 3-year horizon, the only one for which breaks are statistically significant, the long-term value of the inflation forecast decreases. Otherwise, and incidentally, the 5-year-5-year inflation expectation would stand at 2.04% instead of 1.74% before the announcement of the revision of the inflation target.

These results suggest that the effect of the revision of the inflation target announced by the ECB on 8 July 2021 has been modest. It may not be surprising as the revision is itself modest with its modification of a “close, but below” 2% into 2%. It is also important to keep in mind that the change may be too recent to be captured in the data-generating process of inflation expectations in the euro area.
Table 2: Did the ECB revision change the inflation expectations dynamics?

<table>
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<tr>
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<th>inf_5y_5y_euz</th>
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Source: Authors' estimations.

Note: p-values in brackets. The estimations accounts for robust standard errors. L stands for the lag operator.

Table 3: Did the ECB revision change the inflation expectations dynamics?

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<td>1.28</td>
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</table>

Source: Authors' estimations.

Note: p-values in brackets. The estimations accounts for robust standard errors. L stands for the lag operator.
4. **WHAT ELSE COULD HAVE BEEN DONE?**

Even if it may be too soon to draw firm and definitive conclusions on the success of the target revision, we cannot rule out that the current review has been too timid, which brings us to wonder whether the ECB had alternatives regarding the revision of the target. Three options that the ECB might have considered: a higher inflation target, adopting a strategy of average inflation targeting (as was decided upon by the FOMC), and setting a range around the target point.

4.1. **Should the ECB have opted for a higher inflation target?**

The 2 % target has been the numerical figure most widely adopted by central banks in advanced economies. The choice of the ECB seems consensual at first sight. The Bank of Japan, the Bank of England and the Federal Reserve also consider that price stability is achieved with a 2 % inflation rate. The choice of the target point is notably crucial regarding the risk of hitting the ZLB/ELB. The higher the target, the higher the policy rate, all else equal, and then the more space central banks have to adjust monetary policy in case of negative shocks. However, it also depends on the natural rate of interest (generally called \( r^* \)). According to a standard Taylor rule, the policy rate \( i_t \) should be set according to the following relationship:

\[
i_t = r^* + \pi_t + \alpha y_t + \lambda (E \pi_t - \pi^*)
\]

With \( y_t \) the output gap and \( \pi^* \) the inflation target. Supposing that expected inflation is equal to the target \( (E \pi_t = \pi^*) \), then:

\[
i_t = r^* + \pi^* + \alpha y_t
\]

The level of the policy rate also depends on the level of the natural rate of interest \( (r^*) \). A lower \( r^* \) increases the probability that the central bank is constrained by the ZLB/ELB as shown in a more detailed model by Andrade et al. (2018). They show that while a 1.4 % inflation target was consistent with a pre-crisis estimation of \( r^* \) of 2.8 %, a one-point decrease of \( r^* \) should lead the central bank to revise upward its inflation target by 0.8 point. With a value for \( r^* \) of 1.8 % in the euro area, it would be optimal to set the inflation target at 2.2 % and hence above the current level. It might even be higher according to some estimations pointing to a very low level of the natural equilibrium rate in the euro area (Holston, Laubach and Williams, 2017).

The former analysis rests on the implicit hypothesis that the ECB is able to achieve a higher inflation rate. However, the recent period may cast doubt on this hypothesis. The period since the global financial crisis has been characterised by an inflation rate regularly well below the 2 % target in the euro area despite an expansionary monetary stance and the use of non-standard measures. It might be argued that more could have been done by the ECB and that there have been other forces like restrictive fiscal policies and structural labour market reforms that have weakened the bargaining power of workers, that all weigh down on the inflation rate. Yet, the credibility of a central bank announcing that it will aim at achieving a higher inflation rate after it has been unable to reach a lower one may be quite limited.

