AVERAGE INFLATION TARGETING AND HOUSEHOLD EXPECTATIONS

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Abstract: Using a daily survey of U.S. households, we study how the Federal Reserve's announcement of its new strategy of average inflation targeting affected households' expectations. Starting with the day of the announcement, there is a very small uptick in the minority of households reporting that they had heard news about monetary policy relative to prior to the announcement, but this effect fades within a few days. Those who heard news about the announcement do not seem to have understood the announcement: They are no more likely to correctly identify the Fed's new strategy than others, nor are their expectations different. When we provide randomly selected households with pertinent information about average inflation targeting, their expectations still do not change in a different way than when households are provided with information about traditional inflation targeting. Even one year after the announcement, U.S. households were mostly unaware of the change in strategy or its implications.

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"*[I]f inflation runs below 2 percent following economic downturns but never moves above 2 percent even when the economy is strong, then, over time, inflation will average less than 2 percent. Households and businesses will come to expect this result, meaning that inflation expectations would tend to move below our inflation goal and pull realized inflation down. To prevent this outcome and the adverse dynamics that could ensue, our new statement indicates that we will seek to achieve inflation that averages 2 percent over time. Therefore, following periods when inflation has been running below 2 percent, appropriate monetary policy will likely aim to achieve inflation moderately above 2 percent for some time."* Jerome H. Powell, August 27, 2020[1]

1. Introduction

Monetary policy regimes rarely change. On August 27, 2020, in a public webcast speech at the annual Jackson Hole symposium, the Federal Reserve's most visible conference, Federal Reserve Chair Jerome H. Powell announced such a change. The Federal Reserve was formally adopting a new strategy that he termed a "flexible form of average inflation targeting" (AIT) to try to ensure that the Fed's inflation objective of 2% is obtained on average, with the time period over which the average is defined remaining unspecified. Following more than a year of internal discussions, conferences with academics, and meetings with the general public as part of a *Fed Listens* series, this announcement received extensive news coverage.

As described by Chair Powell, the main difference between AIT and traditional inflation targeting (IT) is that, under the former regime, a period of below-target inflation should be followed by a period in which inflation is systematically *above* the target, whereas under the latter regime, inflation should move to its target regardless of how long it had deviated from it previously. AIT and similar regimes such as price-level targeting have long been found to have a profound stabilizing role in New Keynesian models (Woodford 2003).

At the heart of this mechanism is the notion that the specific inflation targeting strategy followed by the central bank is known and understood by households and firms, leading to materially different dynamics of inflation expectations under AIT and IT.[2] Was this the case following Chair Powell's speech officially announcing AIT? We study this question using a daily survey of U.S. households running before and after Chair Powell's speech, and we follow up by surveying households around the one-year anniversary of the announcement. The survey can answer three specific, related questions. First, did the announcement make its way to the general public? Second, did those households that heard or read about

[1] Powell (2020).

[2] During its framework review, the minutes of the September 2019 meeting of the Federal Open Market Committee made this point succinctly: "The staff analysis emphasized, however, that the benefits of makeup strategies depend importantly on the private sector's understanding of these strategies and their confidence that future policymakers would follow through on promises to keep policy accommodative" (Federal Open Market Committee 2019). See Arias et al. (2020), Duarte et al. (2020), and Hebden et al. (2020).

the announcement understand it and incorporate it into their expectations? Third, if we sidestep the thorny issue of how to reach the broader public and instead directly provide pertinent information to households about average inflation targeting, does this meaningfully affect their beliefs relative to traditional inflation targeting? Our survey evidence suggests that the answers to these questions are no, no, and no.[3]

We study the extent to which households heard about and understood the AIT announcement using a module inside of a larger daily survey of consumers sponsored by the Federal Reserve Bank of Cleveland. We detect only a very small uptick in the fraction of the population that reported having heard news about the Federal Reserve in the days immediately following the announcement. This finding suggests that the announcement did *not* significantly affect the general public's perception of monetary policy. The share of households reporting that they heard any news about monetary policy or the Federal Reserve rises from 24% on the day prior to the announcement to a high of just 33% on the day after the announcement, before falling thereafter. While some respondents claimed to have heard Fed-related news from official sources, most reported having read about it in the newspaper or on social media. Less than half of the people who heard Fed-related news after the announcement reported that the news was about a new strategy by the Federal Reserve. Despite extensive coverage in the news media, Chair Powell's speech apparently did not reach or register with the vast majority of the population.

Even for those who heard news about monetary policy following the announcement, the news had little impact. For example, those who reported hearing news about monetary policy after the announcement were no more likely to report AIT as a Fed strategy than respondents prior to the announcement. Both before and after the announcement, respondents were more likely to select IT as a Fed strategy than AIT. They were also no more likely to report that maximum employment and price stability were the two main objectives of the Federal Reserve. Instead, both before and after the announcement, respondents' two most commonly perceived objectives of the Federal Reserve were maintaining a strong dollar and keeping interest rates low to reduce the government's cost of borrowing. Conditional on receiving news after the announcement, households' expectations about inflation, output growth, and personal income were effectively unchanged as well. In short, we find no evidence that being exposed to news about monetary policy or the Fed after Chair Powell's speech changed households' perceptions of what the Federal Reserve will do nor did it affect their broader economic outlook.

[3] In its "Renewal of the Inflation-Control Target," the Bank of Canada (2011) concluded that the gains of switching to price-level targeting (PLT) are not clear enough because the success of this regime relies on the assumption that "… agents are forward-looking, fully conversant with the implications of PLT and trust policy-makers to live up to their commitments" and it is not clear whether this assumption "… [is] sufficiently satisfied in the real world for the Bank to have confidence that PLT could improve on the current inflation-targeting framework."

One possible explanation for this lack of effect is that it takes time for households to understand the new strategy or to believe the Federal Reserve's promise of a new strategy. To assess this possibility, we repeated the same survey questions in the daily survey run by the Federal Reserve Bank of Cleveland one year later, from mid-August 2021 through mid-September 2021. We find results that are qualitatively unchanged. The share of people who correctly identified the Federal Reserve's price strategy as AIT increased slightly, from 23% following the announcement in 2020 to 30% one year later—potentially suggesting a slow learning process among households—but it remained the case that more households believed the Fed was pursuing IT than AIT. Those households that identified AIT as the Fed's strategy one year later still did not have expectations that differed from those of others nor did they make conditional predictions of inflation that are consistent with an understanding of AIT. In short, at least in these respects, the passage of time had changed very little.

While the announcement may not have had any meaningful effect on the public's perception of the monetary policy strategy either immediately or even after a year, it does not rule out the possibility that, when presented directly and concisely to individuals, information about AIT could lead households to change their beliefs in a manner consistent with the theory. We use a randomized controlled trial (RCT) to address this question. Specifically, we provide some individuals with information explaining AIT, others with information explaining IT, and a third (control) group with no information. Both treatments lead average Americans to have lower medium-term expectations for future inflation, future GDP growth, and their own personal household income growth. Crucially for our study, we find no meaningful differences in expectations between individuals who are provided information about AIT vs. IT. Even when information about the new inflation strategy is presented directly to households and the strategy is clearly explained to them, it does not lead to discernibly different expectations than traditional inflation targeting. This finding suggests that AIT is unlikely to provide many of the economic benefits that theory often attributes to it.

This paper builds on a growing literature studying how households' expectations respond to policy decisions at high frequencies. Lamla and Vinogradov (2019), for example, document that household inflation expectations are unaffected by FOMC interest rate decisions. Binder (2020) finds that few households were aware of the Fed's large policy decisions in March 2020 in response to the impact of the coronavirus on the U.S. economy and financial markets. Lewis, Makridis, and Mertens (2020) find that households' perceptions of the broader economic outlook respond immediately to interest rate decisions but that other monetary policy announcements (e.g., QE, forward guidance) have little discernible effect. Relative to these papers, we focus on a more consequential policy announcement involving the overall inflation targeting strategy, which should have an immediate and large discernible

effect on inflation expectations. We also combine this with an RCT strategy to go beyond the question of how expectations responded to the announcement and address the broader question of how much of an effect one might expect if the announcement had reached the broader public; that is, we consider the extent to which the theory can be effective in practice.

With the latter, our paper relates to a growing literature applying RCT methods to macroeconomic topics, building on earlier work by Armantier et al. (2016), Cavallo, Cruces, and Perez-Truglia (2017), and others. Coibion, Gorodnichenko, and Weber (forthcoming, a), for example, study how different types of information about inflation or monetary policy affect households' inflation expectations. Binder and Rodrigue (2018) provide information about the inflation target to characterize the response of long-run inflation expectations. Roth and Wohlfart (2019) assess how information about the broader economic outlook affects households' expectations. Relative to this literature, we make several contributions. We are the first to assess the effect of treating households with information about average inflation targeting, a key policy innovation that has recently been adopted or is under consideration by multiple leading central banks around the world, and which is a potentially powerful policy framework to the extent that it meaningfully affects households' inflation expectations. In contrast to previous work, we study how *changes* in the policy regime affect inflation expectations, which can shed new light on how quickly households adapt to a new regime. Our surveys provide unique evidence on the speed of learning about the new regime and, by extension, how quickly the gains from AIT may materialize.

We focus specifically on households' inflation expectations because they constitute a primary mechanism through which AIT provides large stabilization gains in New Keynesian models. This mechanism is most clearly visible from the Euler equation that governs optimal intertemporal consumption decisions by households:

$$u'(C_t) = \beta E_t[u'(C_{t+1})(1 + i_t)/(1 + \pi_{t+1})]$$

According to this key equation, AIT is powerful during downturns primarily because it makes *households* believe that the central bank will deliver higher inflation in the future to make up for lower inflation today. This anticipation of higher inflation in the future on the part of households induces them to move consumption forward in time. Note that one can stimulate consumption by varying short-run inflation expectations even if long-run inflation expectations are anchored at the central bank's target, which is a complementary goal of AIT as noted above. Because consumption accounts for approximately 70% of GDP, this effect in turn stimulates contemporaneous output and inflation.

These beneficial effects of AIT are magnified when the economy hits the zero lower bound on nominal interest rates. When monetary policy loses the ability to lower nominal rates further, AIT becomes particularly attractive because households expect higher-than-target future inflation to make up for low

inflation today—more so than under traditional IT, in which bygones are bygones and the central bank simply returns inflation to target in the future rather than overshooting it. Therefore, if one is interested in characterizing whether AIT is likely to significantly influence macroeconomic outcomes as predicted by standard models, the expectations of households play a central role, especially at the zero lower bound.

Household expectations, of course, are not the only mechanism through which AIT can affect economic outcomes. Abstracting from the expectations channel, AIT would tend to imply a different monetary policy reaction function than under IT, with the former framework emphasizing the average inflation gap rather than the inflation gap at a point in time, implying that the two regimes would ceteris paribus result in distinct paths for interest rates and hence macroeconomic activity in response to economic shocks. But it is expectations behavior that plays a central role in determining the extent to which AIT is stabilizing or destabilizing relative to IT. In the extreme case in which expectations are backward-looking, an AIT regime could result in large and undesirable oscillatory output dynamics as policy attempts to make up for a sequence of prior inflation misses, which would not occur or would be dampened under an IT regime in which past misses are bygones.[4]

Forward-looking financial markets present another channel through which AIT can affect the economy. For example, the announcement of a move from an IT to an AIT regime at a time when inflation has been undershooting the target could lead financial markets to expect short-term interest rates to stay lower for longer, which could reduce long-term interest rates immediately. The reduction in long-term rates driven by the market's reaction to the announcement could then in turn affect households' spending decisions even if households are inattentive to monetary policy but pay attention to movements in financial market interest rates. However, this transmission effect is limited in practice (see, e.g., Andersen et al., 2020, and D'Acunto et al., 2019). AIT could also affect the economy via the expectations and choices of firm managers, but as shown in Kumar et al. (2015), Candia, Coibion and Gorodnichenko (forthcoming) and others, managers' macroeconomic expectations tend to be qualitatively closer to households' than professional forecasters' and hence the outlook for this channel is not particularly promising. A subsample in our follow-up survey identifies respondents with managerial responsibility, and finds identical answer patterns.

The paper is organized as follows. Section 2 describes the survey we use as well as the specific questions and treatments applied. Section 3 characterizes the extent to which households received news about the Federal Reserve and its new inflation strategy. Section 4 studies whether households that were exposed to news about monetary policy around the time of Chair Powell's speech understood it and

[4] Ambler (2009) discusses this point in his survey article on costs and benefits of price-level vs. inflation targeting.

incorporated its effects into their expectations. Section 5 describes the RCT that assesses how households respond to information about AIT when it is directly presented to them and clearly explained. Section 6 presents results from a follow-up survey conducted one year after the announcement. Section 7 discusses evidence of how financial markets responded to the announcement. Section 8 concludes.

