

Bank of Finland Research Discussion Papers  
7 • 2022

Gene Ambrocio – Andrea Ferrero –  
Esa Jokivuolle – Kim Ristolainen

What should the inflation target be? Views from  
600 economists



Bank of Finland  
Research

Bank of Finland Research Discussion Papers  
Editor-in-Chief Esa Jokivuolle

Bank of Finland Research Discussion Paper 7/2022  
9 May 2022

Gene Ambrocio – Andrea Ferrero – Esa Jokivuolle – Kim Ristolainen:  
What should the inflation target be? Views from 600 economists

ISBN 978-952-323-409-3, online  
ISSN 1456-6184, online

Bank of Finland  
Research Unit

PO Box 160  
FIN-00101 Helsinki

Phone: +358 9 1831

Email: [research@bof.fi](mailto:research@bof.fi)

Website: [www.suomenpankki.fi/en/research/research-unit/](http://www.suomenpankki.fi/en/research/research-unit/)

The opinions expressed in this paper are those of the authors and do not necessarily reflect the views of the Bank of Finland.

# What Should the Inflation Target Be?

## Views from 600 Economists\*

Gene Ambrocio  
Bank of Finland

Andrea Ferrero  
University of Oxford and CEPR

Esa Jokivuolle  
Bank of Finland

Kim Ristolainen  
University of Turku

May 6, 2022

### Abstract

In a survey of more than 600 economists, most respondents prefer their central bank to have an explicit inflation target. Roughly half want the central bank to keep its current target. Two thirds of the rest want to raise the target, with a median preferred change of one percentage point. In a hypothetical scenario in which the central bank has no prior history of inflation targeting, an additional 12% of the respondents would prefer a different (typically higher) target than the current one. This result suggests that the costs of changing the current target hold some respondents back from wanting an actual target change. Respondents who are worried about the central bank credibility are less likely to support a target raise. Conversely, preference for a target raise is more likely to come from those who are concerned about the zero lower bound on the nominal interest rate. The average estimate of the equilibrium real interest rate in the sample is 0.6%. However, personal views about the equilibrium real interest rate do not predict a preference for a target raise.

**JEL codes:** C38, E31, E52, E58

**Keywords:** expert survey, inflation target, monetary policy

---

\*We would like to thank Guido Ascari, Wouter den Haan, Mikael Juselius, Juha Kilponen, Jarmo Kontulainen, Maritta Paloviita, Sami Oinonen, George Pennacchi, Tuomas Välimäki, Matti Virén and colleagues and seminar participants at the Bank of Finland for valuable comments and suggestions, and Lazar Milivojevic for sharing the estimates of the equilibrium real interest rates in [Beyer and Milivojevic \(2021\)](#). We are indebted to Jonna Elonen-Kulmala for the implementation of the survey and Minna Nyman for research assistance. The usual disclaimer applies.

# 1 Introduction

In August 2020, the Federal Reserve (Fed) announced the approval of the updates to its Statement on Longer-Run Goals and Monetary Policy Strategy.<sup>1</sup> Slightly less than one year later (July 2021), the European Central Bank (ECB) published the outcome of its strategy review.<sup>2</sup> The reevaluation of the monetary policy strategy by two of the world’s major central banks has reignited the debate on the optimal inflation target, and more generally on the objectives of monetary policy.<sup>3</sup> The intention of both central banks to make regular strategy assessments (roughly every five years), as some other central banks have already been doing, will maintain interest in these issues going forward.

With near-zero interest rates hindering the effectiveness of monetary policy, one proposal to limit the repeated occurrence of effective lower bound (ELB) episodes in the future is to raise the central bank inflation target (Blanchard et al., 2010; Ball, 2013; Krugman, 2014b).<sup>4</sup> However, a higher inflation target also carries costs associated with more volatile and higher average inflation (Bernanke, 2010). Moreover, recent events and long-term trends have raised questions about the right balance between price stability and other possible goals of monetary policy, such as financial stability, inequality and even climate change.

We contribute to this debate by analyzing the answers to an extensive survey of leading researchers in economics and finance from around the world eliciting their views on the optimal inflation target and on other issues related to monetary policy.<sup>5</sup>

Our main finding is that, among the respondents who prefer the central bank to have an inflation target, the majority endorses maintaining the current level. Conditional on supporting a change, however, the preference is two to one in favor of raising the current target. In addition, we detect latent backing for a target change. When presented with a scenario in which the central bank starts targeting inflation with a clean slate, many respondents who favored maintaining the status quo now choose a higher target. Finally, we find evidence that the ELB makes respondents more likely to support a target raise while concerns about the central bank credibility is the main factor that explains a preference for no change.

Our approach follows Blinder (2000), who showed that an expert survey is a useful method for understanding how central banks can build credibility.<sup>6</sup> Our expert survey, which covers

---

<sup>1</sup>See <https://www.federalreserve.gov/newsevents/pressreleases/monetary20200827a.htm>.

<sup>2</sup>See <https://www.ecb.europa.eu/home/search/review/html/index.en.html>.

<sup>3</sup>The academic literature on the optimal rate of inflation dates back at least to Friedman (1969). See Schmitt-Grohé and Uribe (2010) for a recent survey.

<sup>4</sup>In line with this view, the ECB slightly raised its inflation target in July 2021 from “close but below 2%” to 2%. Despite keeping the target unchanged at 2%, the Fed adopted an average inflation targeting framework, which requires to “make up” periods of below-target inflation with periods of inflation above target (and vice versa).

<sup>5</sup>A preview of our results is available as a VoxEU column (Ambrocio et al., 2021). Two other popular surveys (IGM Forum, 2020; The CFM Surveys, 2020) have also recently polled leading economists on a subset of issues related to our questions.

<sup>6</sup>Following a similar methodology, Stroebel and Wurgler (2021) have recently surveyed economists on climate finance, while Andre and Falk (2021) have asked economists about their views on which topics are most important in the discipline.

academics and practitioners from all over the world, allows us to provide a comprehensive picture of the balance between the perceived benefits and costs of a change of the inflation target. Moreover, the survey also provides valuable information about expert views on more general aspects of the conduct of monetary policy.

We circulated the survey at the end of 2020. From a sample of approximately 6000 individuals, we received 613 responses, of which 591 (96%) came from inflation-targeting countries or regions. Most respondents were from the Euro Area (159 responses) and the US (241 responses). The survey was conducted anonymously so that individual respondents could more freely express their opinions.

We obtain a rich set of results both in terms of the distribution of responses for each individual question as well as of analysis across questions. In addition to considering the respondents' average views on key questions such as the preferred level of the inflation target in relation to the current target, we also obtain indicative results on what factors might drive those views. Finally, we also relate how views vary across respondent groups using the background questions. In this respect, the paper often refers to the differences in views between the two largest geographical groups of respondents, those from the Euro Area and those from the US.

Four main findings stand out. The first is that most respondents (79%) think the central bank should have an explicit inflation target, while 17% maintain the central bank should not, and 4% have no opinion. Among respondents from inflation targeting countries or regions, more than half (54%) support the central bank's current target, about 30% would prefer a higher target, while 16% would choose a lower target. The median preferred deviation from the current target is one percentage point in either direction.

Second, we focus on the desirability of changing the current target. In this respect, a central issue is the cost in terms of credibility (Bernanke et al., 1999). A change of the inflation target may deanchor inflation expectations, especially if the private sector starts to believe that other changes may happen again in the future. The potential loss of credibility may thus prevent a change of the inflation target otherwise justifiable on the basis of economic fundamentals alone. We investigate this question by asking about the preferred inflation target both in the context of the current environment and in a hypothetical scenario in which the costs related to the loss of credibility from changing the target are not present. The fraction of respondents who would keep the inflation target unchanged declines from 54% in the "actual decision-making" version of the question to 42% in the hypothetical scenario. The vast majority of those who would choose a different target prefer a higher number. Follow-up answers provide further evidence that a concern for the loss of credibility reduces the likelihood of a respondent supporting a target raise.<sup>7</sup>

The third aspect that we study in detail is the monetary policy mandate. Only about 14% of the respondents support a sole price stability objective. Most prefer the central bank to have also other objectives, either with equal weights with price stability (48%), or subordinate to

---

<sup>7</sup>The importance of central bank credibility also emerges quite vividly from the results in Ehrmann et al. (2021), who surveyed former ECB Governing Council members focusing on monetary policy communication.

price stability (38%). The most popular other objective is (un)employment, although only 43% would make a target for the secondary objective explicit, like for the inflation rate. Alternative targets—such as the price level, the level of nominal GDP or its growth rate—only receive minor support. We did not explicitly ask about average inflation targeting which the Fed adopted in its 2020 strategy review, but some respondents noted in written responses that the inflation target should be interpreted as an average over time. Among the alternative formulations of the preferred target, written responses mentioned a range for the inflation rate much more often than average inflation.

Fourth, we devote special attention to the relationship between the equilibrium real interest rate ( $r^*$ ) and the optimal inflation target ( $\pi^*$ ). The debate on the secular decline of  $r^*$  (Summers, 2014), which is tightly related to the frequency of ELB episodes, has been one of the main driving factors behind the renewed interest on the optimal choice of the inflation target (Kiley and Roberts, 2017). The respondents' average estimate of  $r^*$  in our full sample is 0.6%. We find that 25% of the survey participants would like to increase the inflation target in response to a hypothetical one percentage point permanent decline in  $r^*$ . However, 34% of survey participants would leave the target unchanged in such a scenario, while 16% would actually decrease the target and a considerable share (25%) have no opinion. This result provides further evidence that many experts envision significant costs of changing the inflation target.

The rest of the paper is structured as follows. Section 2 describes the survey in detail. Section 3 reports the answers to questions related to the objectives of monetary policy. Section 4 focuses on the optimal inflation target. Section 5 asks about the determinants of the optimal inflation target. Section 6 investigates the relationship between the equilibrium real interest rate and the optimal inflation target. Section 7 studies the perceived effects of a change in the inflation target. Section 8 concludes.

## 2 Survey Description

We sent the survey invitation to more than 6,000 economists, comprising all top 10% researchers according to RePEc, as well as the CEPR and NBER research fellows in the fields most closely related to the issues discussed in the paper.<sup>8</sup> All answers were anonymous. The response rate

---

<sup>8</sup>We obtained the list of the top 10% authors in economics from the [RePEc website](#). The CEPR contacted its members in the Financial Economics (FE), International Macroeconomics and Finance (IMF), Monetary Economics and Fluctuations (MEF), Macroeconomics and Growth (MG), and International Trade and Regional Economics (ITRE) groups. We selected NBER fellows in the Asset Pricing, Economic Fluctuations and Growth, International Finance and Macroeconomics, Monetary Economics, and Public Economics programs. For practical reasons, we sent the survey invitation in three “waves”. The first and largest wave ran between 11 December and 23 December 2020, reaching 5448 invitees with two interim reminders. The CEPR sent the second wave to its research fellows in the relevant fields on 18 December 2020, with a deadline on 11 January 2021 and one interim reminder. After updating recipient emails that had bounced and cross-checking for any other missing invitations based on our sample criteria, we sent the final 139 invitations on 8 January 2021, with a deadline on 22 January and one interim reminder.

that we obtained (approximately 10%) is in line with similar studies (see, e.g., [Stroebel and Wurgler, 2021](#)).

**Table 1:** Respondents’ background information.

Panel A

<b>Country</b>	n	%	<b>Familiarity</b>	n	%	<b>Experience</b>	n	%
United States	241	39.31	Expert	263	42.9	Academic	583	95.12
United Kingdom	66	10.77	Knowledgeable	236	38.5	Public	353	57.59
Germany	41	6.69	Aware	109	17.78	Private	216	35.24
Italy	28	4.57	Unaware	3	0.49			
Other	237	38.66	No opinion	2	0.33			
<b>Total</b>	<b>613</b>	<b>100.00</b>	<b>Total</b>	<b>613</b>	<b>100.00</b>			

Panel B

<b>Primary field</b>	n	%	<b>Secondary field</b>	n	%
Macroeconomics and Monetary Economics	235	38.34	Macroeconomics and Monetary Economics	98	15.99
Financial Economics	60	9.79	International Economics	84	13.7
International Economics	56	9.14	Mathematical and Quantitative Methods	68	11.09
Mathematical and Quantitative Methods	50	8.16	Financial Economics	61	9.95
Economic Development, Innovation...	46	7.5	Public Economics	48	7.83
Labor and Demographic Economics	37	6.04	Economic Development, Innovation...	43	7.01
Other	129	21.04	Other	211	34.42
<b>Total</b>	<b>613</b>	<b>100.00</b>	<b>Total</b>	<b>613</b>	<b>100.00</b>

NOTE: Panel A reports the respondents’ country of residence (first column), self-assessed familiarity with monetary policy issues (fourth column), and experience in academia, the private sector, and the public sector (seventh column). Panel B reports the respondents’ primary (first column) and secondary (fourth column) field of expertise following the JEL classification. In both panels, we report the number and the percentage for each category.

The survey contained four background questions and twelve substantial questions, some with multiple sub-questions.<sup>9</sup> The background questions asked respondents to report their country of residence, fields of expertise, years of experience (in academia, the public sector, and the private sector), as well as to self-assess their familiarity with issues pertaining to monetary policy and the central bank of their country of residence.<sup>10</sup>

Table 1 summarizes the participants’ background information. In terms of geographical split, most respondents reside in the US (39%), followed by the UK (11%) and Germany (7%). Taken together, the share of respondents who live in Euro Area countries is 26%. More than 80% of the respondents consider themselves “experts” or at least “knowledgeable” about issues pertaining to monetary policy. The rest mainly consider themselves “aware” of these issues. Only 0.5%

<sup>9</sup>The Appendix reports the full list of questions and response options.