4.2. **Should the ECB have adopted an average inflation strategy?**

The Federal Reserve has also conducted its strategy review in 2020. Contrary to the ECB, it did not announce a revision of the inflation target but rather adjusted the strategy by stating that it would seek to achieve inflation that averages 2 % over time. This strategy is called average inflation targeting (AIT), as it entails that the central bank should tolerate an inflation above the target “following periods when inflation has been running persistently below 2 %”. Thus, over some horizon, the inflation rate would
increase at the 2% rate in average. The aim of this strategy is to strengthen the anchoring of inflation expectations on the target. The main argument is that when the central bank only seeks to achieve a target point, periods of undershooting are not compensated so that agents observe that average inflation is below the target and adjust their expectations consistently. The period following the global financial crisis has been characterised by this phenomenon in the euro area as well as in the United States (Figure 5), which may have contributed to explain the slow decrease of long-term expected inflation, notably in the euro area (Figure 6). Thus, signalling that the central bank will not only aim at bringing inflation back to 2% but will seek to raise inflation above the target to ensure that average inflation equals 2% may provide a better anchor for expectations.

The bias between expected inflation and the inflation target would mimic the trend inflation, which would implicitly stem from a bias in shocks hitting the economy. In the case of an inflation targeting strategy, the central bank would seek to bring inflation back to 2%. The ex-post inflation average would then be below 2%, explaining why expected inflation remains below the target. In the case of the AIT strategy, the central bank conveys the signal that it will adjust the monetary policy stance to offset the bias. It will either become more expansionary or avoid turning restrictive too rapidly once inflation has reverted to the target. The AIT strategy is then particularly suited if there are periods with bias to inflation shocks either negative or positive. The ECB has clearly not committed to a restrictive stance of monetary policy as soon as inflation in the euro area exceeds 2%. There is necessarily some leeway since the inflation objective is supposed to be achieved over the medium term, as reminded in the review.

The drawback of an AIT strategy is that it may increase short-term uncertainty. Actually, the short-term target becomes to some extent unpredictable and unstable insofar as deviations from the target are tolerated by the central bank in the near future. As Amano et al. (2020) and Honkapohja and McClung (2021) emphasise, a key dimension of the AIT strategy is to communicate the window over which the average inflation is calculated in order to help agents to understand how monetary policy will be adjusted and how long will the period of potential overshooting of the inflation rate be. In this respect, the President of the Federal Reserve, Jerome Powell, has not provided details on the window. It would also be relevant to communicate on a ceiling to signal the maximum level of inflation that the FOMC would tolerate. It was not an issue when the strategy was announced but it has become more critical a year later with inflation exceeding 4% since May 2021.

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9 This would have been the case in the euro area according to Ciccarelli et al. (2017).
10 If the bias is positive, AIT entails that monetary policy remains more restrictive to offset periods of inflation overshooting the target.
Figure 5: Average inflation since 2009 in the euro area and the United States, in %

Source: Eurostat and Bureau of Economic Analysis.

Note: The average is calculated over a 5-year horizon. Inflation is measured by the HICP in the euro area while it is measured by the personal consumption expenditures price index in the United States, which are the respective indexes targeted by the ECB and the FOMC.
Besides, the same pitfall would apply to the AIT as with the adoption of the higher inflation target. Will the central bank be credible if it announces that it will push inflation up by implementing expansionary policies over a longer period to let average inflation converge towards the target? If central bankers missed the target in the past, can they really achieve it in the future? Actually, if the decline in the trend inflation stems from structural factors, the AIT strategy will face the same challenges as any strategy based on an inflation target which would be above the "equilibrium" rate. It would notably raise the issue of interaction of monetary policy with fiscal policy or structural reforms that may hamper or delay the convergence of inflation toward the target.

4.3. Should the ECB have adopted a target range?

The ECB could also have announced some range around the inflation target. It may indeed provide additional information for individuals since inside the range, the central bank has more leeway to decide whether it should change the stance of monetary policy. It may for instance help to better handle trade-offs between price stability and the other objectives of monetary policy. By formulating that inflation should lie within a range, the central bank can better motivate deviations to the target point without undermining its credibility.