2. Data and Survey Design

Our survey results come from a daily survey of consumers sponsored by the Federal Reserve Bank of Cleveland that has been running since March 10, 2020. The survey is administered by Qualtrics Research Services, which representatively draws respondents from several actively managed, double-opt-in market research panels, complemented using social media (Qualtrics 2019). As discussed in Haaland, Roth and Wohlfart (forthcoming), online surveys based on Qualtrics and similar platforms have a high degree of replicability and consistency with surveys done in more traditional modes. In all results, we weight our respondents to ensure that our sample is representative of the U.S. population by gender, age, income, ethnicity, and census region. This survey includes a standard block of questions on consumers' demographic characteristics, a standard block of questions on their expectations, and an ongoing block of questions related to consumers' perceptions surrounding COVID-19 and its impact on their behaviors, as described in Dietrich et al. (2020) and Knotek et al (2020). The questions in the standard block about expectations ask about expectations for inflation, output growth, and changes to personal income over the next 12 months (see the Online Appendix for a detailed list of questions). Questions about inflation expectations are asked both as a point forecast and as a distribution question in which respondents assign weights to a wide range of possible binned outcomes.[5]

After these three blocks of questions, the survey asked another set of questions in anticipation of a possible announcement at the Jackson Hole meeting in August 2020 of a new monetary policy strategy at the Federal Reserve. A few news articles had noted over the previous week that a formal change in the policy strategy could be announced at the Jackson Hole meeting, given that this setting had previously been used for policy announcements and that the Federal Reserve was concluding a well-publicized review of its objectives and strategies.[6] On August 20, the Federal Reserve Board of Governors released the topic for Chair Powell's speech as "Monetary Policy Framework Review," which raised speculation in the financial press that the Chair would discuss the framework review in his scheduled remarks at Jackson Hole.[7] Hence, it was clear to Fed-watchers that a significant policy announcement was likely to be made during this speech. This publicly available information provided the basis for adding questions

[5] Appendix Table 6 reports demographic statistics for respondents.
[6] See, e.g., Cox (2020), Smialek (2020), and Timiraos (2020).
[7] See Saphir (2020).

to the Cleveland Fed's consumer survey starting on the day prior to Chair Powell's speech and to increase the sample size. While the survey typically includes around 100 respondents per day, the target number of respondents was increased to 1,000 on Wednesday, August 26 (the day before the speech), and Thursday, August 27 (the day of the speech), and it was increased further to 1,500 on Friday, August 28 (the day after the speech). The sample size was then reduced to 500 for Saturday, August 29, and Sunday, August 30, and reduced again to 300 for Monday, August 31, and Tuesday, September 1. The RCT was implemented on all days, with two groups on August 26 and August 27, and three groups from August 28 through September 1, as described below.

In the set of questions, the first two asked respondents where they generally received news about the economy or monetary policy (e.g., Twitter, newspapers, official websites, etc.) as well as how frequently they generally saw such news (e.g., hourly, daily, weekly, etc.). Subsequently, respondents were asked whether they had heard any news about monetary policy or the Federal Reserve in the last week. Those responding "Yes" were then asked five follow-up questions. The first was about how many pieces of news about monetary policy they had seen or heard over that time. The second presented them with different types of media as to where they had seen or heard this information. The third asked about when they had received the most recent news (last couple of hours, that day, previous day, etc.). The fourth question involved selecting from among several choices what the news had been. These choices included (in randomized order):

a) There was an international meeting of central bankers.
b) There was a change in interest rates announced.
c) There was a change in leadership at the Federal Reserve.
d) There was an announcement about new strategies at the Federal Reserve.
e) The Federal Reserve put in place new lending facilities to fight the recession.
f) Other (write-in)
g) I don't remember.

The fifth news-specific question was about whom they had heard news, with the following possible options (in randomized order):

a) Jerome Powell
b) Christine Lagarde
c) Alan Greenspan
d) Janet Yellen
e) None of the above
f) I don't remember their names.

Jointly, these questions provide a comprehensive overview of the extent to which survey participants heard news about the Federal Reserve, their news sources, and the contents of what they heard.

The next block of questions was asked of all respondents and targeted their understanding of the Federal Reserve's objectives and strategies. The first question in this vein asked:

> "*In terms of the Federal Reserve's broad economic objectives, what do you think it views as most important among the following? Please select up to 2*."

They were presented with the following options (in randomized order):

a) Keeping interest rates low to reduce the government's cost of borrowing
b) Promoting maximum employment
c) Keeping stock prices high
d) Bailing out failing financial institutions
e) Ensuring price stability
f) Maintaining a strong dollar
g) Reducing economic inequality
h) Fighting climate change.

The second question was the following:

> "*In terms of prices in the economy, which do you think best represents what the Federal Reserve is trying to do? Select all that apply.*"

The available options included the following:

a) Keep the inflation rate as close as possible to a specific target at all times
b) Make inflation, on average, be approximately equal to a target rate
c) Keep prices from rising over time
d) Ensure inflation is sufficiently high to erode the value of government debt
e) Keep the inflation rate low enough to promote a strong dollar
f) None of the above
g) I don't know.

The third question in this block asked:

> "*What rate of inflation do you think the Federal Reserve tries to achieve in the longer run?*"

Participants had to type in a numerical value for this longer-run inflation rate. These three questions characterize respondents' understanding of the Federal Reserve's broad objectives, its specific strategy with respect to prices, and their knowledge of the Fed's numerical inflation target.

We then asked a hypothetical question meant to characterize how they thought the Federal Reserve would respond to different inflation rates. A randomly selected half of respondents were asked the following question:

> "*Suppose that the inflation rate in 2021 turns out to be around 1%. What inflation rate do you think the Federal Reserve will try to achieve over the following year or two?*"

If an individual thinks the inflation target is 2%, then he or she should expect that the Fed would try to target an inflation rate of about 2% if he or she believes the Fed is pursuing a traditional inflation targeting strategy (i.e., letting "bygones be bygones"). However, those who believe the inflation target is 2% and that the Fed is pursuing a strategy of average inflation targeting should expect an inflation rate of *more than 2%* to compensate for below-target inflation. The other half of respondents were asked the same question, but the hypothetical inflation rate was set to 3% for 2021:

> "*Suppose that the inflation rate in 2021 turns out to be around 3%. What inflation rate do you think the Federal Reserve will try to achieve over the following year or two?*"

For this scenario, an individual who believes the inflation target is 2% should predict that the Fed would try to target 2% inflation under IT and *less than 2%* under symmetric AIT.

Following these questions, we implemented a randomized controlled trial (RCT). Respondents were randomly assigned to one of several groups.[8] On Wednesday, August 26 (the day prior to Chair Powell's speech), and Thursday, August 27 (the day of Chair Powell's speech), one control group received no information and one treatment group was told about the Federal Reserve's existing inflation target and strategy as follows:

> "As of January 2020, the Federal Reserve was targeting an inflation rate of 2% per year. Effectively, this means that when inflation is below the target, the Federal Reserve will try to push inflation **back up to the target**. And vice versa, when inflation is above the target, the Federal Reserve will try to push inflation **back down to the target**."

Starting on Friday, August 28 (the day after Chair Powell's speech), and continuing through Tuesday, September 1, there were three groups in the RCT. One remained a control group that received no information. The second was a traditional inflation targeting group that received the same treatment as before. The third group received information about the inflation target and average inflation targeting as follows:

> "The Federal Reserve targets an **average** inflation rate of 2% per year. Effectively, this means that when inflation is below the target, the Federal Reserve will try to push inflation

[8] We verify in Appendix Table 5 that selection into each group is not predictable conditional on any of the observable demographics of the respondents.

> **above the target for some time**. And vice versa, when inflation is above the target, the Federal Reserve will try to push inflation **below the target for some time**."

The terms in bold in each treatment emphasize the key elements of each inflation strategy and were shown in boldface to respondents. The wording was chosen to make as clear as possible what each strategy entailed and hewed closely to the specific language used by Chair Powell.

Note that the language of the AIT treatment characterizes the strategy as symmetric. Chair Powell's speech announcing AIT provided context for how policy would be conducted under the new framework that was relevant at the time of its introduction, when inflation had been running persistently below 2 percent: "Our new statement indicates that we will seek to achieve inflation that averages 2 percent over time. Therefore, following periods when inflation has been running below 2 percent, appropriate monetary policy will likely aim to achieve inflation moderately above 2 percent for some time" (Powell 2020). There was no reference to what policy would do in the opposite scenario, making it ambiguous whether the new strategy was in fact meant to be symmetric. Indeed, if the intent of the FOMC was for the strategy to be asymmetric, this could have been explicitly mentioned in the adopted statement. It was only in response to a question in the press conference after the January 2022 Federal Open Market Committee meeting that Chair Powell publicly clarified his view that the AIT strategy was meant to be asymmetric.[9] Because our questions and treatments were formulated prior to any clarifications (and even prior to the announcement itself), they were written under the assumption that the strategy would be symmetric. We have no reason to assume that respondents in our survey could have held any different assumption.

Following the RCT, respondents were presented with a final block of questions designed to measure their posterior beliefs. To avoid survey fatigue, we elicited their expectations using a slightly different wording of questions. For example, we asked respondents about what they expected inflation would be, on average, over the next five years, while priors at the beginning of the survey elicited inflation expectations at the one-year horizon. In general, household expectations about inflation over the next year and over longer horizons are very highly correlated, which mitigates concerns about changing horizons while allowing us to avoid repeating the same questions.[10] The same time horizon was applied to follow-up questions on GDP growth and personal income growth. Finally, respondents were asked

[9] After the AIT announcement, Federal Reserve Vice-Chair Clarida articulated his view in a November 16, 2020, speech that "the new framework is asymmetric." However, it was unclear whether that belief represented only his view or the Committee's view, because his speech included the disclaimer, "when I am not quoting directly from the consensus statement and the September FOMC statement, the views expressed are my own and do not necessarily express the views of other Federal Reserve Board members or FOMC participants" (Clarida 2020), and this phrase was not in the consensus statement.

[10] For example, the Huber-robust correlation of 1-year ahead and 5-year ahead inflation expectations for our control group is 0.87.

about when they expected mortgage rates would start to rise in a significant way; to rate the credibility of the Federal Reserve on a sliding scale running from 0 (very low credibility) to 100 (very high credibility); and the chance that inflation will be more than 5% in the next 12 months from 0 (no chance) to 100 (sure thing), which does allow us to focus on near-term inflation probabilities.

Consistent with recommendations in Haaland, Roth, and Wohlfart (forthcoming), we took a series of steps to ensure high quality survey responses. For example, we used RECAPTCHA scores to assess and reduce the incidence of bots participating in the survey, excluded respondents who took too long or too short a time to complete the survey, and provided respondents with monetary compensation for their time. For all questions where respondents selected from multiple options, we randomized the ordering of the options to reduce potential priming effects.

3. Did U.S. Households Hear about the Federal Reserve's Policy Announcement?

We first consider the degree to which households report having heard news about the announcement—that is, if and how this information diffused to the public. Specifically, households were asked whether they had heard any news about monetary policy or the Federal Reserve over the previous week. In Table 1, we report the average frequency of respondents saying "Yes" the day before the announcement (8/26), both the morning and the afternoon of the announcement (8/27), and the day after the announcement (8/28), as well as the average across the next four days (8/29-9/1). We pool across the last four days because of the smaller sample sizes on these days. Note that Chair Powell's speech was given and released at 9:10 a.m. EDT on Thursday, August 27, 2020, so splitting that day into two equal-size subsamples allows us to track the speed of news coverage reaching households at a very high (intraday) frequency.

Prior to the announcement, around one in four respondents claimed to have heard news about monetary policy in the previous week. We see no change during the morning of the day on which the announcement was made. However, by the end of the day, there is a small (and statistically significant) uptick in the share of people who reported having heard news about monetary policy, to 30% of respondents. The highest fraction of positive responses occurs the following day, with the share of positive responses peaking at 33%. However, the share of people who reported having heard news begins to decline within the next few days, falling back to 29% on average between 8/29 and 9/1, even though the question asks about news over the previous week, which is consistent with consumers rapidly forgetting about news they had previously heard. Hence, we see only a small, and likely transitory, effect on reports of news heard about monetary policy following this big announcement. We stress that the vast majority of our sample report having heard no monetary policy news.

This small rise in exposure to news about monetary policy seems to be limited to the extensive margin. When people are asked to report how many pieces of news they heard, there are few changes relative to the day prior to the announcement. The fraction of people who reported having seen just one piece of news rises from 36% prior to the announcement to 41% on the afternoon of the day of the announcement, consistent with more people being exposed to this news, but the difference is not statistically significant. After a few days, there is a statistically significant increase in the share of those who reported having read five or more articles, but it is quantitatively very small (rising from 3% prior to the announcement to 6% several days later). Thus, there is no evidence of a strong intensive margin in acquiring and retaining news coverage. Instead, only some small movements along the extensive margin of exposure to news about monetary policy take place after the announcement.