<sup>10</sup>Almost all respondents from Euro Area countries correctly associated the reference to the central bank of their country of residence to the ECB.

consider themselves “unaware”. A large majority of the respondents (95%) have at least some experience in academia, more than half (58%) in the public sector, and slightly more than one-third (35%) in the private sector. The average (median) number of years of experience in these sectors is 24 (24), 8 (2), and 2 (0) years, respectively. The most commonly reported primary field of expertise is “Macroeconomics and Monetary Economics” (38%), followed by “Financial Economics” (10%), and “International Economics” (9%), while the secondary fields of expertise vary more broadly.

Among the substantial questions, eight were related to the inflation target from different angles, two to central banks’ objectives and targets at large, and two to the equilibrium level of the real interest rate and its relationship with the inflation target. When appropriate, we asked respondents to take the perspective of the central bank responsible for monetary policy in their country of residence and to consider the current long-term, structural economic trends at the time of the survey in answering the questions. Most questions included an invitation to provide written comments. On average, slightly less than one in five respondents (19.2%) used this option in each question.

Following the key questions, we also asked respondents about the degree of confidence in their views on a scale from one to five, where 1 denotes the least confidence. As Table A1 in the Appendix shows, participants were most confident in their views regarding the central bank objective(s) and the inflation target. The two questions concerning the equilibrium real interest rate (its level and relationship with the inflation target) were associated with the lowest degree of confidence.

### 3 The Objectives and Targets of Monetary Policy

After the background questions, the survey asked participants about the inflation target, which is the main focus of the paper, and more generally about the objectives that central banks should pursue. We discuss the results related to these two set of questions in reverse order, starting with the broader objectives and then moving on to the participants’ views on the inflation target more specifically. The question numbering follows the original survey layout, which we report in the Appendix.

Following the high inflation experience of the 1970s, the focus of monetary policy increasingly shifted towards price stability (Meltzer, 2009). The inflation targeting framework that many central banks have adopted since then, starting with New Zealand in 1990, represents the culmination of this process. However, following the 2008 crisis, an episode with relatively stable prices but a high degree of financial turmoil and large unemployment fluctuations, several critics have raised questions regarding the right balance between price stability and the other objectives of monetary policy (DeGrauwe, 2008; Leijonhufvud, 2008).

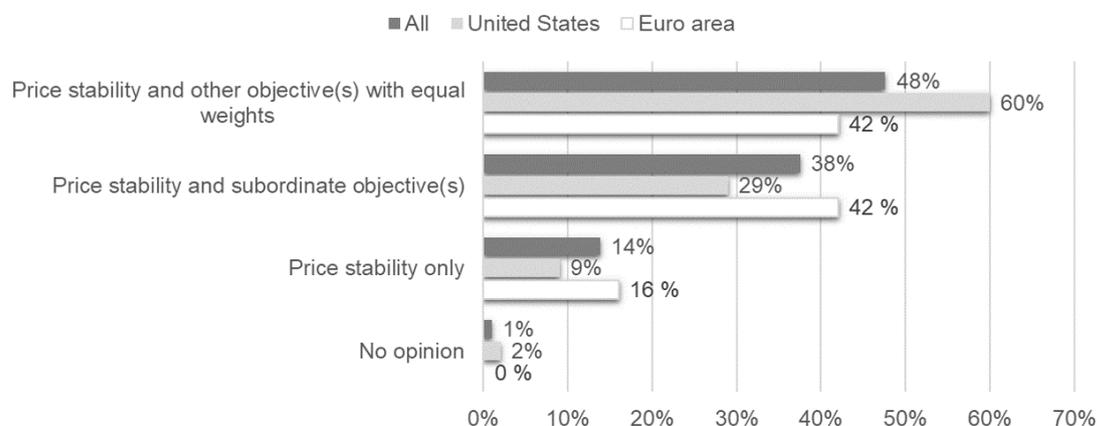
Question 8 in the survey asked whether the central bank should aim for price stability only or together with other objectives. In the latter case, respondents could specify whether the other objectives should receive the same weight as price stability or be subordinate. In both cases,

participants could specify the additional objective(s).

*Question 8: What should the central bank's objective(s) be?*

- (a) Price stability only.
- (b) Price stability and other objective(s) with equal weights. Please feel free to specify the other objective(s):
- (c) Price stability and subordinate objective(s). Please feel free to specify the secondary objective(s):
- (d) No opinion.

**Figure 1:** What should the central bank's objective(s) be?



NOTE: Histogram of the answers to Question 8. The dark grey bars are for the whole sample. The light grey bars are for the sub-sample of US respondents. The white bars are for sub-sample of Euro Area respondents.

Figure 1 summarizes the results for the whole sample, as well as the US and Euro Area sub-samples. Overall, the support for central banks to have other objectives than just price stability is clear. “Price stability and other objective(s) with equal weights” receives the widest support (48%), followed by “Price stability and subordinate objective(s)” (38%). Only 14% of the respondents support a sole price stability objective. Among those who further elaborated on their views, the three most common objectives were employment, with various formulations such as “unemployment”, “employment”, and “full employment”, financial stability and economic growth/output.<sup>11</sup>

<sup>11</sup>Two comments mentioned “climate change” and three “sustainability”. Only one referred to “inequality”. Two respondents used the general comments box of Question 8 to state that subordinate objectives should concentrate on “narrow economic concepts”.

These views are even more pronounced among US respondents, 60% of whom support price stability and other objective(s) with equal weights while only 29% prefer the other objectives to be subordinate to price stability. This split represents a marked difference with the Euro Area, where these two answers receive equal support (42% each). Moreover, “Price stability only” gets 16% support in the Euro Area compared to 9% in the US. All these differences between the US and the Euro Area respondents are statistically significant and are in line with the mandates of the respective central banks at the time of the survey—a “dual mandate” for the Fed and a “subordinate mandate” for the ECB.

The next question asked about the actual variables that central banks should target.

*Question 9: Among the options below, what specific observable variable(s) would be the most preferable target(s) for the central bank in the conduct of its monetary policy?*

- (a) *The inflation rate.*
- (b) *The price level.*
- (c) *The inflation rate and the unemployment rate.*
- (d) *The growth rate of nominal GDP.*
- (e) *The level of nominal GDP.*
- (f) *Other, please specify:*
- (g) *No opinion.*

Figure 2 summarizes the results of Question 9. Having two targets (“The inflation rate and the unemployment rate”) receives the widest support (43%), followed by the “The inflation rate” (33%). US respondents give stronger support for targeting inflation and unemployment than their Euro Area colleagues (51% versus 45%). Conversely, targeting only the inflation rate draws more backing in the Euro Area (38%) than in the US (24%). The third most popular answer is “Other”, which receives 8% of the votes. Open text answers specifying other target(s) cover a wide array of options. The two most commonly cited answers are either a more detailed definition of inflation or inflation together with other variables, like employment or GDP (11 out of 46 open text answers fall in these two categories).

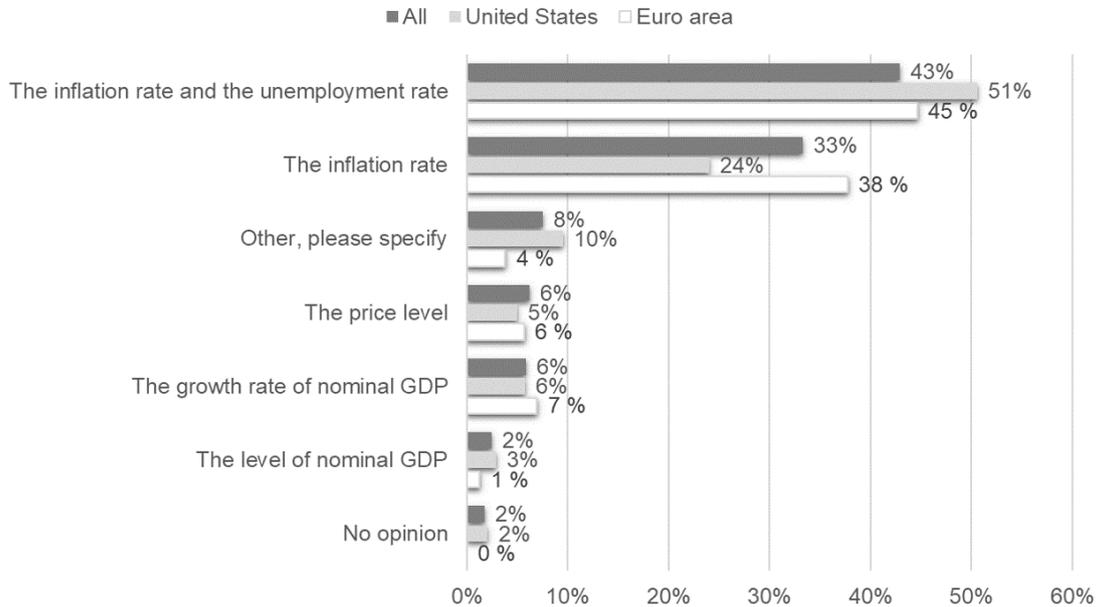
Interestingly, targeting a single price-related indicator (either the inflation rate or the price level) finds support even among those who in Question 8 favor a dual mandate (24%) or a subordinate mandate (59%). Presumably, some of these respondents think that targeting inflation may be enough to stabilize both inflation and unemployment, in line with the “divine coincidence” view of monetary policy stabilization (Blanchard and Galí, 2007).<sup>12</sup>

The alternative targets offered among the answers to Question 9—“the price level”, “the growth rate of nominal GDP”, and “the level of nominal GDP”—have increasingly gained interest

---

<sup>12</sup>Another possible explanation of this finding is that respondents may find difficult or unappealing to express a numerical target for the unemployment rate.

**Figure 2:** What should the central bank’s observable target(s) be?



NOTE: Histogram of the answers to Question 9. The dark grey bars are for the whole sample. The light grey bars are for the sub-sample of US respondents. The white bars are for sub-sample of Euro Area respondents.

in the recent literature, in particular as options to deal with the problems due to the ELB (Eggertsson and Woodford, 2003). However, none of those variables obtains strong support in our survey.

Budianto et al. (2020) have recently suggested that average inflation targeting would partly achieve the welfare benefits that a move from inflation targeting to price level targeting could provide.<sup>13</sup> While we did not explicitly ask any questions related to average inflation targeting in the survey, a few respondents (15, or 2.5% of the total) indicate that their preferred numerical target should be specified as an average rate of inflation over time (see Section 4.2). Considerably more respondents (59, or 9.6% of the total) mention that the target should take the form of a range for the inflation rate rather than a single number. Overall, the clear majority of respondents did not provide any further qualification to their answer, possibly suggesting at least a tacit endorsement for the inflation target as a point value.<sup>14</sup>

<sup>13</sup>Nessén and Vestin (2005) and Mertens and Williams (2019) also reach a similar conclusion. Honkapohja and McClung (2021) express a more cautionary view, demonstrating that imperfect information and learning can invalidate the result.

<sup>14</sup>Haavio and Laine (2021) compare the performance of various monetary policy rules, including those featuring a point inflation target, a target range for inflation, and an average inflation target. Their conclusion is that a point inflation target tends to outperform a target range.

The finding that only a few respondents offered comments related to average inflation targeting is interesting in light of the household survey described in [Coibion et al. \(2020\)](#). Their paper found very little evidence that households reacted to the Fed announcement of its new average inflation targeting framework by changing inflation expectations. Although results from an expert survey and a household survey are not necessarily directly comparable, the experts' similarly "muted" response to the introduction of average inflation targeting is particularly notable, partly because significantly more respondents mentioned a target range.<sup>15</sup>

The last question in this section invited participants to express their preference for which price index the central bank should adopt as the basis for its inflation targeting framework.