Announcing a range also seems to be more realistic as central banks cannot be expected to achieve the target with a complete precision. There are always many sources of uncertainty related to the effectiveness of monetary policy, its transmission delays, future shocks, the relation between activity

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11 The credibility problem would not occur if inflation exceeded the target because of positive shocks. In that case, the central bank would simply avoid having to shift to restrictiveness too early.
and prices (the slope of the Phillips curve). These uncertainties affect inflation and may eventually challenge the central bank’s credibility. Besides, as there are no welfare differences when inflation is at 2.5% instead of 2%, a +/- 1 point band may thus be warranted.

Finally, the measure of inflation relies on some ad-hoc indicators and is inevitably subject to measurement errors, which may stem from the breakdown of quality and price effects, the inclusion of all the dimensions of the costs of living, which are not accounted for by a point target.

All these arguments call for some flexibility, which is offered by the range. In practice, by focusing on the medium-term central banks recognise that they cannot strictly and permanently achieve the point target. In the short term, there is always an implicit range but fixing the lower and the upper bound might help steering expectations of future monetary policy when short-term inflation approaches the limits.
5. CONCLUSION

After several months of discussions and reflections within the Governing Council, the ECB has made a few changes to its monetary strategy that are supposed to account for the recent developments in the economic environment, in the academic literature and in the monetary policy practices.

Four months after the announcement, it is too early to draw final conclusions on the benefits and drawbacks of this review. Some decisions have not been fully implemented yet. A crucial aspect of the review relies on the precision of the inflation target. Instead of having to be "close, but below" 2%, there is now a symmetry around 2%. This decision is expected to clarify the definition of the main objective of the ECB – price stability.

Our first, though only preliminary, assessment suggests that it has had minor effects on inflation expectations. Our results may mirror the fact that the revision of the inflation target was only a marginal progress, not a revolution. It may be added that the effect of the inflation target revision on long-term inflation expectations could be blurred by other decisions. The ECB raised the target but also contemplated changing the indicator – the HICP – used to measure inflation. Changing the thermometer, by incorporating owner-occupied housing costs, may better capture the cost of living of citizens of the euro area but may also entail changes in the measure of inflation. As pointed out by the ECB (2016), this would lead to differences in the inflation up to 0.2 percentage points but there would be no difference on average between the two measures of the inflation rate. At the end, if the minor upward revision (0.1 percentage points) of the target is offset by a slight inflation increase resulting from the introduction of OOH costs in the measure of inflation, we should not be surprised that the revision had no significant impact on long-term inflation expectations.

The aim of the review was to communicate on the key aspect of the strategy and not to provide a critical assessment of past monetary policy. However, it is crucial to be aware of the shortfall of the former strategy and of past failures before changing the strategy. Since the global financial crisis, inflation has been low and certainly below the inflation target. The reasons behind this trend should be clarified. If there are structural, it may cast doubt on the ability of the central bank to achieve the new target, all else equal. There is a risk to undermine the credibility of the ECB. We have hypothesised that it may stem from other forces such as fiscal policies or labour market reforms. The main lesson to be drawn from this period is that central bank may not be as powerful as we have thought. Inflation is not exclusively a monetary phenomenon and therefore, it urges coordination with other policies affecting price stability, the first objective of the ECB. Furthermore, the use of non-standard measures has strengthened the interactions between fiscal and monetary policies (Reichlin et al., 2021). The sovereign debt and the COVID-19 crises have also highlighted the institutional flaws of the euro area. Heterogeneity of inflation rates and long-term interest rates remains an issue for euro area governance and also for monetary policy (Blot et al., 2019). These issues have been overlooked in the review but will certainly remain for future ones.
REFERENCES


This contribution is a preliminary analysis of the effect of the ECB’s new strategy, notably the revised inflation target, on inflation expectations. We show that the announcement of the new strategy, although necessary for several reasons, had a minor effect on inflation expectations. This reveals that the reform was either already partially anticipated by the market or too timid. Therefore, we present alternative outcomes of the strategy review.

This paper was provided by the Policy Department for Economic, Scientific and Quality of Life Policies at the request of the committee on Economic and Monetary Affairs (ECON) ahead of the Monetary Dialogue with the ECB President on 15 November 2021.