How do people get these news reports? Interestingly, we find a large decrease in the share of people reporting that they received their information from news programs on television and radio (from 56% prior to the announcement to 38% in the afternoon after the announcement). Instead, we see a spike in the share of people who reported being told the news by friends and relatives on the morning of the announcement (from 20% to 35%), with the effect fading by the afternoon, as well as an increase in the share of those who reported receiving the news from official sources (from 20% to 32%).[11] We also see smaller increases that first morning in Twitter and other social media reports (from 27% to 34%), from coworkers (from 12% to 16%), and from "other" internet sources (from 9% to 13%), although these changes are not statistically significant. By the afternoon of the announcement, however, traditional media seemed to have recovered some of their role as transmitters of the information. The role of friends and relatives and coworkers had returned to pre-announcement levels, while the share of news coming from newspapers rose to 53% (from 42% in the morning). By the Monday or Tuesday after the Thursday announcement, the news sources were very close to their pre-announcement allocation. Together, these results suggest that the news initially traveled by word-of-mouth either in person or online through social media and blogs, with some role played by official sources. This illustrates the influence of social networks, be they in-person or online, in transmitting news.

The timing of the transmission and acquisition of information can also be seen from questions asking respondents *when* they heard the most recent news. As reported in Table 1, on the morning of

[11] While typical households are unlikely to visit a government website to obtain information about monetary policy, survey responses may attribute government officials' quotes, interviews, and the like covered by media to "official sources." We may also observe a high share of seemingly implausible responses (e.g., heard news about Alan Greenspan) because uncertain respondents may choose options at random or options that are ordered first. (Recall that we randomize the ordering of options across respondents.) In this case, it is hard to interpret the levels of the response rates, and the more relevant information is likely to come from the variation in response rates to the different choices over time.

Chair Powell's announcement on Thursday, August 27, 2020, there were small increases compared with the prior day in the share of people saying they had heard news in the last couple of hours or earlier in the day (to 15% and 24%, from 11% and 20%, respectively). By that afternoon, those fractions had increased to 21% and 29%, respectively. The day following the announcement, we see an uptick in the share of people reporting that they had heard news "yesterday," to 35% from 28% prior to the announcement. In contrast, those reporting they had heard the news that day fell back to the same general levels as on the day before the announcement. This indicates that much of the information was transmitted on the day of the announcement, with little additional coverage reaching people in subsequent days. Consistent with this, by Saturday through Tuesday, we see an uptick in the share of people reporting they had heard news two to three days before, indicating that respondents' precise recall of when they heard the news is imperfect after a little while.[12]

When asked about the content of the news they had heard, about one in three of those who had heard news about monetary policy prior to the announcement reported that the news concerned an announcement about new strategies by the Federal Reserve. Nearly 30% claimed that the news they had heard was that there was a new lending facility to fight the recession. One in five reported that there was an international meeting of central bankers, the same proportion reporting that there had been a change in interest rates or a change of leadership at the Fed. Following the announcement, there is a mild increase in the share of people hearing news specifically about new strategies by the Federal Reserve, to about 45% consistently over the next few days. This evidence suggests that the news content received by households was related to Chair Powell's Jackson Hole speech and the switch to average inflation targeting. Additional evidence in this spirit comes from the fact that, after the announcement, households that heard news more frequently reported that the news involved Jerome Powell.

In short, we find that the Federal Reserve's announcement of a new strategy was heard by only a small segment of the U.S. population. There are only small upticks in the fraction of people who reported having heard news about monetary policy, but both the timing of when they heard the news and the topics in the news they heard do indeed suggest that this announcement was the source. However, the extent to which this information was *understood* by those who received it remains to be determined.

4. How Did the Policy Announcement Shape the Beliefs of Households That Heard It?

Average inflation targeting can yield better economic outcomes than traditional inflation targeting if it induces households and firms to raise their inflation expectations by anticipating higher inflation when

[12] Figure 1 (below) reports the intensity of media coverage on Fed-related topics. For each topic, news coverage spiked on August 27, the day of the Chair's speech, and then fell off quickly.

inflation is running below the target, especially if monetary policy is constrained at that time by the effective lower bound on interest rates. While the Fed's announcement does not appear to have reached much of the U.S. population, one can still ask to what extent the announcement affected the expectations of the individuals who were exposed to it. As discussed in Section 2, our survey included a number of questions that characterize respondents' understanding of monetary policy and that can therefore help identify the effect of the news.

Table 2 presents summary results for two of these questions. First, we report the average daily distribution of responses to the question about the Fed's major objectives, with a morning/afternoon breakdown for the day of the announcement on Thursday, August 27, 2020, and pooling across Saturday-Tuesday responses as before. One element of Chair Powell's speech emphasized that the Fed would move away from its previous focus on eliminating "deviations" of employment from its maximum level (more commonly modeled as deviations of unemployment from its natural rate) and toward a focus on "shortfalls" of employment from its maximum level. Despite this change in language surrounding "maximum employment" in his speech, we do not see any rise in the share of people reporting that promoting maximum employment is a major objective of the Federal Reserve. There is a mild increase in the share of people pointing to "ensuring price stability," but it is both rapidly reversed and not statistically significant. The only striking change following the speech is a larger share of respondents who say that "keeping stock prices high" is a major objective of the Fed and a commensurate reduction in the share of people who say that "bailing out failing financial institutions" is a primary objective. Neither had much to do with Chair Powell's speech.

Similarly, when we look at average responses to the question on the strategy for price stability, we see a small decrease in the share of people responding with traditional inflation targeting and a small increase in the share of people responding with average inflation targeting. But in both cases, the quantitative changes are small and are eliminated within two days of the announcement.[13] However, given that few people were aware of any monetary policy announcements in the first place, the absence of strong effects on the perceived objectives and strategies of the Federal Reserve on average across households could simply reflect the fact that the news was not widely disseminated.

To more precisely identify the policy announcement's effect on those who received it, we employ a difference-in-difference strategy that compares the difference in beliefs between those who received news and those who did not before and after the policy announcement. One cannot just look at the

[13] The Cleveland Fed survey continued to ask some of our questions in weeks following the announcement, but the daily sample sizes are much smaller than in our expanded survey around the time of the announcement. Appendix Table 8 shows that the absence of understanding of a switch to AIT amid survey respondents continued in the weeks following the announcement.

difference in beliefs after the announcement between those who heard news and those who did not because of selection effects: Households that follow news about the economy or monetary policy tend to be more highly educated, have higher incomes, and so forth, all variables that are correlated with knowledge of monetary policy and economic expectations (as we show in Appendix Table 2; see also, e.g., Dräger, Lamla, and Pfajfar, 2016). In addition, one cannot restrict the analysis only to those who heard news both before and after the announcement, since other factors could affect expectations during this time period. For example, Hurricane Laura made landfall in Louisiana on August 27 and risked potential disruptions to the oil industry that could have raised gasoline prices. To control for both issues, we effectively take the difference between individuals who heard news and those who did not, and we assess whether this difference changed after the announcement was made. Specifically, for a given outcome variable y_{it} at time *t* for individual *i*, we use:

$$y_{it} = \alpha + \boldsymbol{\beta X_i} + \gamma \mathbb{I}_t^{post} + \delta \mathbb{I}_{it}^{news} + \theta \mathbb{I}_t^{post} \mathbb{I}_{it}^{news} + error_{it} \quad (1)$$

where $\boldsymbol{X}$ is a vector of demographic controls (age, income, number of children, marital status, education, political affiliation, race, ethnicity, sources and frequency of getting economic news), $\mathbb{I}_t^{post}$ is an indicator variable if the survey was done after the announcement, and $\mathbb{I}_{it}^{news}$ is an indicator variable if respondent i reports having heard news about monetary policy. Our main coefficient of interest is θ, which encapsulates the reaction of the general public to the policy announcement.

The main threat to such an identification strategy would be if news of the announcement was already widely known and captured in household beliefs prior to Chair Powell's speech. For example, if there had been extensive and widespread reporting that the Federal Reserve was going to adopt an average inflation target in the days leading up to the actual announcement, then one might observe no change in beliefs after the announcement simply because the change in beliefs had happened earlier and was already incorporated into respondents' expectations as of Wednesday, August 26. We think this is extremely unlikely. While there were some news articles speculating about a coming policy shift prior to Chair Powell's speech, Panel A of Figure 1 shows the number of such articles was small compared with the press coverage on the day of the speech. Moreover, Panel B documents that news articles referring to "average inflation target" and its variants were basically nonexistent in media coverage prior to the announcement but appeared with some frequency thereafter—clear evidence of a newly introduced regime. We also note that background notes produced by Fed staff laying out the issues and supporting the new policy regime were released *simultaneously on the day of the announcement*.[14] This timing of the release limits the scope for learning

[14] For example, Chung et al. (2020) on inflation target ranges, Goldberg et al. (2020) on monetary policy strategies and financial stability, Feiveson et al. (2020) on the distributional effects of average inflation targeting, Crump et al. (2020) on unemployment rate benchmarks, Carlson et al. (2020) on balance-sheet tools, Campbell et al. (2020) on the use of the policy

about the new policy before the announcement. Thus, while some avid Fed-watchers were likely anticipating the content of the announcement by Wednesday, August 26, the vast majority of the population was not and remained deeply uninformed about monetary policy overall.[15]

We report results from these regressions in Table 3. We use Huber-robust regressions that automatically control for outliers (Appendix Table 1 reports equivalent results when we drop extreme observations manually by restricting the sample to, e.g., the [−20%, 20%] range). The first row considers the probability that respondents correctly identify the Fed's two main objectives as price stability and maximum employment. There is little evidence that this probability changed more for those receiving news after the announcement. We obtain a similar result when we look at the probability that someone correctly identifies average inflation targeting as the Fed's strategy with respect to prices: We find no statistically significant change following the announcement. If we use respondents' perceived value of the inflation target as the dependent variable, we find a statistically significant decline after the announcement, *even though the target itself was unchanged*. Jointly, these results suggest that news of the announcement had little discernible effect on respondents' understanding of monetary policy strategies, but hearing about actual or targeted inflation may have contributed to lowering perceptions of the inflation target. Given that prior beliefs about the inflation target were well above 2%, this reduction in the perceived level of the target can be interpreted as one positive outcome of the news coverage.

We can also assess whether news of the announcement affected survey participants' economic expectations via specification (1). In Table 3 we report results using two measures of inflation expectations (point forecasts and means from distribution questions), inflation uncertainty, the probability of inflation rising above 4% in 12 months, GDP growth, and their expected personal income growth. We find little effect from the news announcement, with all but one of the estimated coefficients statistically indistinguishable from zero and no evidence that households systematically raised their inflation expectations because of the announcement. Strikingly, even though the perceived inflation target of households was revised in light of the news, there was no corresponding change in their inflation forecasts, which may suggest a limited amount of trust by U.S. households in the Federal Reserve's ability or willingness to achieve its long-run target. News of the announcement also had no effect on what

rate tool, Hebden et al. (2020) on the sensitivity of average inflation targeting to different modeling assumptions, Arias et al. (2020) on how make-up strategies can work, Duarte et al. (2020) on time inconsistency issues associated with average inflation targeting, Ajello et al. (2020) on monetary policy tradeoffs and the dual mandate, and Caldara et al. (2020) on the effectiveness of monetary policy since the financial crisis were all papers prepared for and during the Federal Reserve's review process. *Every one of these papers was publicly released on August 27, 2020*, the day of Powell's announcement.

[15] For example, on August 26, 2020 (before the announcement), of those who correctly said that the Fed was doing traditional inflation targeting (40 percent of the sample), only 25 percent correctly stated that the Fed's inflation target was 2 percent. In other words, only 10 percent of the sample could correctly identify the policy regime and the target.

households planned to spend in the coming month, as measured by their consumption plans for September 2020 relative to their pre-pandemic levels.

Finally, we consider whether respondents' knowledge of monetary policy affected how they thought the Federal Reserve might respond to different hypothetical levels of inflation. As described in Section 2, and prior to receiving any information treatments about the announcement, respondents were asked about what they thought the Fed was trying to do in terms of its price stability objective and what inflation rate they thought the Federal Reserve would try to achieve in future years if inflation in 2021 turned out to be either 1% or 3%.[16] Someone who thinks that the Fed pursues traditional (strict) inflation targeting should respond that the Fed would try to achieve an inflation rate equal to the inflation target in each case. As a result, for a given inflation target, one would expect the average difference in responses between those getting the 3% question versus those getting the 1% question to be zero when people think traditional inflation targeting is in place. By contrast, those who think that the Fed pursues average inflation targeting should respond that inflation would overshoot or undershoot the inflation target in order to offset the past miss. For a given positive inflation target, this means their answer to the 3% question should always be smaller than their answer to the 1% question, and the difference in responses should be negative.

We can test these predictions by examining the average difference between responses to the 3% inflation question and responses to the 1% question. Figures 2 through 4 plot these differences conditional on respondents' beliefs about the inflation target. Figure 2 does so for all respondents. We consistently find that the differences are positive, contrary to the implications of either traditional inflation targeting or average inflation targeting.[17] Figure 3 does so only for the potentially more informed respondents who claim to have recently heard news about monetary policy or the Federal Reserve (approximately a quarter of the sample). The results are similar, albeit less precisely estimated. Among those households who heard news about monetary policy and who knew that the inflation target was around 2%, the average difference is slightly negative, consistent with a correct understanding of how AIT should work, but the difference is too small to be statistically different from zero, meaning that we can't reject an IT view of the world either. In Figure 4, we separately plot results for those who think that traditional inflation targeting (IT) characterizes the Fed's strategy with respect to price stability and those who think it is average inflation targeting (AIT). For those picking IT (a little more than one-third of the sample), the difference is consistently positive for low to moderate perceived inflation targets—the prevalent inflationary environment—and we can reject the null of zero difference. For AIT respondents (a little less than one-

[16] Serial correlation for U.S. CPI inflation at an annual frequency for the 2000-2019 period is effectively zero.