*Question 10: What specific price index should the central bank use in the conduct of its monetary policy?*

- (a) *Headline consumer price index*
- (b) *Core consumer price index (excluding food and energy prices)*
- (c) *Headline personal consumption expenditures index*
- (d) *Core personal consumption expenditures index (excluding food and energy prices)*
- (e) *GDP deflator*
- (f) *Other, please specify*
- (g) *No opinion*

In the global sample, views are rather spread out (see [Figure 3](#)). The two most popular indexes—the “Core consumer price index (excluding food and energy prices)” and the “Headline consumer price index”—have almost equal support and together account for 52% of all the views. In the Euro Area sub-sample, respondents give the strongest support to the index that the ECB is currently targeting, that is, “Headline consumer price index”. For the US, the preference falls for the “Core personal consumption expenditures index (excluding food and energy prices)”. Therefore, differently from the Euro Area, respondents from the US would prefer their central bank to target core rather than headline PCE, as the Fed does in practice.<sup>16</sup> Only 5% prefer the answer option “Other”.<sup>17</sup>

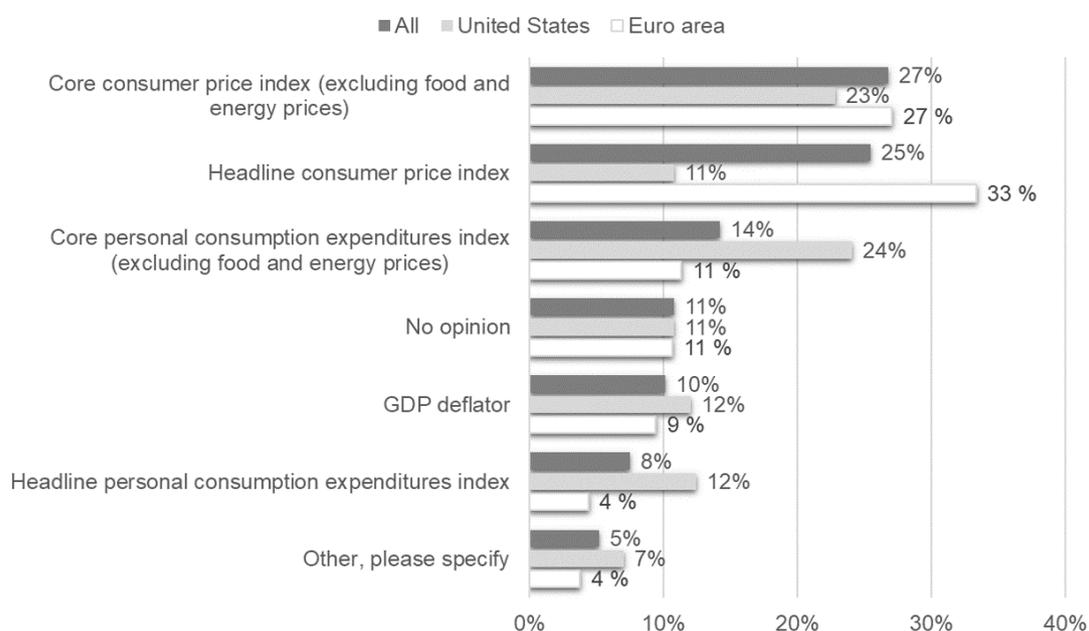
---

<sup>15</sup>One possibility is that some respondents think of a target range in practice as a form of an average inflation target.

<sup>16</sup>Under the interpretation that food and energy correspond to the sectors in which prices are flexible, this preference is consistent with the optimal policy results in [Aoki \(2001\)](#). See also [Rich and Steindel \(2007\)](#) for a discussion of the empirical properties of various core inflation measures.

<sup>17</sup>Although the debate on the appropriate inclusion of housing costs (or house prices) in the price indexes that central banks target has been long-standing ([Dougherty and Van Order, 1982](#)), only a couple of respondents offered additional written comments related to this point.

**Figure 3:** What specific price index should the central bank use?



NOTE: Histogram of the answers to Question 10. The dark grey bars are for the whole sample. The light grey bars are for the sub-sample of US respondents. The white bars are for sub-sample of Euro Area respondents.

## 4 Views on the Inflation Target

This section reviews the results from the survey related to the optimal inflation target. The first question asked participants to provide the current inflation target of the central bank in their country. In case the central bank has no inflation target, respondents could specify possible other targets.

*Question 5: What is the rate of inflation that the central bank responsible for monetary policy in your country of residence currently seeks to achieve?*

- (a) *The targeted inflation rate is ... (in percentage points).*
- (b) *The central bank does not have an explicit inflation target (if the central bank has another target, please specify here).*
- (c) *I do not know.*

Based on the background question regarding the country of residence, 591 respondents (96% of the total) are from a country or region with an inflation targeting central bank.<sup>18</sup> Virtually all

<sup>18</sup>We used [Central Banks News](#) to identify the countries that currently have an inflation targeting

respondents who chose option (a) (a total of 525) reported the right target. Perhaps surprisingly, however, several participants (74) selected option (b), while 14 opted for (c).<sup>19</sup> Cross-checking the answers with the data suggests that more than 50 respondents disagree with the commonly-held view according to which their central bank has an inflation target. Some respondents offered an explanation for their answers. For example, one participant from the Euro Area mentioned that the ECB is not targeting inflation in a strict sense, despite the fact that, at the time of the survey, the ongoing quantitative definition of price stability was “a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the Euro Area below, but close to, 2% over the medium term.” as clarified by the ECB Governing Council in 2003.

## 4.1 Support for Inflation Targeting

The key question of the survey (Question 6) combined two parts. The first asked whether the central bank should have an explicit inflation target. In case of positive answer, participants could specify a numerical value.<sup>20</sup>

*Question 6: Should the central bank have an explicit inflation target? If so, what rate of inflation should it seek to achieve, given the current longer-term, structural economic trends?*

- (a) *No.*
- (b) *Yes, it should seek to achieve an inflation rate of ... (in percentage points).*
- (c) *No opinion.*

Most respondents (79% of the total) prefer the central bank to have an inflation target. Those who choose option (a) (17%) mention in the written comments a preference for alternative targets, such as the price level or the growth rate of nominal GDP, or for a range of (or a ceiling on) the inflation rate.<sup>21</sup> Only 4% of respondents had no opinion.

The majority of those who prefer the central bank to have an inflation target (463 out of 484) provided an actual number. The respondents in this group are almost all (97%) from inflation targeting countries or regions. We focus on this group to investigate whether these individuals would rather keep or change the current inflation target of their central bank given the longer-term structural economic trends at the time of the survey.

---

central bank. The formulation of inflation targets across countries is somewhat heterogeneous, including a point target, a target range, and a target range with a focal point. Grosse-Steffen (2021) discusses the merits of alternative formulations in anchoring inflation expectations.

<sup>19</sup>Four respondents did not report their country of residence, although three of these nevertheless referred to an inflation target in their answer to Question 5.

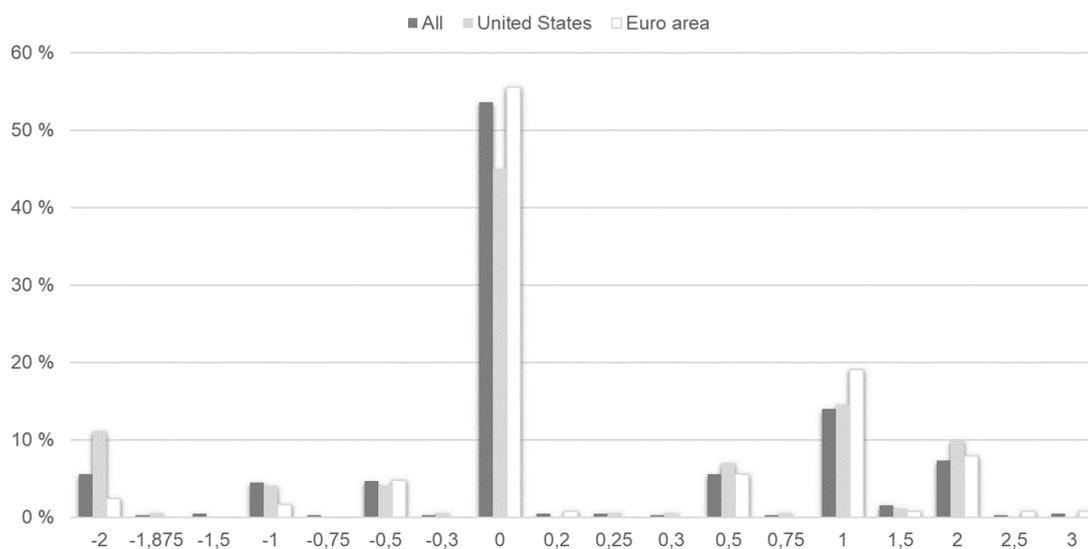
<sup>20</sup>Some respondents qualified their numerical answer in Question 6 (b) with verbal explanations, or by giving a range rather than a number. While we have used this information elsewhere, the discussion in this section reports standardized answers. In particular, we replace ranges with their midpoints and approximate the ECB “close but below 2%” with 2%.

<sup>21</sup>As discussed earlier, the survey specifically included some of these options in Question 9. Out of 61 comments, 12 alluded to the difficulty of achieving the target as a reason for not preferring an explicit inflation target. Other comments reported a preference for multiple objectives or for a variable inflation target depending on economic conditions.

## 4.2 The Preferred Change in the Inflation Target

In order to make views on the preferred inflation target comparable across respondents from different countries, we define “preferred change” as the difference between a respondent’s preferred inflation target and the actual inflation target that the central bank in their country of residence currently has.

**Figure 4:** Preferred change in the inflation target.



NOTE: Histogram of the answers to Question 6, in deviations from the current inflation target of the respondent’s country of residence. The dark grey bars are for the whole sample. The light grey bars are for the sub-sample of US respondents. The white bars are for sub-sample of Euro Area respondents.

Figure 4 shows the distribution of the preferred changes in the inflation target. The most distinct result is that, in the full sample, more than half of the respondents (54%) do not want to change the current inflation target. Among those who prefer a change, increasing the target is about twice as popular as lowering the target (30% versus 16%). The median preferred change, either upwards or downwards, is approximately the same (1 percentage point). The maximum preferred target increase (decrease) is 3 (2) percentage points. Notably, 6% of the respondents prefer a target decrease of 2 percentage points. This group corresponds to those who favor a zero-inflation target and come from countries where the current inflation target is 2%. A few of them explicitly refer to the Friedman rule (Friedman, 1969) in their written comments.

The figure also highlights interesting differences between the Euro Area and the US sub-samples. The share of those who prefer to keep the current target is considerably smaller in the US (45%) than in the Euro Area (almost 56%). The difference in shares across the two areas is statistically significant at the 10% confidence level. Perhaps surprisingly, the difference arises from those who want to lower the current target. Their share is closer to 21% in the US in

contrast to only 9% in the Euro Area. Consistently with this split, a closer investigation of the answers to Question 6 reveals that supporters of a zero-inflation target mainly come from the US (19 respondents, as opposed to only 3 in the Euro Area). Support for a higher target is around 35% in both regions.

In contrast with influential proposals that have circulated in the few years after the 2008 financial crisis (Blanchard et al., 2010; Ball, 2013; Krugman, 2014b), the support for a higher inflation target among the experts in our survey is relatively modest. This finding is rather striking also in light of the evidence on the secular decline of  $r^*$  highlighted in Summers (2014) and Krugman (2014a). Andrade et al. (2019) find that the  $(r^*, \pi^*)$  locus has a slope of approximately -1 in the empirically relevant region of the parameters space in their model. Therefore, if  $r^*$  has fallen from, say, 2% to 1%, the optimal inflation target should be one percentage point higher.<sup>22</sup> We return to these issues in more detail in Section 6 below.

### 4.3 The Costs of Changing the Target

The discussion so far has abstracted from the costs of changing the inflation target. In this respect, the credibility of the central bank is presumably a chief consideration. The worry is that a change of the target may unanchor inflation expectations, especially if the private sector starts believing further changes may occur again in the future.<sup>23</sup>

We investigate indirectly to which extent the costs of changing the target influence the respondents' views by asking about the preferred inflation target in a hypothetical scenario.

*Question 7: Imagine a hypothetical scenario in which the central bank had previously not adopted an inflation target but now decides to adopt one. What rate of inflation should the central bank target, given the current longer-term, structural economic trends?*

- (a) *It should seek to achieve an inflation target of (in percentage points)*
- (b) *No opinion*

Question 7 seeks to elicit the “ideal” inflation target given current macroeconomic conditions but abstracting from history-dependence. By construction, any costs of changing the inflation target should not be present in this scenario.<sup>24</sup> A different answer in Question 7 compared to Question 6 should reflect a concern for the costs of changing the target.<sup>25</sup>

<sup>22</sup>L'Hullier and Schoenle (2019) offer an important qualification to this conclusion. An upward revision of the inflation target is likely to increase price flexibility, reducing the ability of monetary policy to deal with large negative demand shocks. Thus, the policy space gained by the target increase would be less than one-for-one. In addition, more (albeit not full) price flexibility increases the severity of ELB episodes. Eggertsson and Krugman (2012) show this result in the context of a debt-deleveraging recession but the same logic applies more generally (Bhattarai et al., 2018).

<sup>23</sup>One strategy to deal with this problem could be to announce the frequency of the target revision and link any updates to macroeconomic variables, such as estimates of the equilibrium real interest rate.

<sup>24</sup>In practice, the recent inflation history would probably limit the choices of a central bank that decides to adopt an inflation target.

<sup>25</sup>Question 7 appeared only to those respondents who chose option (a) in Question 5, thus reporting

**Table 2:** Views on changing the inflation target.

	Global		EMU		US	
	Q6	Q7	Q6	Q7	Q6	Q7
Decrease	15.40	18.80	9.60	13.46	20.00	22.00
No change	53.40	41.40	52.90	43.27	46.00	36.00
Increase	31.20	39.80	37.50	43.27	34.00	42.00
Respondents	382	382	104	104	150	150

NOTE: Comparison of questions Q6 and Q7 in terms of preference for increasing, decreasing, or keeping the current inflation target in the real-world decision-making situation (Q6) and the hypothetical scenario (Q7). All figures are in percent except for the number of respondents.

Table 2 reports the comparison between the answers to Question 6 and 7. In the overall (Global) sample, the numbers of “No change” goes down by 12 percentage points in going from Question 6 to Question 7. Most of those who change their view prefer to increase the target in the scenario given in Question 7 so that the share of “target maintainers” and “target increasers” in Question 7 becomes almost the same. The comparative results between Question 6 and Question 7 in the Euro Area (EMU columns) and US sub-samples are broadly in line with those in the global sample. Changes of view between Question 6 and Question 7 occur in all groups, although the stronger preference for a target increase mostly comes from those who answered “No change” in Question 6 (18%, or 37 participants). We will further discuss credibility and other costs of changing the current inflation target in Section 7.

#### 4.4 Hitting the Inflation Target

Another reason why respondents might hold back from expressing a preference for changing the inflation target is the concern that monetary policy has become less effective in achieving its goals. This problem has emerged in full force after the financial crisis of 2008, with policy rates remaining near the ELB for almost a decade. In some regions (e.g. Euro Area, Japan, Switzerland), the central bank has not raised rates ever since. And even in those countries, such as the US and the UK, that had started a process of progressive normalization, the Covid-19 pandemic forced a new loosening cycle that again brought interest rates back to the ELB.<sup>26</sup> Hence, respondents may think that increasing the target could be a risky proposition given the recent central banks’ poor track record.

One of our questions sheds light on this issue asking to which extent the central bank is likely to achieve its inflation target over the medium term, defined as a temporal horizon of three

---

an inflation target for the central bank in their country of residence, and option (b) in Question 6, thus expressing a preference for the central bank to have an inflation target.

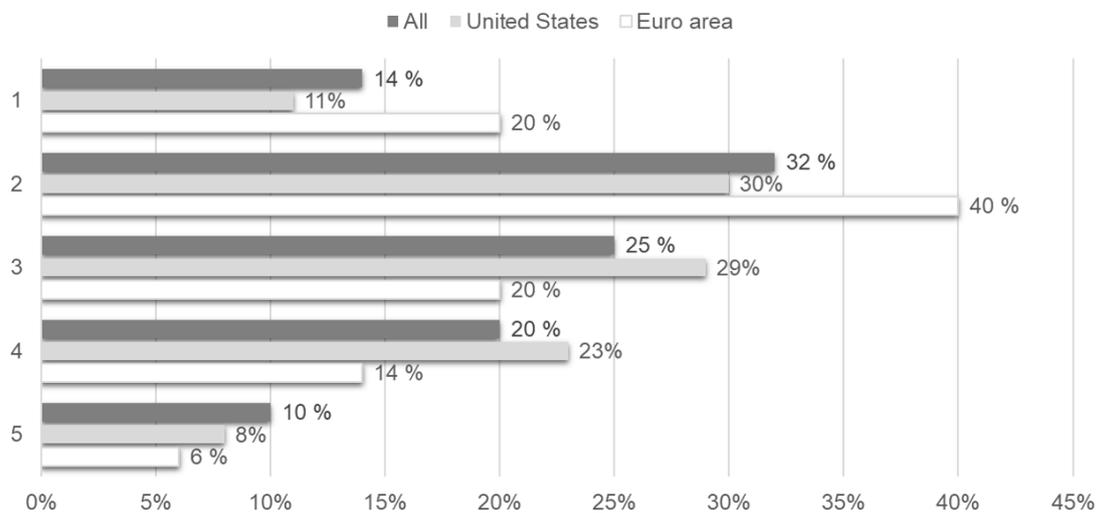
<sup>26</sup>The recent bout of inflation has occurred after the completion of the survey and thus should have not influenced the participants’ views about the ability of central banks to achieve their inflation targets.

years.<sup>27</sup>

*Question 11: How likely is the central bank to achieve its inflation target over the next three years?*

- (a) 1 (= very unlikely)
- (b) 2 (= moderately unlikely)
- (c) 3 (= equally likely/unlikely)
- (d) 4 (= moderately likely)
- (e) 5 (= very likely)

**Figure 5:** Likelihood of hitting the inflation target over the next three years.



NOTE: Histogram of the answers to Question 11, where 1 = “very unlikely”, 2 = “moderately unlikely”, 3 = “equally likely/unlikely”, 4 = “moderately likely”, and 5 = “very likely”. The dark grey bars are for the whole sample. The light grey bars are for the sub-sample of US respondents. The white bars are for sub-sample of Euro Area respondents.

Figure 5 shows the results. We label respondents who answered either “moderately likely” (d) or “very likely” (e) as “optimists”, and those who answered either “very unlikely” (a) or “moderately unlikely” (b) as “pessimists”. Globally, pessimists outnumber optimists by more than 50% (46% to 30%). In the Euro Area, the ratio is twice as big (60% to 20%), while in the US, the margin is smaller (41% to 31%).

<sup>27</sup>Question 11 appeared only to those respondents who answered (a) in Question 5, thus reporting an inflation target for the central bank in their country of residence.

The pessimism regarding the central banks' ability to hit the inflation target at the time of the survey could in principle explain the reluctance of many respondents to increase the current numerical value. If central banks struggle to achieve their current target, an increase would only make the problem worse.

This hypothesis, however, does not survive a more formal scrutiny. In a probit regression, the likelihood of achieving the target in Question 11 is not statistically significant in explaining the preference for a target increase based on Question 6.<sup>28</sup> One caveat to this result is that the weak relationship between the likelihood of achieving the target and the preference for raising the target could arise from another counteracting force. Some of the pessimists may actually be the very same respondents who have expressed a preference for raising the target. In the textbook New Keynesian model, increasing the inflation target anchors expectations at a higher level, thus contributing to raise current inflation. Unfortunately, our survey cannot shed light on this potential explanation.

## 5 The Determinants of the Optimal Inflation Target

This section discusses the factors that respondents view as important in determining the central bank's inflation target. Question 12 lists seven potential factors and asks respondents to assess their importance on a five-grade scale from "unimportant" to "of the utmost importance".

*Question 12: Below is a list of factors that have been identified in the economic literature as pertaining to monetary policy. Please indicate how important each of these should be in determining the level of the central bank's inflation target (by using one of the grades "unimportant", "of minor importance", "moderately important", "quite important" or "of the utmost importance").*

1. *Equilibrium level of the real interest rate.*
2. *Price and wage rigidities.*
3. *Difficulties in inflation measurement (such as quality bias).*
4. *Zero lower bound on monetary policy rates.*
5. *Effectiveness of unconventional monetary policy measures.*
6. *Effectiveness of fiscal policy.*
7. *Financial stability.*
8. *Other, please specify.*

According to the Friedman rule (Friedman, 1969), the central bank should set the opportunity cost of holding money (the interest rate) equal to the social cost of creating money. In a fiat

---

<sup>28</sup>The dependent variable takes the value of one when the preferred change (defined earlier) is greater than zero. The results are the same if we use the preference for a target increase in the hypothetical scenario of Question 7 as the independent variable.

currency world, the latter is (approximately) zero, and thus so should be the nominal interest rate. If we interpret the inflation rate entering the (steady state) Fisher equation ( $i^* = r^* + \pi^*$ , where  $i^*$  is the steady state nominal interest rate) as the target, the Friedman rule calls for an inflation target equal to the negative of the equilibrium real interest rate.<sup>29</sup> Hence, the first option that we include in our list is the equilibrium level of the real interest rate.

The optimality of the Friedman rule arises in models where the only frictions are associated with the demand for money for transactional purposes. The presence of nominal rigidities pushes the optimal inflation target to zero (Schmitt-Grohé and Uribe, 2010).<sup>30</sup> The question then becomes why most central banks have converged on a 2% inflation target (and often higher targets in emerging economies). Schmitt-Grohé and Uribe (2010) mention three reasons: 1) downward nominal rigidities in factor prices, particularly wages; 2) quality bias in measurement; and 3) the constraint on monetary policy imposed by the ELB on nominal interest rates. Options 2., 3. and 4. in Question 12 capture these factors.<sup>31</sup>

Although Schmitt-Grohé and Uribe (2010) and Coibion et al. (2012) find that the ELB does not significantly alter the conclusion that a low inflation target (below 2%) may not be a very tight constraint for monetary policy, the financial crisis of 2008, ten years of near-zero interest rates, and the recent pandemic may suggest otherwise (Kiley and Roberts, 2017).<sup>32</sup> Moreover, the coordination of monetary and fiscal policy may help alleviate the effects of the ELB constraint (Eggertsson, 2011; Christiano et al., 2011; Woodford, 2011). Hence, we include option 5. and 6. in Question 12. Moreover, the low interest rate environment has raised concerns about financial stability, so we also offer option 7. as a potential factor in determining the optimal inflation target (Adrian and Shin, 2010). Finally, option 8. allows respondents to specify and grade in terms of importance other factors that we did not explicitly list.<sup>33</sup>

Table 3 summarizes the results using a coding of the grades of importance on a scale from 1 (unimportant) to 5 (of the utmost importance). All seven listed factors obtain an average score

---

<sup>29</sup>Historically, this conclusion would have implied a small negative target (mild steady state deflation) because the prevailing estimates of the equilibrium real interest rate were around 2%. However, recent developments points to a much lower, and in some cases negative,  $r^*$  level (see, e.g., Beyer and Milivojevic, 2021). Therefore, given current structural trends, even the Friedman rule could potentially suggest a positive inflation target.

<sup>30</sup>The intuition is that zero average inflation eliminates the distortions due to imperfect price adjustments, which map into inefficient output dispersion. This result holds in models with staggered price setting (Calvo, 1983) or adjustment costs (Rotemberg, 2003), although quantitatively the welfare costs of departing from zero inflation are much higher in the former than in the latter.

<sup>31</sup>As we discuss more extensively in section 6, Andrade et al. (2019) provide an estimate of the optimal inflation target depending on the level of the equilibrium real interest rate in a medium-scale DSGE model with nominal and real rigidities taking into account the ELB on the nominal interest rate, which connects Option 1., 2. and 4.

<sup>32</sup>A possible counterargument is that unconventional monetary policy measures are very good substitutes of interest rate policy (Debortoli et al., 2019). Yet, as Gagnon and Collins (2019) point out, long-term nominal rates, which are the channel through which QE and forward guidance operate, are also subject to a lower bound as the short-term rate.

<sup>33</sup>For example, some respondents may have in mind the recent work on the optimal inflation target as a function of heterogenous trends in firm-level productivity (Adam and Weber, 2019 and 2020) or of the type of shocks that affect the housing market (Adam et al., 2021).

**Table 3:** Factors determining the inflation target (geographical split).

	Global	EMU	US
Equilibrium level of the real interest rate	3.59	3.71	3.48
Price and wage rigidities	3.40	3.26	3.12
Difficulties in inflation measurement (such as quality bias)	3.15	3.26	3.12
Zero lower bound on monetary policy rates	3.61	3.81	3.56
Effectiveness of unconventional monetary policy measures	3.56	3.79	3.53
Effectiveness of fiscal policy	3.48	3.46	3.44
Financial stability	3.73	3.81	3.68
Other (please specify)	4.05	4.42	4.00

NOTE: Responses have been coded as “unimportant” = 1, “of minor importance” = 2, “moderately important” = 3, “quite important” = 4 and “of the utmost importance” = 5. The table reports the average score of importance.

between 3 and 4, i.e., between “moderately important” and “quite important”. Overall, these rather restrained assessments prevent any factor from clearly rising above the others in terms of importance.<sup>34</sup> Euro Area respondents (EMU column) tend to give somewhat higher scores of importance than US respondents. The standard deviation of answers regarding all factors is around one.

Somewhat surprisingly, respondents view “Financial stability” as the most important factor related to the determination of the inflation target among those explicitly listed, both overall as well as in the geographical sub-samples. The primary field of expertise partly explains this result. The average score for financial stability among participants who report “Financial Economics” as their primary field of expertise is 4.02. In contrast, the average score for the rest of the sample of respondents is 3.70, and the difference in means is statistically significant.<sup>35</sup>

The next two factors in order of importance are the “Zero lower bound on monetary policy rates” and the “Equilibrium level of the real interest rate”. In the Euro Area, the zero lower bound receives the same average score as financial stability, while the “Effectiveness of unconventional monetary policy measures” ranks slightly above the equilibrium level of the real interest rate. The ranking is the same in the US, although in this sub-sample financial stability outscores the zero lower bound. In both regions, the “Effectiveness of unconventional monetary policy measures” outscores the “Effectiveness of fiscal policy”, which may not be surprising giving the prominence of quantitative easing and forward guidance in both regions during the post-crisis periods.

Two standard and well-established factors in the literature (“Difficulties in inflation mea-

<sup>34</sup>Interestingly, [Blinder \(2000\)](#) finds that academics tend to give cautious importance assessments in a similarly structured question, at least compared to central bankers.

<sup>35</sup>The average score for financial stability among those who report Financial Economics as their secondary field of expertise (12%) does not differ much from the overall average.

surement (such as quality bias)” and “Price and wage rigidities”) receive the lowest importance assessments, both overall and in the geographical sub-samples.

Finally, a comment on the category “Other”, which actually obtained the highest average score—just above 4—but only with about 11% of the respondents entering a score in this category. Half of those who chose this option offered additional comments, with many factors receiving mention. In several cases, a direct relation between these written answers and the determination of the inflation target asked in Question 12 was difficult to find. The most common factor was the credibility of the central bank, which is in line with the discussion in Section 4.3. Question 15 further investigates this issue (see Section 7 below).