[17] It is possible that positive differences could reflect anchoring effects. For example, if everyone has IT in mind but provides answers that are tilted away from 2% based on whatever number is provided to them, then we would observe positive differences between the two cases.

third of the sample), the average difference is somewhat smaller but less precisely estimated. We find no statistically significant evidence that the average difference in responses in this group is negative, which would have been expected if respondents consistently believed the Fed would offset past inflationary misses. Most importantly, the two lines are not significantly different from one another, so we find little evidence that those who believe the Fed is pursuing AIT are drawing different implications about monetary policy and inflation dynamics than those who believe the Fed is pursuing IT.

The positive differences among the IT respondents could be consistent with a belief that the Fed would gradually bring inflation back to target rather than immediately bringing it back to target. In theory, individuals who were given the 3% scenario under this interpretation of IT could believe that the Fed would target an inflation rate of $\alpha \times \pi^* + 3 \times (1 - \alpha)$ while those given the 1% scenario would report $\alpha \times \pi^* + 1 \times (1 - \alpha)$, with α the weight placed on the desired inflation rate (i.e., the inflation target), $1 - \alpha$ the weight placed on gradualism (i.e., inflation smoothing), and π^* the reported inflation target. The difference then is $2 \times (1 - \alpha)$, which is positive if $\alpha < 1$. Under average inflation targeting with a longer averaging window, the problem is considerably more complicated, because the desired inflation rate needed to offset the past miss now depends on the length of the averaging window and the extent to which the central bank seeks to smooth inflation fluctuations.[18] Moreover, further inflation misses incurred in the name of inflation smoothing would need to be made up in the future, thus partially offsetting the desire to smooth inflation in the first place. Nevertheless, to fix ideas, suppose that individuals given the 3% scenario reported $\alpha \times \{\pi^* + (\pi^* - 3)\} + 3 \times (1 - \alpha)$, while those given the 1% scenario reported $\alpha \times \{\pi^* + (\pi^* - 1)\} + 1 \times (1 - \alpha)$, with the expressions in brackets capturing the desired inflation rate needed in this case to offset the past miss. The difference now is $2 \times (1 - 2\alpha)$. Because our hypothetical question asked about inflation over the subsequent one to two years instead of several months or quarters, it is reasonable to assume that the Fed would have wanted to move inflation close to its desired level over such a timeframe, suggesting a value of $\alpha > 0.5$ and, thus, negative values for $2 \times (1 - 2\alpha)$. On this basis, we are doubtful that the respondents who reported AIT in Figure 4 had in mind an AIT framework with a longer averaging window, given that the point estimates for the differences across scenarios for varying inflation targets are close to zero and the confidence intervals include positive and negative outcomes.

Taken together, these results paint a relatively bleak picture of households' understanding of the announcement of a move to AIT. Most Americans never heard the news. Those who reported having heard news about monetary policy after the announcement are no more likely to think that AIT is what

[18] Notably, the FOMC did not announce an averaging window when it unveiled its average inflation targeting framework. Without knowledge of the length of the window, individuals may have been unable to accurately form expectations for the inflation rate that policymakers were trying to achieve under the AIT framework.

the Fed is doing than prior to the announcement, nor are their macroeconomic expectations meaningfully affected. In short, we find no evidence around the time of the announcement that the change in strategy to AIT had any of the desired effects on household expectations.

5. Is Average Inflation Targeting Likely to Significantly Influence Households' Expectations?

The fact that the AIT announcement had little effect on households' expectations need not imply that AIT cannot work in the expected direction. The announcement's lack of reach to the general public, for example, could reflect the fact that news coverage on monetary policy is hard to sell when hurricanes are landing on U.S. soil and the U.S. president is accepting his nomination for a second term on the same day as the announcement. And the fact that those exposed to the news did not respond to it could reflect a poor communication of Chair Powell's message by either the mainstream media or more informal news sources.

To assess whether AIT could have larger effects on expectations, we rely on an RCT strategy in which survey respondents were provided information treatments either about traditional inflation targeting or average inflation targeting (or were in a control group that got no information). As described in Section 2, each of the treatments clearly emphasizes the key dimension of the respective strategies. In the case of IT, that means focusing on the fact that the Fed will aim to push the inflation rate back to the target regardless of whether it was initially above or below. In the case of AIT, that means emphasizing the fact that, depending on the starting point for inflation, the Fed will systematically seek to undershoot or overshoot the inflation target to achieve its target inflation rate *on average*. In other words, this RCT exercise is as if we knock on the doors of the general public and provide pertinent information directly to them.

To quantify how the treatments affect expectations, we regress outcome variables (e.g., post-treatment inflation expectations) on indicator variables for whether individuals were in the IT treatment group or the AIT treatment group:

$$y_{it} = b_0 + b_1 \times TreatmentIT_{it} + b_2 \times TreatmentAIT_{it} + error_{it} \qquad (2)$$

where we use outcome variables y_{it} collected after the information treatment.[19] As a result of the question ordering in the survey, in some cases the time horizons for macroeconomic expectations are somewhat different than those used previously—in three cases we ask about 5-year expectations post-treatment vs. having asked about 1-year expectations pre-treatment. However, in one case we maintain the focus on 1-year inflation expectations by putting the question into a different format and asking about the probability that inflation will be greater than 5% over the next 12 months. In each case, we use Huber regressions to automatically control for outlier observations. Table 4 presents regression results.

[19] Appendix Figure 2 plots figures for the effects of treatments conditional on priors. Results are qualitatively similar for both intercepts and slopes across treatments.

Our key finding is that there is no systematic difference in the size of the effects across treatments. In general, we find significant effects of the information treatments on respondents' economic expectations, suggesting that people are paying attention to the information they receive. For example, both AIT and IT treatments—which inform the survey respondents that the inflation target is 2%—lead to lower average inflation expectations by about 0.5 percentage point per year over the next five years. This result is in line with Coibion, Gorodnichenko and Weber (forthcoming, a). As in that study, we find that the pre-treatment inflation expectations of U.S. households are well above 2%; and once we inform respondents about the official inflation target, this information significantly lowers their post-treatment inflation expectations on average. At the 1-year horizon, both treatments also point toward reduced probabilities of seeing inflation above 5%, with the magnitudes of the effects being very similar, although neither effect is precisely estimated. With both treatments, we further observe significant declines in expected GDP growth (by about 0.5 percentage point per year) and in personal income growth (by about 0.8 percentage point per year). Neither treatment seems to affect when households expect mortgage rates to start rising, nor do we see any important difference (relative to the control group) in how they affect the credibility of the Federal Reserve. Hence, both information treatments lead to significant reductions in expected inflation, expected growth in output, and expected growth in personal income over the medium term, suggesting that they are having an impact on beliefs, but those impacts do not differ between the types of treatments, suggesting no differentiation among households on how these policies would affect the economy. A power calculation reflects this absence of a differential impact: The last column of Table 4 shows the difference between IT and AIT groups that will generate power of 0.8. It is generally above the observed difference for our main expectations.

The absence of any marginal effect of the AIT treatment relative to the IT treatment holds across subgroups of the data. For example, when we split samples along different observable characteristics (e.g., gender, income, political affiliation), we continue to find that AIT and IT treatments have indistinguishable effects on inflation expectations within each group of individuals, even though those observable characteristics matter for how much the information treatments affect expectations. For example, as shown in Appendix Table 10, high-income households are much less affected by information treatments than low-income households, but this applies equally to IT and AIT treatments. In other words, we still do not find differential treatment effects of IT and AIT when conditioning on different characteristics of individuals.

Along every outcome metric we consider, the two treatments are effectively indistinguishable, with no systematic differences in the size of the effects across treatments. Although economic theory predicts that AIT can typically generate better economic outcomes than IT when policy is constrained at

the zero lower bound by committing to higher future inflation in order to make up for current or past downside misses, we find no evidence that real-world consumers see this mechanism at work.[20]

6. One Year Later

One potential reason for AIT's lack of effect on household expectations is that it could take time for people to learn about the new strategy and its practical implications. We assess this possibility by repeating the same questions one year later in the same daily survey run by the Federal Reserve Bank of Cleveland. Specifically, from August 17, 2021, through September 20, 2021, we asked more than 7,000 new U.S. households the same set of questions as before, including questions on news about monetary policy, questions on the policy objectives of the Federal Reserve, hypothetical questions about future inflation, and questions of the households' expectations, and we provided them with information treatments. This survey period surrounds the one-year anniversary of the AIT announcement and includes another Jackson Hole speech by Chair Powell.

There are two primary ways in which more time could potentially lead to more visible effects of AIT on household expectations. First, one might expect that more households will have heard about the new strategy over time and will therefore be able to identify AIT as the Fed's main objective with respect to prices. Table 5 presents the 2021 results of the survey questions regarding the objectives of the Federal Reserve, with individual dates shown around the time of the 2021 Jackson Hole speech by Chair Powell on August 27, 2021. We provide daily results around the time of this announcement for comparison to daily changes observed following the 2020 announcement. In terms of the main objectives of the Federal Reserve, there is little change in the fraction of households picking maximum employment (about 20% in 2021 versus about 25% in 2020) or stable prices (about 28% in 2021 and 2020). With respect to the price objective of the Federal Reserve, we see some modest differences, a result that provides evidence of some learning about the new regime. In particular, the fraction of people who picked the response that involved achieving an average target rate of inflation was 21.5% prior to the announcement on August 26, 2020. It moved up to 23.2% of respondents immediately after the announcement in 2020. In our 2021 sample, 29.5% of respondents selected this AIT objective. In 2021, there was little difference before and after Chair Powell's Jackson Hole speech, perhaps because the speech did not focus on the new regime. And it is worth noting that the share of individuals selecting the AIT objective remained below those

[20] Alternatively, consumers may show no reaction to the announcement because they do not find it (or the Federal Reserve) credible. While trust in the U.S. government has been declining, Coibion, Gorodnichenko and Weber (forthcoming, b) report that during the COVID crisis the Federal Reserve enjoyed greater trust than the president or Congress. Hoffmann et al. (2022) find that the effects of information treatments about monetary strategies like those considered here hinge on how much trust respondents have in the central bank.

believing that the Fed was trying to keep the inflation rate as close as possible to a specific target at all times, as would be the case under IT, suggesting that there was only limited evidence of gradual learning about the Fed's new strategy over the entire year following Chair Powell's 2020 announcement.

The second way in which time could matter is if an extended amount of time is necessary for households to understand how AIT is different from a traditional inflation targeting strategy. To assess this perspective, we can use households' 2021 responses to the hypothetical scenarios that condition on different possible levels of inflation for the current year and then ask households to make forecasts for inflation over the following one to two years, as described in Section 2 and summarized in Figures 2-4 for households in 2020. Figure 5 uses our 2021 survey data to produce an updated version of Figure 4 for the 2020 survey data. As in the immediate aftermath of the 2020 announcement, individuals in 2021 who believed the Fed was pursuing AIT do not think that the Fed will attempt to offset below-target inflation with above-target inflation and vice versa: The differences between responses to the hypothetical 3% scenario and the hypothetical 1% scenario are (statistically significantly) positive for relevant estimates of the Fed's inflation target, for both the IT and AIT groups. As noted above, the former result is inconsistent with traditional strict IT but can be justified by flexible IT. However, the latter finding appears inconsistent with both AIT and flexible AIT, unless one expects that the Fed would seek to miss its desired inflation rate for years on end.

An additional year of learning about AIT should have little to no impact on our RCT results, because we give the relevant information directly to our treated survey participants. Indeed, this is what we find in our 2021 sample (see Appendix Table 9). Our results are effectively unchanged from 2020: On average, households expect lower longer-run inflation when given information about IT or AIT compared with our control group, and they expect a lower probability of near-term inflation as well, but there is no statistically significant difference in the effects of the two treatments. Across the board, we continue to find that the IT and AIT treatments are effectively indistinguishable, with no systematic differences in the size of the effects.[21]

7. Responses of Financial Markets and Other Surveys

[21] In the 2021 survey, we also included a third treatment that more explicitly contrasts IT with AIT. While this generated some responses that were significantly different from the IT treatment in a statistical sense, the economic significance of the changes in expectations was limited and did not always align with the theoretical benefits of switching to an AIT regime. In addition, during the 2021 survey we had included a question about whether individuals had any managerial responsibilities, such as managing others, setting prices or wages, running an own business, or making decisions about marketing or sales. In results not reported, we produced a version of Figures 2, 3, and 4 for the subset of our survey respondents who indicate that they have managerial responsibilities. The results are similar to those in Figures 2, 3, and 4.