**Table 4:** Factors determining the inflation target (inflation target change split).

	Current	Increase	Decrease
Equilibrium level of the real interest rate	3.66	3.81	3.22**
Price and wage rigidities	3.48	3.45	2.82***
Difficulties in inflation measurement (such as quality bias)	3.21	3.08	3.12
Zero lower bound on monetary policy rates	3.70	4.10***	2.74***
Effectiveness of unconventional monetary policy measures	3.60	3.79	2.81***
Effectiveness of fiscal policy	3.44	3.45	2.85***
Financial stability	3.64	3.67	3.67
Other (please specify)	4.06	4.44	2.67

NOTE: Responses have been coded as “unimportant” = 1, “of minor importance” = 2, “moderately important” = 3, “quite important” = 4 and “of the utmost importance” = 5. The table reports the average score of importance. Two and three \* indicate statistical significance in means vis-a-vis supporters of the current target at the 5% and 1% confidence levels, respectively.

The answers to Question 12 may point in different directions with respect to the choice of the inflation target. For example, one respondent commented that unconventional monetary policy is important because of its ineffectiveness. Other respondents could have ranked unconventional monetary policy equally high for exactly the opposite reason. Crucially, the preferred inflation target in these two cases is likely to be very different.

With this caveat in mind, we investigate whether those who prefer to change the current inflation target view the importance of the factors differently from those who support the target. Table 4 summarizes the results of this exercise. Comparing the importance assessments of those who prefer to increase the current target (third column) to those who prefer to keep the target unchanged (second column), the only statistically significant difference in the average views concerns the role of the zero lower bound. As we would expect, supporters of a target increase view this factor as more important. Conversely, those who prefer to decrease the current target (fourth column), view this factor as less important. Overall, supporters of a target decrease view most of the listed factors as less important than other respondents. The two factors for which respondents on average give similar importance assessments regardless of their inflation target preference are difficulties in inflation measurement and financial stability.

## 5.1 Government Debt and Inflation

The high levels of government debt in many jurisdictions have rekindled discussions on the interaction between monetary and fiscal policy. Policy measures taken in response to the Covid crisis have further raised debt levels and thus made the issue even more pressing. As [Teles and Tristani \(2021\)](#) have recently pointed out, the financing of large fiscal shocks can also have implications for optimal inflation.

**Table 5:** The optimal inflation target and public debt

Dependent variable:	Preference for inflation target increase	
	(1)	(2)
Constant	−0.874*** (0.191)	−1.947*** (0.302)
Public debt to GDP ratio	0.003** (0.002)	0.003** (0.002)
ZLB		0.287*** (0.059)
Observations	445	424
Log Likelihood	−272.601	−248.689
Akaike Information Criterion	549.203	503.377

NOTE: The table reports the results of a probit regression in which the dependent variable is a dummy which takes a value of one if the respondent prefers to raise the current inflation target. The explanatory variable “Public debt to GDP ratio” of the respondent’s country of residence is the IMF World Economic Outlook estimate for 2020 (source: Macrobond), and “ZLB” is the respondent’s importance score on the factor “Zero lower bound on monetary policy rates” from Question 12, codified from 1 (= “unimportant”) to 5 (= “of the utmost importance”). Two and three \* indicate statistical significance at the 5% and 1% confidence levels, respectively.

Motivated by such considerations, we run a probit regression where the dependent variable is a dummy which takes a value of one if the variable “preferred change” is greater than zero (i.e., the respondent prefers to raise the current inflation target) and the explanatory variable is the ratio of government debt to GDP of the respondent’s country of residence. Table 5 shows that a higher public debt ratio, as measured at the time of the survey, increases the likelihood that a respondent wants to raise the current inflation target (the coefficient is significant at the 5% level). One interpretation of this result is that a higher level of debt may require a higher inflation target to reduce its value in real terms. Alternatively, respondents may have in mind the effects of a higher level of debt on average (or trend) inflation, possibly through the lenses of the fiscal theory of the price level ([Cochrane, 2021](#)). The results are robust to adding the importance score on the ELB from Question 12 as a control variable. As we know from Table 4, this variable is strongly related with a preference for raising the current inflation target.

## 6 Views on the Equilibrium Real Interest Rate

As discussed earlier, the alleged decline of  $r^*$  is potentially an important driver of the respondents' views about the optimal inflation target. First, we asked participants for an estimate of the equilibrium real interest rate.

*Question 13: In your view, what is the current equilibrium level of the real interest rate relevant for the central bank?*

(a) *The equilibrium level of the real interest rate is ... (in percentage points).*

(b) *No opinion.*

**Table 6:** Views on  $r^*$ .

	Global	EMU	US	RoW
Mean	0.63	0.49	0.63	0.72
Mean <sub>CW</sub>	0.62	0.54	0.59	0.73
Median	0.50	0.50	0.75	0.50
Maximum	5.00	3.00	3.00	5.00
Minimum	-3.20	-2.00	-2.00	-3.20
Standard Deviation	1.08	0.96	1.01	1.22
Observations	368	91	145	132

NOTE: Descriptive statistics on  $r^*$  in the overall sample and geographical sub-samples. All figures in the table are in percent except for the number of observations. *CW* refers to confidence weighted.

Table 6 shows the results for the global sample and separately for the Euro Area (EMU), US, and the rest of the world (RoW, that is, non-Euro Area/US) sub-samples. The average estimate of  $r^*$  is 0.63% in the global sample, 0.49% in the Euro Area, 0.63% in the US, and 0.72% in the rest of the world. The median estimate of  $r^*$  (0.50) is very stable across different samples, except for the US (0.75%). The standard deviation of the estimates is roughly one percentage points in all samples. The range of estimate is rather wide, especially in the global and rest of the world samples.

Beyer and Milivojevic (2021) provide annual estimates of  $r^*$  based on a trend-cycle decomposition with stochastic volatility, covering virtually all countries represented in our sample of respondents. A GDP-weighted average of their point estimates for EMU countries in 2019 is -1.74%, considerably lower than the average view in our survey (0.49%). For the US, the estimated value of  $r^*$  in 2019 is -0.52%, also much lower than the average respondents' view (0.63%). Overall, the correlation between their latest point estimates (2019) with the views of respondents in our survey (which are from December 2020) is small, only 24%.<sup>36</sup> A large number of respon-

<sup>36</sup>The average view of US respondents in our survey aligns better with the recent estimates in Mian et al. (2021), based on the approach developed by Laubach and Williams (2003).

dents (almost 40%) had no opinion, while some indicated in written comments that  $r^*$  is an ill-defined concept.

## 6.1 The Optimal Inflation Target and $r^*$

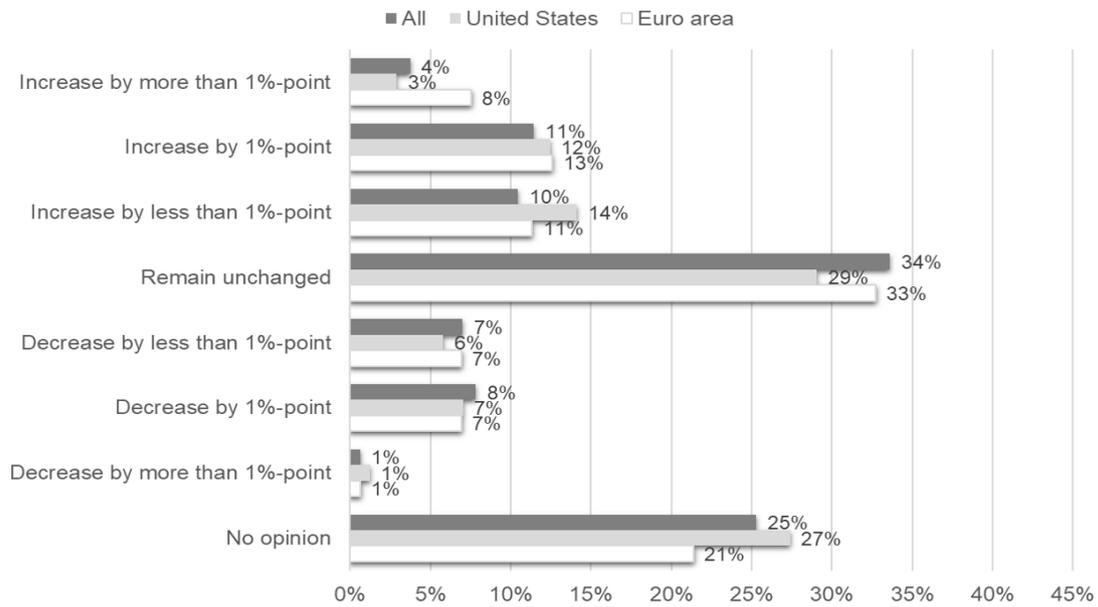
This section exploits the answers to a question in the survey about the relationship between  $r^*$  and the inflation target  $\pi^*$ .

*Question 14: By how much should an inflation target of the central bank change if the equilibrium level of the real interest rate were to*

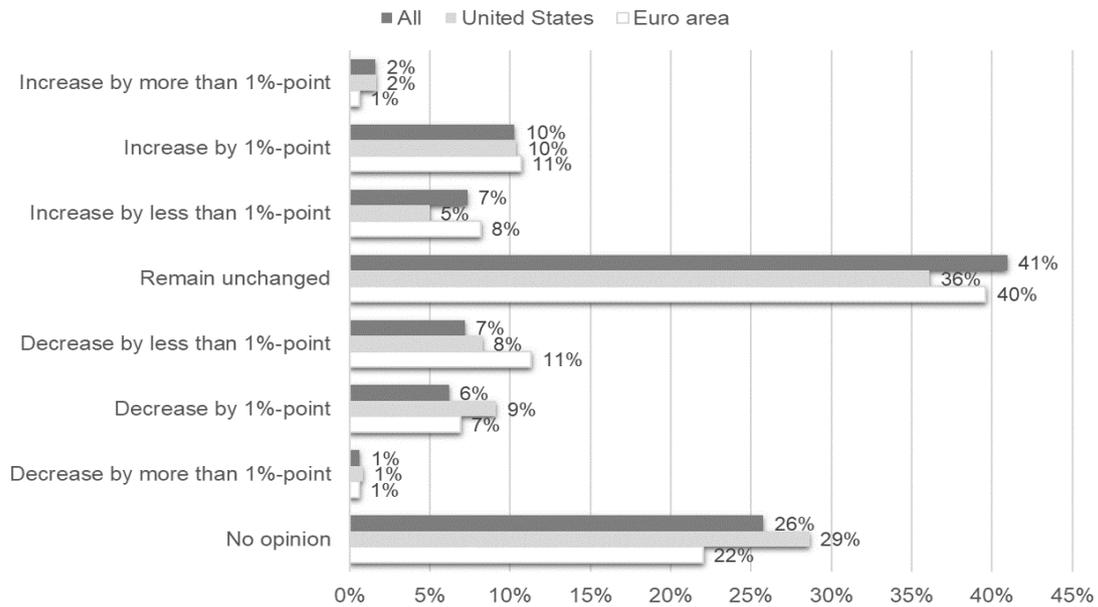
- (i) *permanently decrease by 1 percentage point?*
  - (a) *Increase by more than 1 percentage point*
  - (b) *Increase by 1 percentage point*
  - (c) *Increase by less than 1 percentage point*
  - (d) *Remain unchanged*
  - (e) *Decrease by less than 1 percentage point*
  - (f) *Decrease by 1 percentage point*
  - (g) *Decrease by more than 1 percentage point*
  - (h) *No opinion*
  
- (ii) *permanently increase by 1 percentage point?*
  - (a) *Increase by more than 1 percentage point*
  - (b) *Increase by 1 percentage point*
  - (c) *Increase by less than 1 percentage point*
  - (d) *Remain unchanged*
  - (e) *Decrease by less than 1 percentage point*
  - (f) *Decrease by 1 percentage point*
  - (g) *Decrease by more than 1 percentage point*
  - (h) *No opinion*

Andrade et al. (2019) find that the  $(r^*, \pi^*)$  locus has a slope of approximately minus one in the empirically relevant region of their calibrated DSGE model. Respondents who subscribe to this view should answer (b) in part (i) of the question and (f) in part (ii). More generally, taking account other factors, such as the endogeneity of the slope of the Phillips curve to the inflation target (L'Hullier and Schoenle, 2019), we should expect answer (a) and (c) in part (i), and (e) and (g) in part (ii), to be also fairly popular. Conversely, if the costs of changing the inflation target,

**Figure 6:** Distribution of preferred changes to  $\pi^*$  in response to a change of  $r^*$ .



(a) Permanent decrease of  $r^*$  by 1 percentage point.



(b) Permanent increase of  $r^*$  by 1 percentage point.

NOTE: Histogram of the answers to Question 14. The dark grey bars are for the whole sample. The light grey bars are for the sub-sample of US respondents. The white bars are for sub-sample of Euro Area respondents.

particularly in terms of credibility, are a dominant consideration, we would expect participants to choose answer (d) in both sub-questions.

Figure 6 plots the answers to Question 14. Two main points emerge. First, most respondents do not support a change of the inflation target independently of the direction of the movement in  $r^*$ . This result is consistent with the answers to Question 6, according to which many survey participants prefer to keep the current inflation target unchanged. Even the presence of a permanent change in fundamentals ( $r^*$  in this case) is not enough to overcome the inertia in changing the target, possibly because of the perceived costs, such as the loss of credibility discussed earlier. Interestingly, 26% of the participants who wanted to change the current inflation target in Question 6 did not want to change the target in either part of Question 14. This lack of full correspondence between the answers to those two questions hints that some respondents prefer to change the current inflation target for reasons other than a shift in  $r^*$ .<sup>37</sup>

**Table 7:** Combinations of responses to questions Question 14 (i) and (ii).

Change in $\pi^*$ following a 1 p.p.		Increase in $r^*$ Answer to Q14 (ii)			
		Increase	No change	Decrease	Total
Decrease in $r^*$ Answer to Q14 (i)	Increase	4.4	10.7	19.3	34.4
	No change	1.5	43.1	0.2	44.8
	Decrease	19.5	0.9	0.4	20.8
	Total	25.4	54.7	19.9	100

NOTE: “Increase” corresponds to options (a)–(c), “No change” to (d), and “Decrease” to (e)–(g). The sample size is 452. All figures are in percent.

The second lesson from Figure 6 is that not all respondents think the relationship between  $r^*$  and  $\pi^*$  is negative. We investigate this point more closely in Table 7, which provides a breakdown of different combinations of responses to Question 14 (i) versus (ii). To facilitate the comparison of different combinations, we denote answers falling in categories (a) to (c) by “Increase”, (d) by “No change”, and (e) to (g) by “Decrease”.

The table shows that at least 19.3% of the respondents think the relationship between  $r^*$  and  $\pi^*$  is negative. This number is actually a lower bound because some of those who have chosen “No change” in both part (i) and (ii) (43.1%) may also think the relationship is negative but prefer to stay in the inaction region because of the costs of changing the inflation target. Moreover, an additional 10.7% of participants, who support an increase of  $\pi^*$  if  $r^*$  permanently decreases, believe the inflation target should remain unchanged in case of an increase of the equilibrium

<sup>37</sup>In this case, the caveat is that the implication is not immediate. Question 14 involves scenarios in which  $r^*$  changes by 1 percentage point. A respondent may think that the effect on the equilibrium real interest rate is not big enough to warrant a change of the inflation target given the costs. However, the very same respondent may believe the actual shift in  $r^*$  to be bigger and thus express a preference for a change of the inflation target in Question 6.

real interest rate. As the mechanism in [Andrade et al. \(2019\)](#) crucially depends on the the ELB, which is a more likely constraint for monetary policy as  $r^*$  declines, these respondents' views may be broadly consistent with an inverse relationship between  $r^*$  and  $\pi^*$ .

The most surprising observation from [Table 7](#) is perhaps the sizable share of respondents who think the relationship between  $r^*$  and  $\pi^*$  is positive (19.5%). This view is hard to rationalize in light of existing theories. Some participants may think that a lower equilibrium real interest rate could make the task of achieving the current inflation target even harder and thus hurt the credibility of the central bank. From this perspective, lowering the inflation target would be a pragmatic move to avoid the complete unanchoring of inflation expectations.<sup>38</sup>

Because of the opposing perspectives on the relation between the equilibrium real interest rate and the optimal inflation target, the correlation between the estimated  $r^*$  and the preferred value for  $\pi^*$  in our survey data is rather weak (-0.04). To further explore this issue, we test whether views on  $r^*$  predict a preference for increasing the inflation target, both in the overall sample and in the sub-sample of those participants whose responses to [Question 14](#) (i) and (ii) imply a negative relationship between  $r^*$  and  $\pi^*$ . In particular, we estimate a probit regression in which the dependent variable is a dummy that takes the value of one when the variable “preferred change” is greater than zero and the explanatory variable is the respondents' estimate of  $r^*$ . As the level of  $r^*$  presumably matters because of the ELB constraint, we control for the respondents' view about the importance of the “Zero lower bound on monetary policy rates” from [Question 12](#).

[Table 8](#) summarizes the results. Although the respondents' estimate of  $r^*$  enters the regression with the expected negative sign, the coefficient is not statistically different from zero, either in [column \(1\)](#) (overall sample) or [column \(3\)](#), which also allows for an interaction between  $r^*$  and a dummy variable that takes the value of one for those answers to [Question 14](#) implying a negative relationship between  $r^*$  and  $\pi^*$ . On the contrary, [column \(2\)](#) and [\(3\)](#) show that the respondents' view about the importance of the ELB strongly predicts their preference for an increase of the current inflation target. This test thus suggests that the main factor determining the preference for raising the current inflation target is the ELB constraint rather than the estimate of  $r^*$  *per se*.

---

<sup>38</sup>Unfortunately, no written comment helped shed some light on this set of answers.

**Table 8:** The optimal inflation target and  $r^*$ 

Dependent variable:	Preference for inflation target increase		
	(1)	(2)	(3)
Constant	-0.426*** (0.086)	-1.722*** (0.327)	-1.563*** (0.367)
$r^*$	-0.061 (0.069)	-0.001 (0.074)	0.011 (0.090)
ELB		0.324*** (0.078)	0.229** (0.090)
Negative			-0.570 (1.281)
Negative $\times r^*$			-0.102 (0.221)
Negative $\times$ ELB			0.295 (0.285)
Observations	295	287	258
Log Likelihood	-184.994	-170.005	-143.767
Akaike Information Criterion	373.987	346.010	299.535

NOTE: Probit regression in which the dependent variable is a dummy that takes the value of one when the variable “preferred change” is greater than zero. Among the explanatory variables, “ $r^*$ ” is the respondents’ estimate of the equilibrium level of the real interest rate, “ELB” is the respondents’ importance score on the factor “Zero lower bound on monetary policy rates” from Question 12, and “Negative” is a dummy that takes the value of one for those participants whose responses to Question 14 (i) and (ii) imply a negative relationship between  $r^*$  and  $\pi^*$ , that is, who have answered one of the options (a) to (c) in Question 14 (i) and (e) to (g) in Question 14 (ii). Two and three \* indicate statistical significance at the 5% and 1% confidence levels, respectively.

## 7 The Effects of an Inflation Target Increase

The penultimate question in the survey asked which effects a target increase would have on various factors that are central to the conduct of monetary policy. We use the average responses to form relative measures of “elasticities” of these factors with respect to a target increase (of unspecified amount).<sup>39</sup>

*Question 15: Given the current longer-term, structural economic trends, how are the following factors likely to be affected if the central bank were to increase its inflation target? (please use one of the options “increase”, “probably increase”, “unchanged”, “probably decrease”, “decrease”, or “no opinion”)*

<sup>39</sup>We received one critical comment regarding the obvious asymmetry that we did not ask about the effects of lowering the target. While the point certainly has some merit if the effects of changing the inflation target are highly non-linear, we excluded this question to limit the length of the survey.

- (a) *Cross-sectional price dispersion.*
- (b) *Volatility of inflation.*
- (c) *Stability of inflation expectations.*
- (d) *Credibility of the central bank.*
- (e) *Volatility of output gap.*
- (f) *Unemployment.*
- (g) *Other, please specify.*

**Table 9:** “Elasticities” to an inflation target increase.

	<b>Global</b>	<b>EMU</b>	<b>US</b>
Cross-sectional price dispersion	0.81	0.76	0.89
Volatility of inflation	0.80	0.65	0.84
Stability of inflation expectations	-0.23	-0.26	-0.31
Credibility of the central bank	-0.50	-0.38	-0.46
Volatility of the output gap	0.16	-0.03	0.15
Unemployment	-0.34	-0.44	-0.46
Other (please specify)	-0.14	-1.33	0.75

NOTE: Responses have been coded as “increase” = 2, “probably increase” = 1, “unchanged” = 0, “probably decrease” = -1, and “decrease” = -2. The table reports the average view.

Table 9 summarizes the results. The average scores are broadly similar in the Global, EMU, and US samples. Respondents see the strongest (positive) effects on “Cross-sectional price dispersion” and “Volatility of inflation”. In the global sample the average score on both is about 0.80, i.e., below but close to a qualitative impact assessment of “probably increase”. The next largest scores in absolute terms are the negative effects on “Credibility of the central bank” and “Unemployment”. The average score in the global sample on central bank credibility is -0.50, suggesting that respondents are roughly split between “unchanged” and “probably decrease”. The Euro Area and US respondents believe on average in a somewhat stronger negative effect on unemployment than respondents from elsewhere (the average scores are -0.44, -0.46, and -0.34, respectively).<sup>40</sup>

We use these results in the next section to relate the elasticities derived from Question 15 to the costs and benefits of a potential increase of the inflation target.

<sup>40</sup>In the Euro Area and US sub-samples factors specified in the “Other” category receive high average scores in absolute terms but result from seven answers only. The other factors specified in the responses include the debt burden, the exchange rate, financial stability, asset price volatility and the term premium on government debt.

## 7.1 Perceived Welfare Effects of an Inflation Target Increase

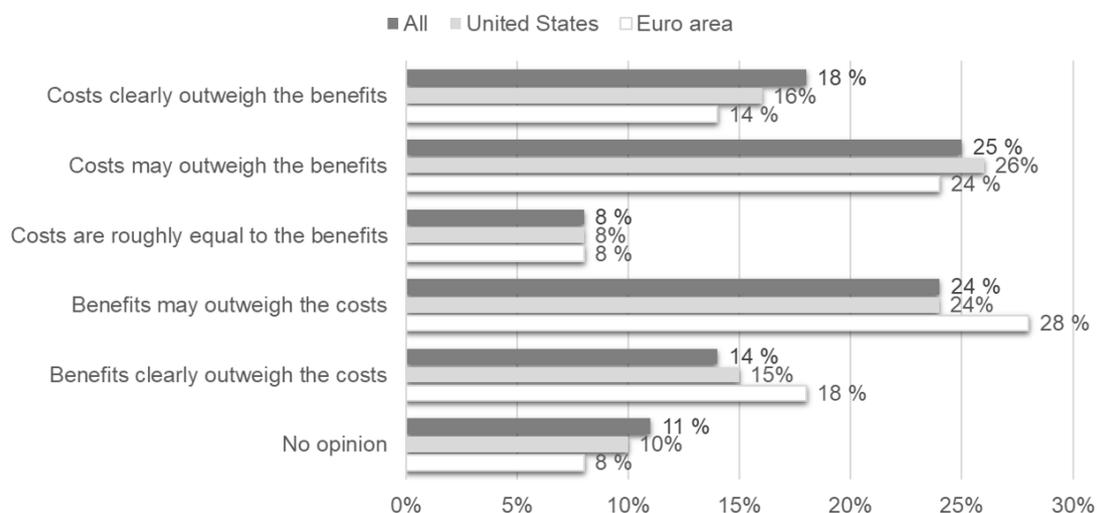
The last question of the survey asked about the potential net benefit of increasing the current inflation target.

*Question 16: Given the current longer-term, structural economic trends, do you think that the benefits of increasing the inflation target of the central bank would outweigh the costs of doing so?*

- (a) Costs clearly outweigh the benefits.
- (b) Costs may outweigh the benefits.
- (c) Costs are roughly equal to the benefits.
- (d) Benefits may outweigh the costs.
- (e) Benefits clearly outweigh the costs.
- (f) No opinion.

Question 16 is closely related to Question 6, in which we asked about the preferred inflation target in numerical terms. One motivation for its inclusion in the survey is to control the “stability” of the respondents’ views. In addition, through this question, we can ask more explicitly about the welfare effects of a potential inflation target increase.

**Figure 7:** The welfare effects of increasing the inflation target.



NOTE: Histogram of the answers to Question 16. The dark grey bars are for the whole sample. The light grey bars are for the sub-sample of US respondents. The white bars are for sub-sample of Euro Area respondents.

Figure 7 shows the results. The first observation is that, in the global sample, the share of those who see net costs from a target increase (options (a) and (b) combined, 43% in total) is slightly higher than the share of those who see net benefits (options (d) and (e), 38% in total). Second, respondents have actively taken a stance either for or against a target raise (only 8% say the net costs roughly equal the benefits). Finally, Euro Area respondents are more positive about a target raise, with 46% seeing net benefits compared to 38% seeing net costs. Among US respondents, net costs slightly outweigh net benefits by 42% to 39%.

Next, we check the consistency of the respondents' answers to Question 16 vis-à-vis Question 6. In particular, we ask if those who preferred a higher target in Question 6 also see net benefits from a target raise in Question 16, as we would expect.

**Table 10:** Comparison of answers to questions Q6 and Q16 (global sample).

		Answer to Q6			
		Increase	No change	Decrease	Total
Answer to Q16	Net benefits	26	13	3	42
	Indifferent	1	6	1	8
	Net costs	5	33	12	50
	Total	32	52	16	100

NOTE: The sample size is 416. All figures are in percent.

Table 10 reports the shares of views on net benefits and net costs in Question 16 against the responses in Question 6 implying a preference for either an increase, no change, or a decrease of the current inflation target.

Omitting option (f) (“No opinion”), 42% of the 416 respondents see net benefits from raising the inflation target in Question 16. However, only about two thirds of them (26% of the whole sample) prefer a numerical inflation target higher than the current one when answering Question 6, while 13% would rather keep the current inflation target and 3% want to decrease the target. The answers to Question 16 thus suggest that many more respondents see benefits in raising the inflation target than when asked about a specific number as in Question 6. Two reasons may explain this discrepancy. First, respondents may be uncertain in their view regarding a specific number for the optimal inflation target. Second, Question 16 may feature an acquiescence bias, well known in survey methodology, which could increase the likelihood of options (d) and (e).<sup>41</sup>

The last step in our analysis links the results from Question 16 to the potential effects of a change in the inflation target discussed earlier. Many of the factors listed in Question 15

<sup>41</sup>The only response combinations in Table 10 that are difficult to rationalize are those who saw “Net benefits” from a target increase but preferred a inflation target lower than the current one (3%), and those who saw “Net costs” from an increase but preferred a higher target (5%). The total number of these two combinations is 31. The misreporting of the current inflation target in Question 5 can explain only one case.

pertain to the channels through which the welfare effects of raising the inflation target could materialize. Higher cross-sectional price dispersion and volatility of inflation are possible negative consequences of a target raise. A target increase could hurt both the stability of inflation expectations and the central bank’s credibility, which are instrumental to the ultimate objective of price stability. In addition, the volatility of the output gap could increase.<sup>42</sup> Therefore, the respondents’ views on these factors may be related to their views on the net welfare effect of a target increase.