With households inattentive to the move to AIT, it is possible that highly attentive and informed financial markets responded to the change instead and transmitted the response to households by expecting a lower path for nominal interest rates and/or a higher path for expected inflation. However, we find that this was not the case: nominal interest rates increased by more than expected inflation, and hence real rates increased rather than decreased.

To gauge this response of financial markets, we take two steps. First, rewriting the consumption Euler equation in log deviations from the steady state (and under the assumption of log utility) shows that consumption today depends on expectations of future real interest rates:

$$c_t = E_t c_{t+1} - (i_t - E_t \pi_{t+1}) = -\sum_{j=0}^{\infty} E_t (i_{t+j} - \pi_{t+j+1})$$

Second, we can approximate the sum of expected future short-term interest rates with long-term nominal Treasury bond yields based on the expectations hypothesis of the term structure of interest rates, and the sum of expected future inflation with long-term breakeven inflation rates implied by Treasury inflation-protected securities (TIPS). We quantify the AIT announcement effect in the financial market data by examining changes in these measures at the 5-, 7-, 10-, 20-, and 30-year horizons from the end of trading on the day before the AIT announcement (August 26) to the end of trading on the day of the AIT announcement (August 27). In each case, we find that the change in nominal Treasury yields was greater than the change in expected inflation, with the differences amounting to +0.01, +0.03, +0.04, +0.08, and +0.09 percentage points, respectively. As an alternative to TIPS-implied inflation, which could be affected by liquidity premia in the TIPS market, we alternatively approximate the sum of expected future inflation with inflation swaps data, which are potentially a more direct market-based measure of expected inflation. Nevertheless, the change in 10-year nominal Treasury rates was also greater than the change in 10-year inflation swaps from August 26 to August 27.[22]

Thus, on the day of the AIT announcement, we find an *increase* in financial-market-based real interest rates. Higher real rates would decrease consumption according to the consumption Euler equation if households were taking cues from financial markets, rather than a decrease in real interest rates that would tend to stimulate current consumption by promising more future accommodation.

Looking at the level of expected inflation in financial markets suggests limited effects of the announcement. The 5-year TIPS breakeven inflation rate rose only 0.02 percentage point, from 1.63% the day before the announcement to 1.65% on the day of the announcement. To the extent that a broader

[22] Appendix Figure 1 compares the 1-day changes in 10-year nominal Treasury yields and the 1-day changes in 10-year breakeven inflation from TIPS or 10-year inflation swaps on August 27, 2020, with the changes over the prior four months.

objective of AIT was to anchor longer-run inflation expectations at 2% (in terms of PCE inflation, which usually runs lower than CPI inflation, on which financial market breakevens are based), the announcement had little impact.

The same is true of professional forecasters. Revisions in inflation forecasts in Bloomberg's ECFC survey of professional forecasters were no larger or smaller than usual around the announcement (Appendix Figure 3). The upward revision to professionals' inflation forecasts on September 11, 2020, reflected an upside surprise in the CPI data that was not expected to persist; only CPI forecasts for 2021 moved up, while CPI forecasts for 2022 actually declined slightly. Both forecasts were and remained below the 2% inflation objective after accounting for the CPI-PCE differential.

We also verify that another daily survey of households confirms our results. The NY Fed's Survey of Consumer Expectations tracks the days during which survey responses are filled out, allowing us to compare expectations at a high frequency around the FOMC announcements, albeit with much smaller samples. We find no evidence that inflation expectations, either 1-year or 3-year ahead, changed in any significant way around the announcement day using this alternative source of data (Appendix Figure 4).

8. Conclusion

In one of the most significant monetary policy changes in recent decades, Chair Powell's speech on August 27, 2020, announced the Federal Reserve's adoption of a "flexible form of average inflation targeting" strategy. In New Keynesian models with full information rational expectations, AIT can offer significant advantages over IT through its effects on inflation expectations: The promise of future above-target inflation when inflation is currently running persistently lower than the target boosts inflation expectations, thereby reducing real interest rates and stimulating economic activity. This mechanism becomes particularly powerful when countries are facing the lower bound on interest rates, as the U.S. currently is.

Does this mechanism work? Ultimately, this depends on whether households and firms understand the policy strategy and incorporate it into their expectations and actions. Using a daily survey of U.S. households around the time of Chair Powell's speech, we find little evidence of AIT having an immediate impact on household expectations. First, very few households seem to have even been aware of the policy announcement. Second, those who were do not seem to have understood what it meant or incorporated its implications into their expectations. These results could be interpreted as a reflection on how the information was communicated, but they could also reflect the fact that other, more pressing news events were dominating the news cycle, or that inflation was not particularly top-of-mind when the new strategy was announced in 2020. When inflation is higher and playing a larger role in people's daily lives, it is possible that policy announcements of this type would have larger effects on household

perceptions. Perhaps more worryingly, however, we find that even in RCT designs that clearly illustrate the point of AIT, this type of strategy seems to have no marginal effect on expectations relative to IT. This finding suggests that even if the announcement had been able to reach the general public in a more systematic fashion, it likely would have had no more effect than simply reiterating to the public the Fed's previous IT strategy.

There are several caveats to bear in mind. First, the time horizon after the announcement in our first survey wave was very short, though a replication exercise one year later yields nearly identical results. A sustained communications campaign may be more successful in reaching the broader public. Second, our information treatments were brief: Perhaps sharing an entire speech would lead to a more pronounced effect on expectations. Third, the significant estimated response of inflation expectations to information treatments gives hope that households can learn about the new policy regime. Future work can also consider whether alternative formulations of how AIT works are more successful in connecting with the public and shaping their expectations.

More broadly, we view our results as a call for caution to those who expect AIT to work as well in practice as it does in New Keynesian models. A large body of work has documented the existence and importance of numerous information frictions that can hamper the forward-looking mechanisms that drive New Keynesian models (see Angeletos, Huo, and Sastry, 2021, for a recent example). Our results build on this literature and provide new evidence on the limited pass-through of central bank communications to the broader public. While the "Fed Listens," the public may not.

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Table 1. Time Series of Perceptions and Awareness.

Question	Share of people choosing a listed response	Date				
		8/26	8/27 AM (announce)	8/27 PM (announce)	8/28	8/29 – 9/1
		(1)	(2)	(3)	(4)	(5)
Have you heard any news about monetary policy or the Federal Reserve in the last week?	"Yes"	0.24	0.22	0.30**	0.33***	0.29**
How many news articles, TV/radio reports, or other pieces of news about monetary policy or the Federal Reserve did you hear or read?	Just one	0.36	0.36	0.41	0.37	0.37
	2	0.22	0.23	0.18	0.20	0.26
	3 to 5	0.03	0.09	0.06	0.05	0.03
	5+	0.03	0.05	0.02	0.04	0.06**
	I don't remember	0.35	0.27	0.33	0.33	0.28*
Where did you hear this news about monetary policy or the Federal Reserve?	Articles in either general-interest newspapers or specialized econ. & fin. Newspapers	0.47	0.42	0.53	0.43	0.43
	Online or in print (like the USA Today, NYT, WSJ, Economist)	0.47	0.42	0.53	0.43	0.43
	Twitter, Facebook, or other social media	0.27	0.34	0.35	0.28	0.30
	News or other programs on television and radio	0.56	0.42**	0.38***	0.47*	0.45**
	Other internet sources (blogs, discussion forums)	0.09	0.13	0.08	0.09	0.11
	Coworkers	0.12	0.16	0.09	0.11	0.16
	Friends and relatives	0.20	0.35**	0.18	0.17	0.20
	Official sources (like the web pages of the gov't, stat. agencies, or the FRBs)	0.20	0.32	0.31*	0.22	0.27*
When did you hear the most recent news about monetary policy or the Federal Reserve?	In the last few hours	0.11	0.15	0.21*	0.08	0.06*
	Earlier today	0.20	0.24	0.29	0.15	0.15
	Yesterday	0.28	0.26	0.27	0.35	0.27
	Two days ago	0.18	0.17	0.12	0.21	0.24
	Three days ago	0.05	0.05	0.04	0.09*	0.12***
	More than three days ago	0.10	0.07	0.05*	0.09	0.11
	I don't remember	0.07	0.05	0.02**	0.03**	0.06
What was the main news about monetary policy or the Federal Reserve that you heard most recently?	There was an international meeting of central bankers	0.22	0.27	0.24	0.16	0.22
	There was a change in interest rates announced	0.19	0.28	0.20	0.23	0.24
	There was a change in the leadership at the Federal Reserve	0.20	0.30	0.16	0.21	0.19
	There was an announcement about new strategies at the Federal Reserve	0.36	0.42	0.45	0.46**	0.45**
	The Federal Reserve put in place new lending facilities to fight the recession	0.28	0.33	0.26	0.27	0.23
	I don't remember	0.08	0.08	0.08	0.07	0.08
Whom did you hear news about?	Jerome Powell	0.41	0.56*	0.46	0.52**	0.46
	Christine Lagarde	0.22	0.29	0.19	0.20	0.19
	Alan Greenspan	0.17	0.25	0.18	0.15	0.18
	Janet Yellen	0.17	0.21	0.28*	0.16	0.17
	None of the above	0.00	0.00	0.00	0.00	0.00
	I don't remember their names	0.31	0.23	0.20*	0.23	0.27

Notes: ***, **, * denotes statistically significant difference from August 26 values at 1, 5, and 10% levels. All dates listed are from 2020. The announcement occurred at 9:10 a.m. EDT on August 27, 2020. Number of observations: 1,043 on 8/26; 520 on 8/27 AM; 519 on 8/27 PM; 1,561 on 8/28; 1,658 on 8/29–9/1.

Table 2. Knowledge about the Fed's Objectives and Policy Regime, All Respondents.

Question	Share of people choosing a listed response	Date				
		8/26	8/27 AM (announce)	8/27 PM (announce)	8/28	8/29 – 9/1
		(1)	(2)	(3)	(4)	(5)
In terms of the Federal Reserve's broad economic objectives, what do you think it views as most important among the following: (please pick up to 2)	Keeping interest rates low to reduce the govt 's cost of borrowing	0.30	0.33	0.27	0.31	0.32
	Promoting maximum employment	0.25	0.23	0.23	0.24	0.25
	Keeping stock prices high	0.16	0.15	0.24**	0.13*	0.16
	Bailing out failing financial institutions	0.15	0.13	0.07***	0.13	0.10**
	Ensuring price stability	0.27	0.24	0.30	0.30	0.27
	Maintaining a strong dollar	0.33	0.36	0.32	0.31	0.35
	Reducing economic inequality	0.18	0.18	0.15	0.19	0.15
	Fighting climate change	0.12	0.09	0.13	0.12	0.13
	N obs.	1,043	520	519	1,561	1,658
In terms of prices in the economy, which do you think best represents what the Federal Reserve is trying to do: (select all that apply)	Keep the inflation rate as close as possible to a specific target at all times	0.32	0.25**	0.26*	0.31	0.30
	Make inflation, on average, be approximately equal to a target rate	0.21	0.22	0.25	0.25	0.22
	Keep prices from rising over time	0.28	0.25	0.25	0.31	0.29
	Ensure inflation is sufficiently high to erode the value of government debt	0.15	0.17	0.16	0.17	0.17
	Keep the inflation rate low enough to promote a strong dollar	0.40	0.39	0.38	0.38	0.40
	None of the above, I don't know, or missing	0.20	0.21	0.22	0.18	0.20
	N obs.	830	406	415	1,276	1,319

Notes: ***, **, * denotes statistically significant difference from August 26 values at 1, 5, and 10% levels.

Table 3. Pass-through from News to Awareness about the Fed and to Economic Expectations.