We investigate this issue by comparing the average views on the factors in Question 15 over two sub-samples based on Question 16, one with the respondents who see net benefits from an inflation target increase and one including those who do not.

**Table 11:** Comparison of views on inflation target “elasticities”

	Target raise		
	Supporters	Others	$\Delta$ in means
Cross-sectional price dispersion	0.79	0.83	-0.04
Volatility of inflation	0.62	0.92	-0.30***
Stability of inflation expectations	-0.11	-0.30	0.19**
Credibility of the central bank	0.00	-0.87	0.87***
Volatility of the output gap	-0.21	0.40	-0.61***
Unemployment	-0.72	-0.10	-0.62***

NOTE: The second and third column report the average view of the elasticities. “Supporters” of target raise are those who responded either (d) or (e) in Question 16. “Others” are those who responded (a)–(c) or (f). Two and three \* indicate statistically significant difference in means at the 5% and 1% confidence levels, respectively.

Table 11 presents the results of this comparison. The views of those who see net benefits from a target increase are on average statistically different from the rest of the respondents regarding all “elasticities”, except for the one about cross-sectional price dispersion. Compared to other respondents, the average supporter of raising the inflation target thinks that, as a result of the policy change, the volatility of inflation would increase more moderately, the stability of inflation expectations would be less affected, the credibility of the central bank would be unchanged, the volatility of the output gap would fall, and unemployment would probably decline. In absolute terms, the biggest difference concerns central bank credibility. This result further supports our earlier conjecture that the potential costs of changing the inflation target are mainly related to the loss of credibility.

We conclude by looking at the role of credibility also from another complementary angle. Motivated by the idea of a “conservative central banker” (Rogoff, 1985), we conjecture that

<sup>42</sup>The presence of a long-run tradeoff between inflation and the output (or unemployment) gap could mitigate the costs of a higher inflation target (Ascari and Sbordone, 2014).

**Table 12:** Optimal inflation target and central bank objective.

	Net gain from target increase			
	(1)	(2)	(3)	(4)
Constant	-0.094 (0.058)	-0.460*** (0.077)	-0.336*** (0.088)	-0.016 (0.103)
Sole price stability objective	-0.814*** (0.176)		-0.572*** (0.189)	-0.407* (0.211)
Dual mandate objective		0.557*** (0.110)	0.433*** (0.118)	0.447*** (0.132)
Central bank credibility elasticity				0.802*** (0.080)
Observations	544	546	544	520
Log Likelihood	-358.896	-359.222	-352.110	-274.985
Akaike Information Criterion	721.791	722.444	710.219	557.971

NOTE: Probit regression in which the dependent variable “Net gain from target increase” is a dummy that takes the value one if a respondent thinks the benefits of a target raise exceed its costs by answering (d) or (e) in Question 16. The explanatory variables are as follows: “Sole price stability objective” is a dummy that takes the value one if a respondent has answered (a) in Question 8, “Dual mandate objective” is a dummy that takes the value of one if a respondent has answered (b) in Question 8, and “Central bank credibility elasticity” is a respondent’s answer to Question 15, coded on a scale from -2 (“decrease”) to 2 (“increase”). Two and three \* indicate statistical significance at the 5% and 1% confidence levels, respectively.

respondents who support a sole price stability objective in Question 8 put more weight on inflation stabilization and are more concerned about central bank credibility for achieving this goal than supporters of a dual mandate (i.e., those who chose option (b) in Question 8). Consequently, the former group may be more skeptical about raising the inflation target than the latter. In order to investigate this conjecture, we regress the support for a target raise in Question 16 on the respondents’ choice of the central bank objective(s) in Question 8. The dependent variable is a dummy that takes the value one if a respondent thinks the benefits of a target raise exceed its costs (by answering (d) or (e) in Question 16). Columns (1) to (3) of Table 12 show that supporters of a sole price stability objective are less likely to see net benefits from a target increase while supporters of a dual mandate are more likely to do so.<sup>43</sup> Column (4) reports the results of an augmented regression that also includes the “elasticity” of central bank credibility from Question 15 as an additional explanatory variable. The coefficient on this variable is positive and statistically significant. While the results remain broadly unchanged, the coefficient on “Price stability only” becomes smaller by a factor of a half in absolute terms and is now only marginally significant. This result further indicates that central bank credibility is a fundamental concern for supporters of a sole price stability regarding the prospects of an inflation target raise.

<sup>43</sup>The results are similar if the dependent variable is a dummy that takes the value one if the preferred change of the current inflation target, based on Question 6, is positive.

## 8 Conclusions

The Global Financial Crisis and the Covid pandemic, coupled with long-term shifts in several macroeconomic indicators, have brought the discussion of central banks' objectives and targets back to the fore. The recent changes of the Fed and ECB monetary policy frameworks, together with plans to conduct reviews on a regular basis in the future, are a clear manifestation of this revival. At the core of the debate is the question of the optimal inflation target, especially in light of the limited space for conventional interest rate policy and of an increased frequency of ELB episodes.

Our survey asked leading economists from around the world about their views on three key areas: the inflation target, the central bank's broader objectives, and the relationship between the equilibrium real interest rate and the optimal inflation target.

Most respondents prefer the central bank to have an explicit inflation target. Roughly half of them want their central bank to keep its current target. Among the rest, a higher target receives significantly more support than a lower target. The potential loss of credibility is a clear concern about increasing the inflation target. Conversely, we found no indication that a concern for the central bank's ability to achieve its current target explains the preference for the status quo, even though such pessimism clearly prevailed at the time of the survey. Respondents who worry about the effective lower bound, as well as those who support a dual mandate and see a potential reduction in unemployment resulting from a higher target, are more likely to see a target raise as beneficial.

The bout of higher inflation at the time of this writing may well give rise to an "opportunistic reflation" approach to monetary policy issues such as low equilibrium real interest rates and the increased frequency of ELB episodes. In this case, the option of increasing the inflation target will likely be off the table, at least temporarily. Yet, we believe our results will continue to provide a useful reference for policymakers to think about the key tradeoffs associated with the decision to change the inflation target at any point in the future.

## References

- Adam, K., O. Pfaeuti, and T. Reinelt (2021). Falling Natural Rates, Raising House Price Volatility and the Optimal Inflation Target. Unpublished.
- Adam, K. and H. Weber (2019). Optimal Trend Inflation. *American Economic Review* 109, 702–737.
- Adam, K. and H. Weber (2020). Estimating the Optimal Inflation Target from Trends in Relative Prices. Unpublished.
- Adrian, T. and H. Shin (2010). Financial Intermediaries and Monetary Economics. In B. Friedman and M. Woodford (Eds.), *Handbook of Monetary Economics*, Volume 3, Chapter 12, pp. 601–650. North Holland.
- Ambrocio, G., A. Ferrero, E. Jokivuolle, and K. Ristolainen (2021). What Academics Think of Central Banks’ Current Inflation Targets and Other Objectives. VoxEU, 6 March.
- Andrade, P., J. Galí, H. Le Bihan, and J. Matheron (2019). The Optimal Inflation Target and the Natural Rate of Interest. *Brookings Papers on Economic Activity Fall 2019*, 173–249.
- Andre, P. and A. Falk (2021). What’s Worth Knowing? Economists’ Opinions About Economics. Discussion Paper 16344, CEPR.
- Aoki, K. (2001). Optimal Monetary Policy Responses to Relative-Price Changes. *Journal of Monetary Economics* 48, 55–80.
- Ascari, G. and A. Sbordone (2014). The Macroeconomics of Trend Inflation. *Journal of Economic Literature* 52, 679–773.
- Ball, L. (2013). The Case for 4% Inflation. *Central Bank Review* 13, 17–31.
- Bernanke, B. (2010). The Economic Outlook and Monetary Policy. In *Speech at the Jackson Hole Economic Policy Symposium*.
- Bernanke, B., T. Laubach, F. Mishkin, and A. Posen (1999). *Inflation Targeting: Lessons from the International Experience*. Princeton University Press.
- Beyer, R. and L. Milivojevic (2021). Dynamics and Synchronization of Global Equilibrium Interest Rates. Working Paper 146, Institute For Monetary and Financial Stability, Goethe University Frankfurt.
- Bhattarai, S., G. Eggertsson, and R. Schoenle (2018). Is Increased Price Flexibility Stabilizing? Redux. *Journal of Monetary Economics* 100, 66–82.
- Blanchard, O., G. Dell’Ariccia, and P. Mauro (2010). Rethinking Macroeconomic Policy. Staff Position Note 10/03, IMF.

- Blanchard, O. and J. Galí (2007). Real Wage Rigidities and the New Keynesian Model. *Journal of Money, Credit and Banking* 39, 35–65.
- Blinder, A. (2000). Central-Bank Credibility: Why Do We Care? How Do We Build It? *American Economic Review* 90, 1421–1431.
- Budianto, F., T. Nakata, and S. Schmidt (2020). Average Inflation Targeting and the Interest Rate Lower Bound. Working Paper 852, BIS.
- Calvo, G. (1983). Staggered Price Setting in a Utility-Maximizing Framework. *Journal of Monetary Economics* 12, 383–398.
- Christiano, L., M. Eichenbaum, and S. Rebelo (2011). When Is the Government Spending Multiplier Large? *Journal of Political Economy* 119, 78–121.
- Cochrane, J. (2021). The Fiscal Theory of the Price Level. Unpublished.
- Coibion, O., Y. Gorodnichenko, E. Knotek II, and R. Schoenle (2020). Average Inflation Targeting and Household Expectations. Working Paper 27836, NBER.
- Coibion, O., Y. Gorodnichenko, and J. Wieland (2012). The Optimal Inflation Rate in New Keynesian Models: Should Central Banks Raise Their Inflation Targets in Light of the Zero Lower Bound? *Review of Economic Studies* 79, 1371–1406.
- Debortoli, D., J. Galí, and L. Gambetti (2019). On the Empirical (Ir)Relevance of the Zero Lower Bound Constraint. In E. H. Martin Eichenbaum and J. Parker (Eds.), *NBER Macroeconomics Annual*, Volume 34, Chapter 3, pp. 141–170. University of Chicago Press.
- DeGrauwe, P. (2008). There is More to Central Banking than Inflation Targeting. VoxEU, 14 November.
- Dougherty, A. and R. Van Order (1982). Inflation, Housing Costs, and the Consumer Price Index. *American Economic Review* 72, 154–164.
- Eggertsson, G. (2011). What Fiscal Policy Is Effective at Zero Interest Rates? In D. Acemoglu and M. Woodford (Eds.), *NBER Macroeconomics Annual*, Volume 25, Chapter 2, pp. 59–112. University of Chicago press.
- Eggertsson, G. and P. Krugman (2012). Debt, Deleveraging, and the Liquidity Trap: A Fisher-Minsky-Koo Approach. *Quarterly Journal of Economics* 127, 1469–1513.
- Eggertsson, G. and M. Woodford (2003). The Zero Bound on Interest Rates and Optimal Monetary Policy. *Brookings Papers on Economic Activity* 1:2003, 139–211.
- Ehrmann, M., S. Holton, D. Kedan, and G. Phelan (2021). Monetary Policy Communication: Perspectives from Former Policy Makers at the ECB. Working Paper 2627, ECB.

- Friedman, M. (1969). *The Optimum Quantity of Money*. Mcmillan.
- Gagnon, J. and C. Collins (2019). The Case for Raising the Inflation Target Is Stronger than You Think.
- Grosse-Steffen, C. (2021). Anchoring of Inflation Expectations: Do Inflation Target Formulations Matter? Working Paper 852, Banque de France.
- Haavio, M. and O. Laine (2021). Monetary Policy Rules and the Effective Lower Bound in the Euro Area. Research Discussion Paper 5/2021, Bank of Finland.
- Honkapohja, S. and N. McClung (2021). On Robustness of Average Inflation Targeting. Research Discussion Paper 6/2021, Bank of Finland.
- IGM Forum (2020). Fed Strategy.
- Kiley, M. and J. Roberts (2017). Monetary Policy in a Low Interest Rate World. *Brookings Papers on Economic Activity Spring 2017*, 317–372.
- Krugman, P. (2014a). Four Observations on Secular Stagnation. In C. Teulings and R. Baldwin (Eds.), *Secular Stagnation: Facts, Causes and Cures*, Chapter 4, pp. 61–68. CEPR Press.
- Krugman, P. (2014b). Inflation Targets Reconsidered. Unpublished.
- Laubach, T. and J. Williams (2003). Measuring the Natural Rate of Interest. *Review of Economics and Statistics* 85, 1063–1070.
- Leijonhufvud, A. (2008). Central Banking Doctrine in Light of the Crisis. VoxEU, 13 May.
- L’Hullier, J. and R. Schoenle (2019). Raising the Inflation Target: How Much Extra Room Does It Really Give? Discussion Paper 14142, CEPR.
- Meltzer, A. (2009). *A History of the Federal Reserve*, Volume 2, Book 2, 1970-1986. University of Chicago Press.
- Mertens, T. and J. Williams (2019). Tying Down the Anchor: Monetary Policy Rules and the Lower Bound on Interest Rates. Staff Reports 887, Federal Reserve Bank of New York.
- Mian, A., L. Straub, and A. Sufi (2021). What Explains the Decline in  $r^*$ ? Rising Income Inequality versus Demographic Shifts. In *Jackson Hole Economic Policy Symposium*.
- Nessén, M. and D. Vestin (2005). Average Inflation Targeting. *Journal of Money, Credit and Banking* 37, 837–863.
- Rich, R. and C. Steindel (2007). A Comparison of Measures of Core Inflation. *Economic Policy Review* 13, 19–38.

- Rogoff, K. (1985). The Optimal Degree of Commitment to an Intermediate Monetary Target. *Quarterly Journal of Economics* 100, 1169–1189.
- Rotemberg, J. (2003). Monopolistic Price Adjustment and Aggregate Output. *Review of Economic Studies* 49, 517–531.
- Schmitt-Grohé, S. and M. Uribe (2010). The Optimal Rate of Inflation. In B. Friedman and M. Woodford (Eds.), *Handbook of Monetary Economics*, Volume 3, Chapter 13, pp. 653–722. Elsevier.
- Stroebel, J. and J. Wurgler (2021). What Do You Think About Climate Finance? Working Paper 29136, NBER.
- Summers, L. (2014). Reflections on the ‘New Secular Stagnation Hypothesis’. In C. Teulings and R. Baldwin (Eds.), *Secular Stagnation: Facts, Causes and Cures*, Chapter 1, pp. 27–38. CEPR Press.
- Teles, P. and O. Tristani (2021). The Monetary Financing of a Large Fiscal Shock. In *Bank of Finland-CEPR 2021 Conference on New Avenues for Monetary Policy*.
- The CFM Surveys (2020). Should the ECB Reformulate Its Inflation Objective?
- Woodford, M. (2011). Simple Analytics of the Government Expenditure Multiplier. *American Economic Journal: Macroeconomics* 3, 1–35.

# Appendix

**Table A1:** Respondents' confidence on their answers to different survey questions.

	Question	Confidence score	Share of "No opinion" responses
Q8	<i>What should the central bank's objective(s) be?</i> <sup>1</sup>	4.13	1.96
Q6	<i>Should the central bank have an explicit inflation target? If so, what rate of inflation should it seek to achieve, given the current longer-term, structural economic trends?</i>	3.84	21.53
Q7	<i>Imagine a hypothetical scenario in which the central bank had previously not adopted an inflation target but now decides to adopt one. What rate of inflation should the central bank target, given the current longer-term, structural economic trends?</i>	3.69	34.42
Q16	<i>Given the current longer-term, structural economic trends, do you think that the benefits of increasing the inflation target of the central bank would outweigh the costs of doing so?</i>	3.6	11.91
Q14ii	<i>By how much should an inflation target of the central bank change if the equilibrium level of the real interest rate were to permanently increase by 1 percentage point?</i>	3.41	26.75
Q14i	<i>By how much should an inflation target of the central bank change if the equilibrium level of the real interest rate were to permanently decrease by 1 percentage point?</i>	3.36	26.92
Q13	<i>In your view, what is the current equilibrium level of the real interest rate relevant for the central bank?</i>	3.03	39.31

<sup>1</sup>The options given were "price stability only", "price stability and other objective(s) with equal weights", and "price stability and subordinate objective(s)".

# Expert Survey on the Optimal Inflation Target

## 1. What is your country of residence?

Afghanistan
Albania
Algeria
...
Yemen
Zambia
Zimbabwe

## 2. What are your fields of expertise in economics?

a) Please indicate your primary field of expertise by choosing the appropriate JEL category.

A	General Economics and Teaching
B	History of Economic Thought, Methodology, and Heterodox Approaches
C	Mathematical and Quantitative Methods
D	Microeconomics
E	Macroeconomics and Monetary Economics
F	International Economics
G	Financial Economics
H	Public Economics
I	Health, Education, and Welfare
J	Labor and Demographic Economics
K	Law and Economics
L	Industrial Organization
M	Business Administration and Business Economics • Marketing • Accounting • Personnel Economics
N	Economic History
O	Economic Development, Innovation, Technological Change, and Growth
P	Economic Systems
Q	Agricultural and Natural Resource Economics • Environmental and Ecological Economics
R	Urban, Rural, Regional, Real Estate, and Transportation Economics
Y	Miscellaneous Categories

Z	Other Special Topics
---	----------------------

**b) Please indicate your secondary field of expertise by choosing the appropriate JEL category.**

A	General Economics and Teaching
B	History of Economic Thought, Methodology, and Heterodox Approaches
C	Mathematical and Quantitative Methods
D	Microeconomics
E	Macroeconomics and Monetary Economics
F	International Economics
G	Financial Economics
H	Public Economics
I	Health, Education, and Welfare
J	Labor and Demographic Economics
K	Law and Economics
L	Industrial Organization
M	Business Administration and Business Economics • Marketing • Accounting • Personnel Economics
N	Economic History
O	Economic Development, Innovation, Technological Change, and Growth
P	Economic Systems
Q	Agricultural and Natural Resource Economics • Environmental and Ecological Economics
R	Urban, Rural, Regional, Real Estate, and Transportation Economics
Y	Miscellaneous Categories
Z	Other Special Topics

**3. Approximately how many years of work experience do you have in the following sectors?**

**a) Academia**

Years of experience

**b) Private sector**

Years of experience

**c) Public sector**

Years of experience

**4. Which of the following best describes your familiarity with issues pertaining to monetary policy?**

Expert
Knowledgeable
Aware
Unaware

**5. What is the rate of inflation that the central bank responsible for monetary policy in your country of residence currently seeks to achieve?**

The targeted inflation rate is (in percentage points)
The central bank does not have an explicit inflation target (If the central bank has another target, please specify here)
I do not know

**Please use comment box below if you would like to qualify or add more to your answer.**

**6. Should the central bank have an explicit inflation target? If so, what rate of inflation should it seek to achieve, given the current longer-term, structural economic trends?**

*Here, 'central bank' refers to the central bank responsible for monetary policy in your country of residence.*

No
Yes, it should seek to achieve an inflation rate of (in percentage points)
No opinion

**How confident are you regarding your answer?**

*Please leave blank if no opinion.*

	1	2	3	4	5	
Least confident						Most confident

Please use comment box below if you would like to qualify or add more to your answer.

**7. Imagine a hypothetical scenario in which the central bank had previously not dopted an inflation target but now decides to adopt one. What rate of inflation should the central bank target, given the current longer-term, structural economic trends?**

*Here, 'central bank' refers to the central bank responsible for monetary policy in your country of residence.*

It should seek to achieve an inflation target of (in percentage points)
No opinion

**How confident are you regarding your answer?**

*Please leave blank if no opinion.*

	1	2	3	4	5	
Least confident						Most confident

Please use comment box below if you would like to qualify or add more to your answer.

**8. What should the central bank's objective(s) be?**

*Please choose only one option. Here, 'central bank' refers to the central bank responsible for monetary policy in your country of residence.*

Price stability only
Price stability and other objective(s) with equal weights. Please feel free to specify the other objective(s)
Price stability and subordinate objective(s). Please feel free to specify the secondary objective(s)
No opinion

**How confident are you regarding your answer?**

*Please leave blank if no opinion.*

	1	2	3	4	5	
Least confident						Most confident

Please use comment box below if you would like to qualify or add more to your answer.

**9. Among the options below, what specific observable variable(s) would be the most preferable target(s) for the central bank in the conduct of its monetary policy?**

*Please choose only one option. Here, 'central bank' refers to the central bank responsible for monetary policy in your country of residence.*

The inflation rate
The price level
The inflation rate and the unemployment rate
The growth rate of nominal GDP
The level of nominal GDP
Other, please specify
No opinion

**Please use comment box below if you would like to qualify or add more to your answer.**

**10. What specific price index should the central bank use in the conduct of its monetary policy?**

*Here, 'central bank' refers to the central bank responsible for monetary policy in your country of residence.*

Headline consumer price index
Core consumer price index (excluding food and energy prices)
Headline personal consumption expenditures index
Core personal consumption expenditures index (excluding food and energy prices)
GDP deflator
Other, please specify
No opinion

**Please use comment box below if you would like to qualify or add more to your answer.**

**11. How likely is the central bank to achieve its inflation target over the next three years?**

*Here, 'central bank' refers to the central bank responsible for monetary policy in your country of residence.*

	1	2	3	4	5	
Very unlikely						Very likely

**Please use comment box below if you would like to qualify or add more to your answer.**

**12. Below is a list of factors that have been identified in the economic literature as pertaining to monetary policy. Please indicate how important each of these should be in determining the level of the central bank's inflation target.**

*Here, 'central bank' refers to the central bank responsible for monetary policy in your country of residence.*

	Unimportant	Of minor importance	Moderately important	Quite important	Of the utmost importance	No opinion
Equilibrium level of the real interest rate						
Price and wage rigidities						
Difficulties in inflation measurement (such as quality bias)						
Zero lower bound on monetary policy rates						
Effectiveness of unconventional monetary policy measures						
Effectiveness of fiscal policy						
Financial stability						
Other, please specify						

**Please use comment box below if you would like to qualify or add more to your answer.**

**13. In your view, what is the current equilibrium level of the real interest rate relevant for the central bank?**

*Here, 'central bank' refers to the central bank responsible for monetary policy in your country of residence.*

The equilibrium level of the real interest rate is (in percentage points)
No opinion

**How confident are you regarding your answer?**

*Please leave blank if no opinion.*

	1	2	3	4	5	
Least confident						Most confident

**Please use comment box below if you would like to qualify or add more to your answer.**

**14. By how much should an inflation target of the central bank change if the equilibrium level of the real interest rate were to...**

**i) ...permanently decrease by 1 percentage point?**

*Here, 'central bank' refers to the central bank responsible for monetary policy in your country of residence.*

Increase by more than 1%-point
Increase by 1%-point
Increase by less than 1%-point
Remain unchanged
Decrease by less than 1%-point
Decrease by 1%-point
Decrease by more than 1%-point
No opinion

**How confident are you regarding your answer?**

*Please leave blank if no opinion.*

	1	2	3	4	5	
Least confident						Most confident

**ii) ...permanently increase by 1 percentage point?**

*Here, 'central bank' refers to the central bank responsible for monetary policy in your country of residence.*

Increase by more than 1%-point
Increase by 1%-point
Increase by less than 1%-point
Remain unchanged
Decrease by less than 1%-point
Decrease by 1%-point
Decrease by more than 1%-point
No opinion

**How confident are you regarding your answer?**

*Please leave blank if no opinion.*

	1	2	3	4	5	
Least confident						Most confident

Please use comment box below if you would like to qualify or add more to your answer.

**15. Given the current longer-term, structural economic trends, how are the following factors likely to be affected if the central bank were to increase its inflation target?**

*Here, 'central bank' refers to the central bank responsible for monetary policy in your country of residence.*

	Increase	Probably increase	Unchanged	Probably decrease	Decrease	No opinion
Cross-sectional price dispersion						
Volatility of inflation						
Stability of inflation expectations						
Credibility of the central bank						
Volatility of output gap						
Unemployment						
Other, please specify						

Please use comment box below if you would like to qualify or add more to your answer.

**16. Given the current longer-term, structural economic trends, do you think that the benefits of increasing the inflation target of the central bank would outweigh the costs of doing so?**

*Here, 'central bank' refers to the central bank responsible for monetary policy in your country of residence.*

Costs clearly outweigh the benefits
Costs may outweigh the benefits
Costs are roughly equal to the benefits
Benefits may outweigh the costs
Benefits clearly outweigh the costs
No opinion

**How confident are you regarding your answer?**

*Please leave blank if no opinion.*

	1	2	3	4	5	
Least confident						Most confident

**Please use comment box below if you would like to qualify or add more to your answer.**

**You are welcome to provide here any further written comments concerning the survey or your answers.**

## Bank of Finland Research Discussion Papers 2022

ISSN 1456-6184, online

- 1/2022 Tommaso Bighelli – Tibor Lalinsky – Juuso Vanhala  
**Covid-19 pandemic, state aid and firm productivity**  
ISBN 978-952-323-395-9, online
- 2/2022 Tuomas Takalo – Tanja Tanayama – Otto Toivanen  
**Welfare effects of R&D support policies**  
ISBN 978-952-323-396-6, online
- 3/2022 Petri Mäki-Fränti – Aino Silvo – Adam Gulan – Juha Kilponen  
**Monetary policy and inequality: The Finnish case**  
ISBN 978-952-323-397-3, online
- 4/2022 Mikael Juselius – Nikola Tarashev  
**When uncertainty decouples expected and unexpected losses**  
ISBN 978-952-323-399-7, online
- 5/2022 Gene Ambrocio  
**Inflationary household uncertainty shocks**  
ISBN 978-952-323-402-4, online
- 6/2022 Michaela Elfsbacka Schmöller – Martin Spitzer  
**Lower for longer under endogenous technology growth**  
ISBN 978-952-323-403-1, online
- 7/2022 Gene Ambrocio – Andrea Ferrero – Esa Jokivuolle – Kim Ristolainen  
**What should the inflation target be? Views from 600 economists**  
ISBN 978-952-323-409-3, online