Outcome variable	Regressor			N obs.	R^2
	$\mathbb{I}_{it}^{news}$	$\mathbb{I}_{it}^{after}$	$\mathbb{I}_{it}^{news} \times \mathbb{I}_{it}^{after}$		
	(1)	(2)	(3)		(4)
Correctly pick Fed's objectives (indicator)	0.025	0.008	-0.004	5,273	0.026
	(0.019)	(0.008)	(0.022)		
Correctly pick inflation targeting (indicator)	0.130***	-0.021	-0.024	5,273	0.097
	(0.044)	(0.025)	(0.048)		
Fed's inflation target	1.071***	0.314*	-1.208***	4,354	0.177
	(0.303)	(0.172)	(0.334)		
Expected inflation, point prediction, 1-year ahead	0.521	0.511*	-0.428	4,662	0.050
	(0.486)	(0.298)	(0.539)		
Expected inflation, implied mean, 1-year ahead	-0.517**	0.319**	0.035	5,166	0.083
	(0.238)	(0.154)	(0.264)		
Probability of high future inflation (>4%)	-1.736	5.587***	-1.175	5,261	0.077
	(2.026)	(1.306)	(2.274)		
Uncertainty about future (1-year ahead) inflation (st.dev.)	0.730***	0.534***	-0.398*	5,257	0.279
	(0.215)	(0.125)	(0.236)		
Expected GDP growth, 1-year ahead	2.906***	0.338	0.712	5,066	0.087
	(1.083)	(0.628)	(1.192)		
Expected personal income growth, 1-year ahead	1.443*	0.577	-0.906	4,842	0.061
	(0.768)	(0.441)	(0.847)		
Credibility of the Fed	5.500***	-2.453**	2.591	2,104	0.179
	(2.040)	(1.228)	(2.268)		
Consumption in September relative to pre-crisis	6.433***	-1.790	0.967	5,195	0.079
	(2.166)	(1.156)	(2.380)		

Notes: The table reports Huber-robust estimates of specification (1) for outcome variables indicated in the left column. Controls (age, gender, education, etc.) are included but not reported. $\mathbb{I}_{it}^{news}$ is an indicator variable equal to one if respondent i reports hearing news about the Fed on day t. $\mathbb{I}_{it}^{after}$ is an indicator variable if respondent i is surveyed after the Fed's announcement. "Credibility of the Fed" includes only respondents in the control group. Credibility is measured on a scale of 0 (very low credibility) to 100 (very high credibility); the survey question is "How would you rate the credibility of the Federal Reserve in terms of its ability to achieve maximum employment and stable prices?" "Consumption in September relative to pre-crisis" is measured (from 0 to 200) relative to monthly consumer spending in January/February 2020; e.g., 80 (120) means consumer spending is 20% below (above) the pre-crisis level. "Correctly pick Fed's objectives" is an indicator variable equal to one if a respondent selects "maximum employment" and "stable prices" from the menu of offered options. "Correctly pick inflation targeting" is an indicator variable equal to one if a respondent selects "Keep the inflation rate as close as possible to a specific target at all times" or "Make inflation, on average, be approximately equal to a target rate." "Probability of high future inflation (>4%)" is the sum of probabilities that a respondent assigns to inflation bins with more than 4% inflation expected over the next 12 months (the bins are "4% to 8%," "8% to 12%," "more than 12%"). "Expected inflation, implied mean" is the mean expected inflation implied by the inflation distribution reported by a respondent. "Uncertainty about future inflation" is the standard deviation for expected inflation implied by the inflation distribution reported by a respondent. Robust standard errors are reported in parentheses. ***, **, * denotes statistical significance at 1, 5, and 10% levels.

Table 4. The Effect of Information Treatments on Expectations.

Outcome variable	Regressor $\mathbb{I}(treatIT)$	Regressor $\mathbb{I}(treatAIT)$	p-value	N obs.	R^2	Detect diff
	(1)	(2)	(3)	(4)	(5)	(6)
Expected inflation, 5-years ahead	-0.475***	-0.467***	0.944	4,266	0.006	0.35
	(0.096)	(0.117)				
Probability of expected (1-year ahead) inflation being greater than 5%	-0.863	-0.779	0.935	5,278	0.000	0.35
	(0.869)	(1.017)				
Expected GDP growth, 5-years ahead	-0.463**	-0.485**	0.921	4,618	0.002	0.62
	(0.184)	(0.218)				
Expected growth of personal disposable income, 5-years ahead	-0.812***	-0.785***	0.919	4,639	0.003	0.78
	(0.226)	(0.265)				
Credibility of the Fed	0.380	-1.028	0.073	5,275	0.001	0.78
	(0.658)	(0.781)				
Time when mortgage rates are expected to increase	0.031	0.070	0.422	4,170	0.001	0.14
	(0.041)	(0.049)				
Unsure when mortgage rates are expected to increase	0.004	-0.019	0.206	5,279	0.000	0.05
	(0.015)	(0.018)				

Notes: The table reports Huber-robust estimations of outcome variables on indicator variables for each treatment, specification (2). Outcome variables are indicated in the left column. Column (3) reports the p-value for the null hypothesis that the treatment effects for inflation targeting (IT) and average inflation targeting (AIT) are the same. "*Time when mortgage rate expected to increase*" is coded as follows: 0 = "Second half of 2020," 1 = "First half of 2021," 2 = "Second half of 2021," 3 = "Sometime in 2022," 4 = "Sometime in 2023," 5 = "In 2024 or later," 6 = "They are unlikely to rise." "*Unsure when mortgage rates are expected to increase*" is an indicator variable equal to one if a respondent reported that he/she is unsure about when mortgage rates are going to increase. "*Credibility of the Fed*" is measured on a scale of 0 (very low credibility) to 100 (very high credibility); the survey question is "How would you rate the credibility of the Federal Reserve in terms of its ability to achieve maximum employment and stable prices?" Column (6) shows the difference between IT and AIT groups that generates power of 0.8. Robust standard errors are reported in parentheses. ***, **, * denotes statistical significance at 1, 5, and 10% levels.

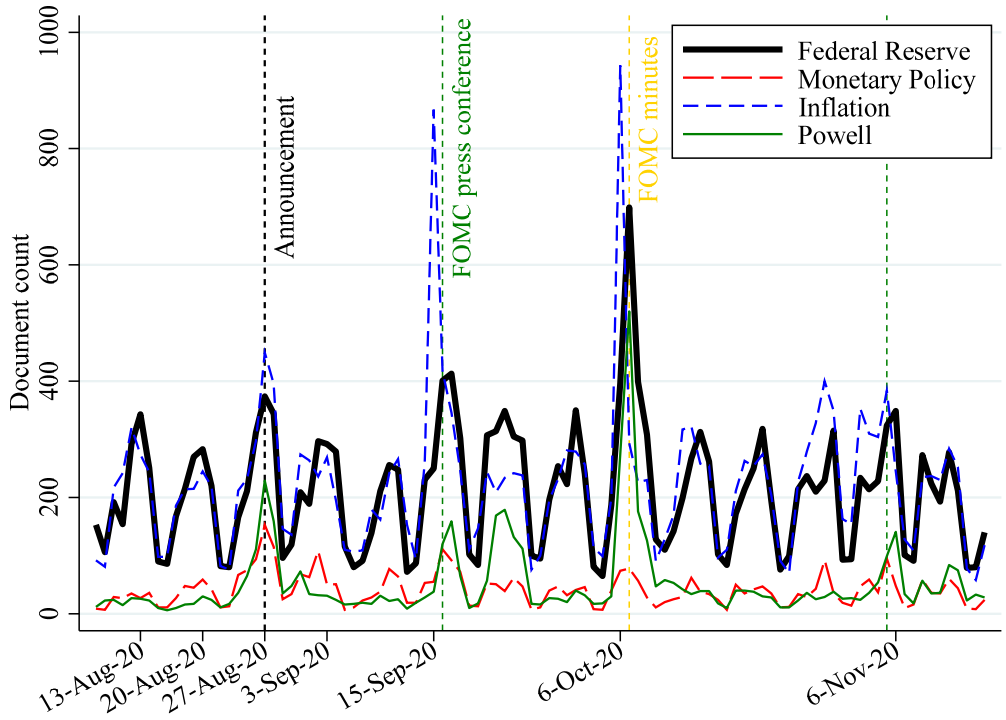
Table 5. One Year Later: Household Beliefs about the Federal Reserve's Objectives

Question	Share of people choosing a listed response	Date				
		8/17 –8/26	8/27 (JH)	8/28	8/29 – 9/1	9/2 – 9/17
		(1)	(2)	(3)	(4)	(5)
In terms of the Federal Reserve's broad economic objectives, what do you think it views as most important among the following: (please pick up to 2)	Keeping interest rates low to reduce the govt 's cost of borrowing	0.30	0.33	0.31	0.28	0.29
	Promoting maximum employment	0.20	0.17	0.17	0.19	0.19
	Keeping stock prices high	0.16	0.16	0.18	0.16	0.15
	Bailing out failing financial institutions	0.11	0.09	0.09	0.12	0.13
	Ensuring price stability	0.28	0.30	0.28	0.29	0.29
	Maintaining a strong dollar	0.34	0.36	0.28	0.36	0.36
	Reducing economic inequality	0.16	0.19	0.19	0.16	0.16
	Fighting climate change	0.16	0.14	0.24*	0.16	0.18
	N obs.	2,475	310	254	1,250	3,257
In terms of prices in the economy, which do you think best represents what the Federal Reserve is trying to do: (select all that apply)	Keep the inflation rate as close as possible to a specific target at all times	0.32	0.37	0.39	0.35	0.36**
	Make inflation, on average, be approximately equal to a target rate	0.29	0.26	0.26	0.28	0.31
	Keep prices from rising over time	0.30	0.35	0.24*	0.31	0.30
	Ensure inflation is sufficiently high to erode the value of government debt	0.22	0.24	0.23	0.19	0.20
	Keep the inflation rate low enough to promote a strong dollar	0.37	0.37	0.37	0.41	0.38
	None of the above, I don't know, or missing	0.18	0.18	0.17	0.12***	0.16
	N obs.	2,478	310	254	1,250	3,259

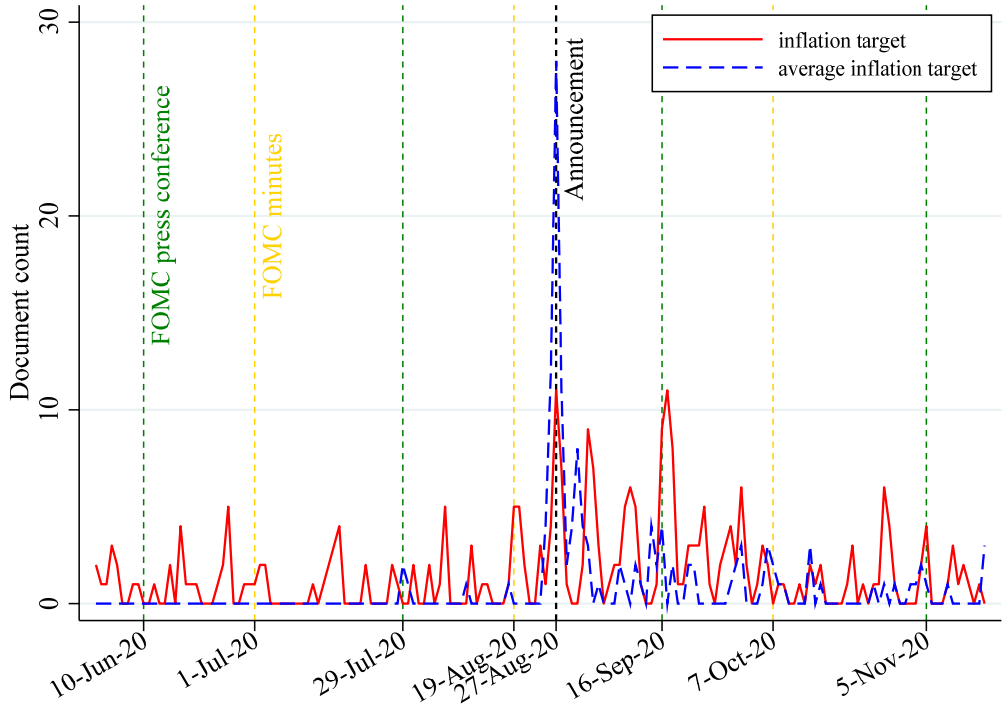
Notes: Results from daily surveys of households from August 17, 2021, through September 20, 2021. Powell's 2021 Jackson Hole (JH) speech was on 08/27/2021. ***, **, * denotes statistically significant difference from August 17-August 26 values at 1, 5, and 10% levels.

Figure 1. Media (Newspaper) Coverage of Fed-related Topics.

Panel A.

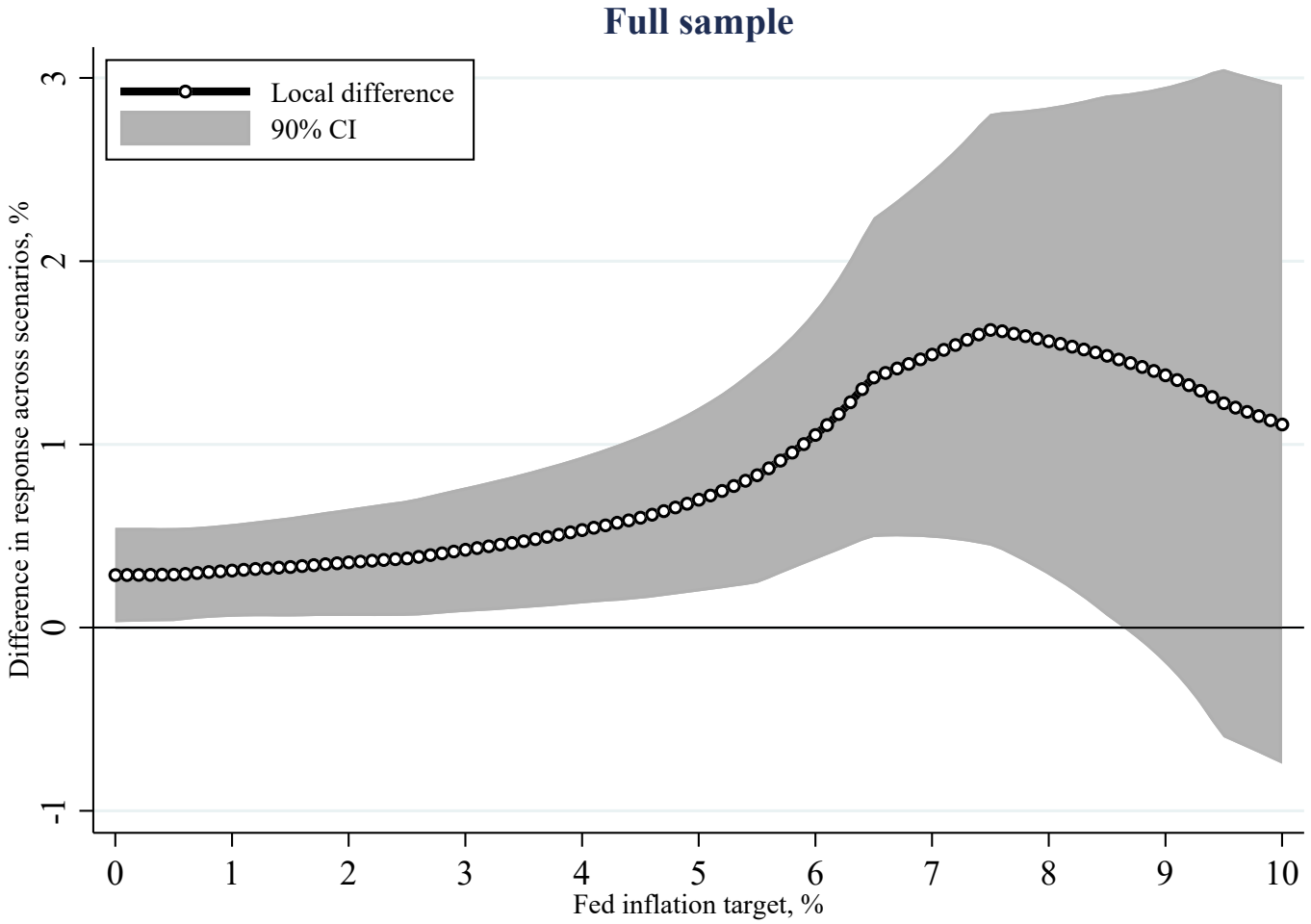


Panel B.



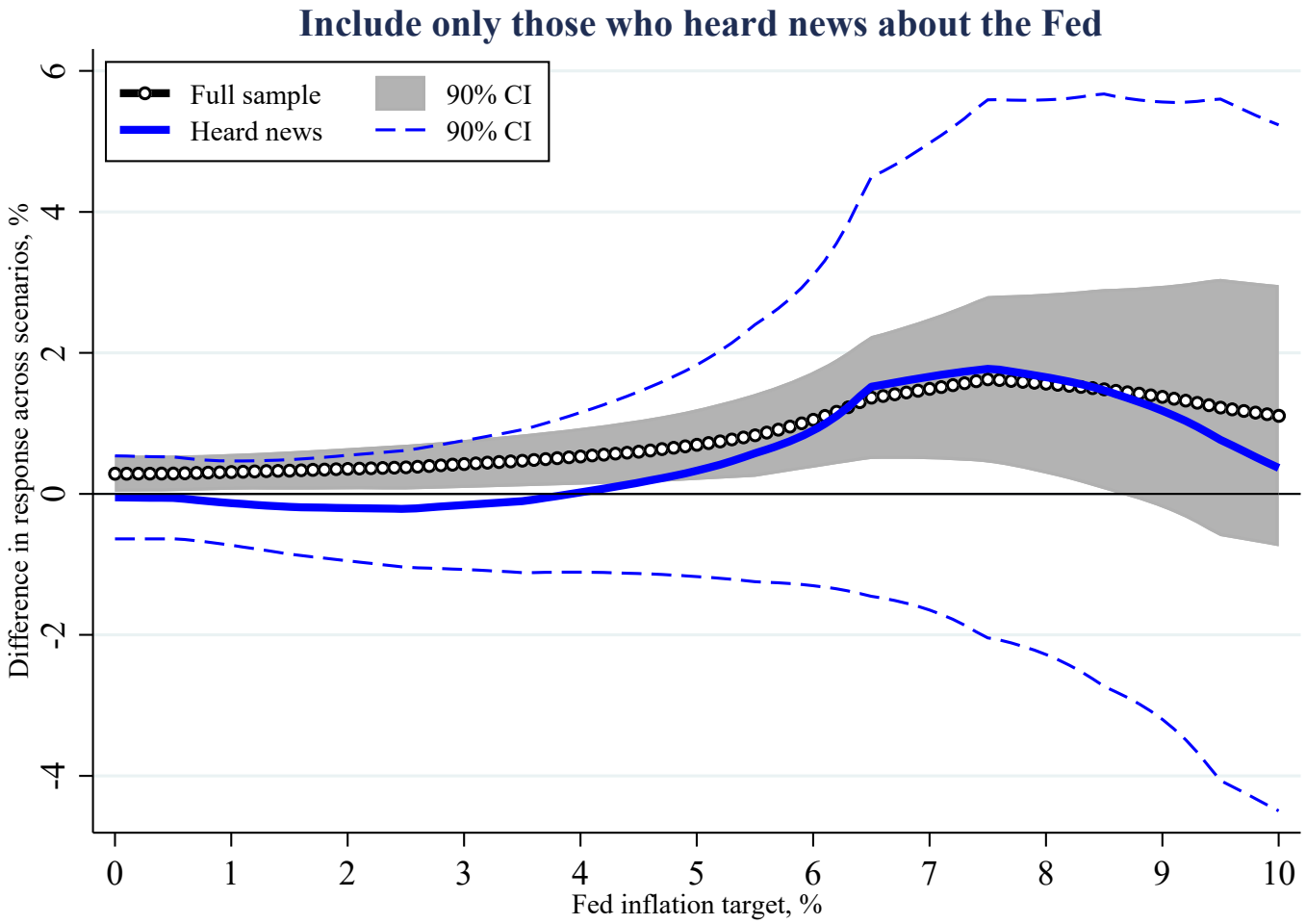
Notes: Panel A shows time series for document counts for a given search query (e.g., "Federal Reserve") in Factiva, a business information and research tool owned by Dow Jones & Company. Only U.S. newspapers are included in the counts. Panel B plots time series for the number of news articles mentioning "inflation target*" and "average inflation target*" where * denotes a wildcard to allow for different endings. News article counts are obtained from Factiva.

Figure 2. Future Inflation Responses to Hypothetical Scenarios for Inflation Realizations.



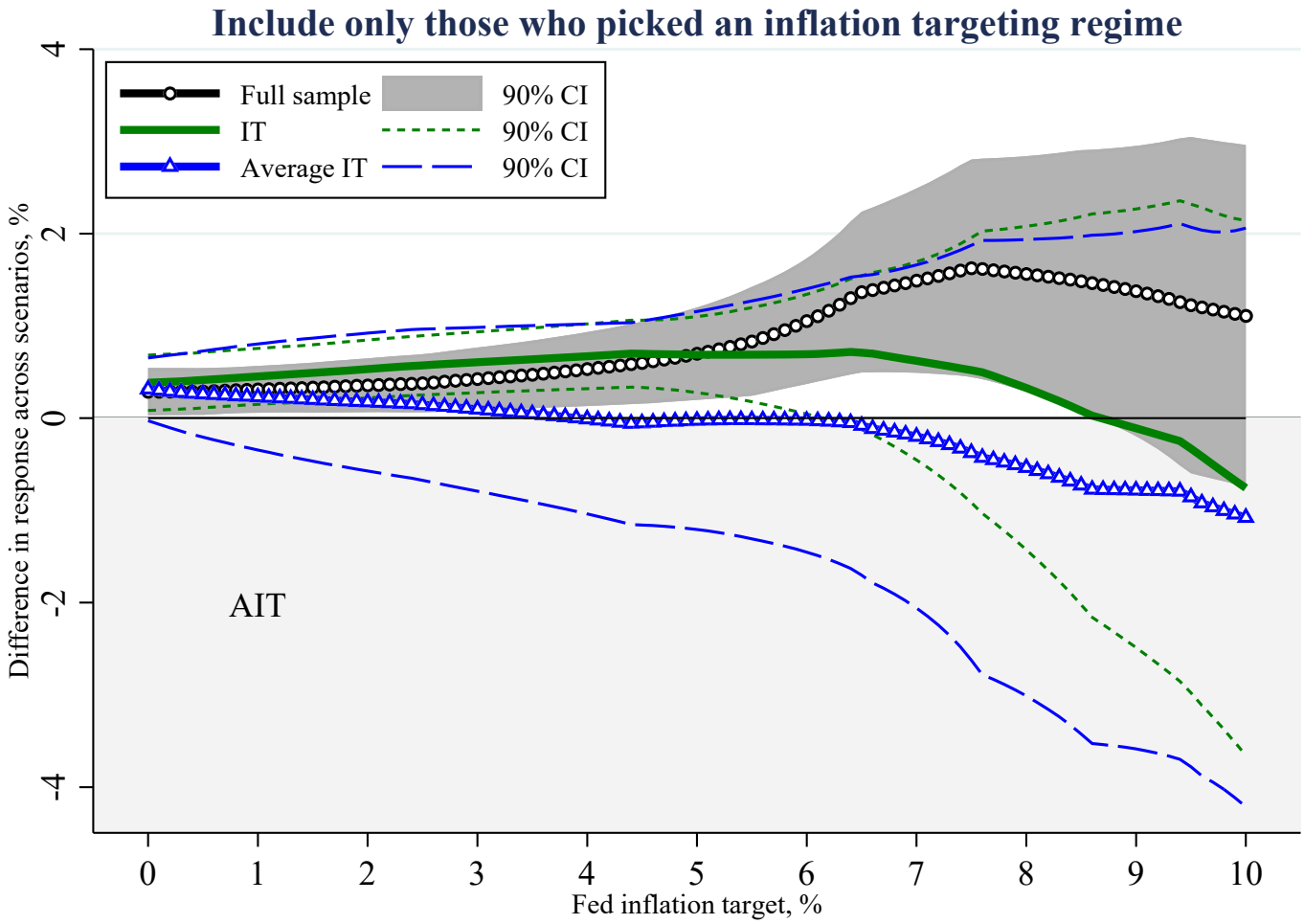
Notes: the figure plots the difference between the average response across selected respondents to hypothetical questions about where they would expect inflation to be in coming years if the inflation rate in 2021 was 3% or 1%. This is done conditional on respondents' beliefs about the inflation target, as shown on the *x*-axis. Local differences are computed using local averaging with an Epanechnikov kernel. Dashed lines or dark-shaded regions show 90% confidence intervals (CI). Results ar for all respondents (N=5,301) with beliefs about the target running from 0 to 10%.

Figure 3. Future Inflation Responses to Hypothetical Scenarios for Inflation Realizations, subsample of those who heard news about the Fed.



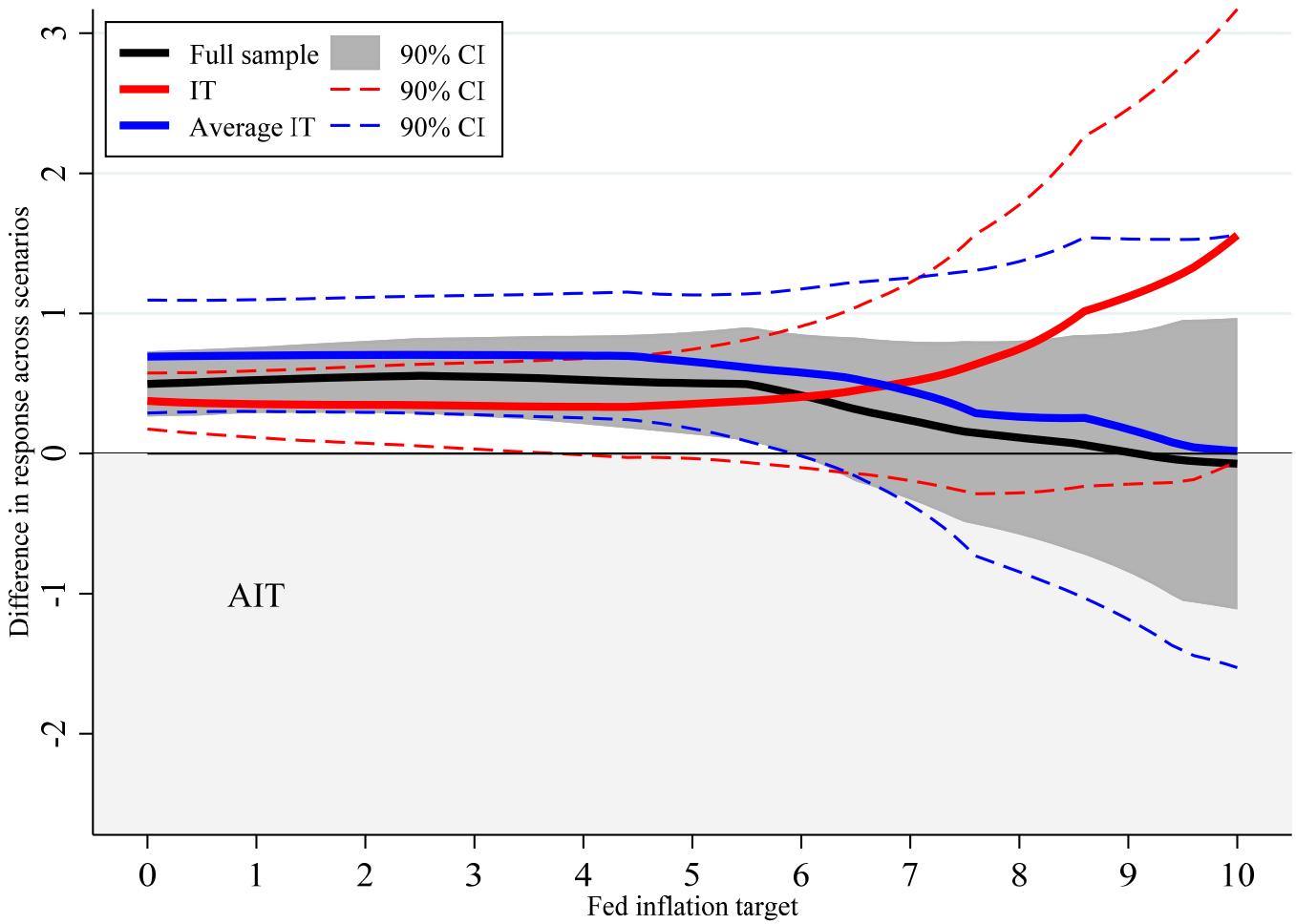
Notes: the figure plots the difference between the average response across selected respondents to hypothetical questions about where they would expect inflation to be in coming years if the inflation rate in 2021 was 3% or 1%. This is done conditional on respondents' beliefs about the inflation target, as shown on the *x*-axis. Local differences are computed using local averaging with an Epanechnikov kernel. Dashed lines or dark-shaded regions show 90% confidence intervals (CI). The figure uses only survey respondents who report having heard news about monetary policy over the last week (N=1,459).

Figure 4. Future Inflation Responses to Hypothetical Scenarios for Inflation Realizations, subsample of those who picked inflation targeting regime.



Notes: the figure plots the difference between the average response across selected respondents to hypothetical questions about where they would expect inflation to be in coming years if the inflation rate in 2021 was 3% or 1%. This is done conditional on respondents' beliefs about the inflation target, as shown on the *x*-axis. Local differences are computed using local averaging with an Epanechnikov kernel. Dashed lines or dark-shaded regions show 90% confidence intervals (CI). The figure includes only respondents who identify traditional inflation targeting as the main price strategy for the Fed (IT) (N=1,591) and only respondents who identify average inflation targeting as the main price strategy for the Fed (AIT) (N=1,224). The light-shaded region shows outcomes consistent with AIT.

Figure 5. One Year Later: Future Inflation Responses to Hypothetical Scenarios for Inflation Realizations.



Notes: The figure plots the difference between the average response across selected respondents to hypothetical questions about where they would expect inflation to be in coming years if the inflation rate in 2022 was 3% or 1%, using surveys run in 2021. This is done conditional on respondents' beliefs about the inflation target, as shown on the *x*-axis. Local differences are computed using local averaging with an Epanechnikov kernel. Dashed lines or dark-shaded regions show 90% confidence intervals (CI). The figure includes subsets including only respondents who identify traditional inflation targeting as the main price strategy for the Fed (IT) (N=2,566) and only respondents who identify average inflation targeting as the main price strategy for the Fed (AIT) (N=2,188). The light-shaded region shows outcomes consistent with AIT.

ONLINE APPENDIX

Appendix Table 1: Pass-through from News to Awareness about the Fed and to Economic Expectations.

Outcome variable	Regressor			R^2
	$\mathbb{I}_{it}^{news}$	$\mathbb{I}_{it}^{after}$	$\mathbb{I}_{it}^{news} \times \mathbb{I}_{it}^{after}$	
	(1)	(2)	(3)	(4)
Correctly pick Fed's targets (indicator)	0.025	0.008	-0.004	0.026
	(0.019)	(0.008)	(0.022)	
Correctly pick inflation targeting (indicator)	0.130***	-0.021	-0.024	0.097
	(0.044)	(0.025)	(0.048)	
Fed's inflation target	1.375**	0.365	-1.431**	0.180
	(0.548)	(0.307)	(0.588)	
Expected inflation, point prediction	0.239	0.043	0.373	0.028
	(0.741)	(0.468)	(0.824)	
Expected inflation, implied mean	-0.637	0.110	0.454	0.029
	(0.488)	(0.326)	(0.554)	
Probability of high future inflation (>4%)	-3.283	3.418*	0.438	0.039
	(3.003)	(2.009)	(3.328)	
Uncertainty about future inflation (st. dev.)	0.576*	0.430**	-0.269	0.174
	(0.291)	(0.170)	(0.324)	
Expected GDP growth	2.085**	0.240	-1.052	0.072
	(1.043)	(0.617)	(1.144)	
Expected personal income growth	1.281	-0.016	-0.374	0.045
	(0.934)	(0.594)	(1.038)	
Credibility of the Fed	6.603**	0.061	-1.402	0.131
	(2.764)	(1.757)	(3.110)	
Consumption in Sept. relative to pre-crisis	5.720*	0.371	-0.815	0.042
	(3.119)	(1.731)	(3.488)	

Notes: The table reports OLS estimates of specification (1) for outcome variables indicated in the left column. The sample excludes responses with extreme expectations. We define extreme responses as follows. For the Fed's inflation target; expected inflation (point prediction); expected inflation (implied mean); uncertainty about future inflation (st. dev.); expected GDP growth; and expected personal income growth, extreme responses are outside of [−20%,20%]. For consumption in September relative to pre-crisis, extreme responses are outside of [25,175]. Other questions include all responses. See notes to Table 3 for more details. Robust standard errors are reported in parentheses. ***, **, * denotes statistical significance at 1, 5, and 10% levels.

Appendix Table 2. Predictors of Awareness and Informedness.

	Outcome (indicator) variable			
	Heard news about the Fed	Heard news about the Fed and new strategies	Picked (average) inflation targeting as the policy regime	Picked correct objectives of the Fed
	(1)	(2)		
Age	-0.001**	0.001***	-0.001**	0.000
	(0.001)	(0.000)	(0.001)	(0.000)
Male	0.103***	0.076***	0.100***	0.010
	(0.018)	(0.013)	(0.019)	(0.009)
# children	0.011*	0.003	0.004	-0.001
	(0.006)	(0.005)	(0.007)	(0.003)
Marital status (omitted category: other [widowed, divorced, partners])				
Married	0.029	0.022	0.035	-0.001
	(0.021)	(0.016)	(0.025)	(0.010)
single	-0.008	0.003	-0.018	0.001
	(0.025)	(0.018)	(0.029)	(0.012)
Non-white	0.093***	0.036**	0.028	0.018
	(0.022)	(0.015)	(0.023)	(0.011)
Hispanic	0.100***	0.023	0.031	0.011
	(0.029)	(0.019)	(0.030)	(0.014)
Education (omitted category: Less than high school)				
High school diploma or equivalent	-0.011	-0.041	0.032	0.020
	(0.051)	(0.042)	(0.058)	(0.016)
Some college, but no degree	0.016	-0.028	0.071	0.017
	(0.051)	(0.042)	(0.059)	(0.015)
Bachelor's degree	0.087*	0.034	0.096	0.033*
	(0.052)	(0.043)	(0.060)	(0.018)
Master's degree	0.206***	0.079*	0.140**	0.044**
	(0.056)	(0.046)	(0.063)	(0.018)
Doctorate or Professional Degree	0.191***	0.052	0.127*	0.072**
	(0.066)	(0.053)	(0.073)	(0.030)
Income (omitted category: less than $10,000)				
$10,000 - $19,999	0.008	-0.043**	0.088**	0.002
	(0.034)	(0.017)	(0.041)	(0.017)
$20,000 - $34,999	-0.010	0.007	0.088**	-0.006
	(0.030)	(0.022)	(0.035)	(0.014)
$35,000 - $49,999	0.008	-0.008	0.052	-0.001
	(0.032)	(0.021)	(0.036)	(0.015)
$50,000 - $99,999	0.026	0.015	0.110***	0.001
	(0.030)	(0.020)	(0.034)	(0.015)
$100,000 - $199,999	0.045	0.012	0.149***	0.012
	(0.037)	(0.023)	(0.041)	(0.018)
More than $200,000	0.069	0.098**	0.100	0.022
	(0.057)	(0.045)	(0.064)	(0.022)
Political affiliation (omitted category: independent)				
Democrat	-0.048**	-0.014	0.012	-0.038***
	(0.022)	(0.016)	(0.024)	(0.012)
Republican	-0.021	-0.027*	0.016	-0.019
	(0.022)	(0.015)	(0.023)	(0.012)
Other	-0.139***	-0.043**	-0.140***	-0.034**
	(0.029)	(0.020)	(0.037)	(0.016)
Observations	5,273	5,273	5,273	5,273
R-squared	0.088	0.069	0.051	0.015

Notes: Linear probability model. Robust standard errors are in parentheses. ***, **, * denotes statistical significance at 1, 5, and 10% levels.

Appendix Table 3. Distribution of Quantitative Expectations by Date.

Variable	Statistic	Date of the survey			
		8/26	8/27 (announcement)	8/28	8/29 – 9/1
		(1)	(2)	(3)	(4)
Fed's inflation target	Raw mean	17.12	17.46	17.39	17.96
	Raw median	5.00	5.00	6.00*	6.00*
	Restricted mean	5.67	5.82	5.90	6.18
	Share with extreme responses	0.25	0.26	0.27	0.26
	Huber mean	2.92	3.08*	3.15***	3.14**
Expected inflation, point prediction	Raw mean	5.57	7.94*	8.15*	9.47***
	Raw median	3.00	5.00***	4.00***	5.00***
	Restricted mean	3.02	3.34	3.13	3.50
	Share with extreme responses	0.22	0.22	0.28**	0.25
	Huber mean	3.11	3.65***	3.52**	3.96***
Expected inflation, implied mean	Raw mean	2.47	2.80	2.47	2.77
	Raw median	2.15	2.00	2.00	2.16
	Restricted mean	2.47	2.80	2.47	2.77
	Share with extreme responses	0.00	0.00	0.00	0.00
	Huber mean	1.98	1.56***	1.86	1.83
Average probability of observing inflation greater than 4% next year	Raw mean	37.44	42.37**	39.04	42.01**
	Raw median	30.00	30.00	30.00	30.00
	Restricted mean	37.44	42.37**	39.04	42.01**
	Share with extreme responses	0.00	0.00	0.00	0.00
	Huber mean	18.56	24.12***	22.38***	24.15***
Uncertainty about future inflation, implied standard deviation	Raw mean	3.74	4.02	4.26***	4.32***
	Raw median	2.69	3.39***	3.51***	3.83***
	Restricted mean	3.74	4.02	4.26***	4.32***
	Share with extreme responses	0.00	0.00	0.00	0.00
	Huber mean	1.56	2.02***	1.98***	1.75**
Fed's inflation target conditional on 1% inflation in 2021	Raw mean	13.85	15.40	12.80	13.75
	Raw median	4.00	4.00	3.00***	3.00***
	Restricted mean	4.85	4.44	4.31	4.35
	Share with extreme responses	0.58	0.60	0.61	0.59
	Huber mean	2.15	2.18	2.09	2.09
Fed's inflation target conditional on 3% inflation in 2021	Raw mean	13.64	12.77	13.32	13.61
	Raw median	4.00	5.00***	5.00***	5.00***
	Restricted mean	4.42	4.94	5.17**	5.33***
	Share with extreme responses	0.61	0.61	0.58	0.60
	Huber mean	2.78	3.01**	2.90	2.97**
Expected growth rate of GDP next year	Raw mean	3.36	5.24	4.89	5.21
	Raw median	2.00	5.00***	2.50	3.00**
	Restricted mean	0.42	1.22	0.14	0.97
	Share with extreme responses	0.31	0.33	0.35	0.34
	Huber mean	0.11	1.22**	0.61	2.04***
Expected growth rate of personal income next year	Raw mean	3.50	4.32	6.40*	5.07
	Raw median	2.00	3.00***	3.00***	3.00***
	Restricted mean	1.19	1.06	1.23	1.38
	Share with extreme responses	0.23	0.27*	0.28**	0.27*
	Huber mean	2.01	2.19	2.09	2.36

Notes: The number of observations is 1,043 (Aug 26), 1,039 (Aug 27), 1,561 (Aug 28), and 1,658 (Aug 29 – Sep 1). ***, **, * denotes statistically significant difference from Aug 26 values at 1, 5, and 10% levels. See Appendix Table 1 for the definition of extreme responses.

Appendix Table 4. Distribution of Quantitative Expectations by Date, Conditional on Hearing about the Fed.

Variable	Statistic	Date of the survey			
		8/26	8/27 (announcement)	8/28	8/29 – 9/1
		(1)	(2)	(3)	(4)
Fed's inflation target	Raw mean	23.53	23.40	19.03	21.01
	Raw median	10.00	10.00	6.00***	5.00***
	Restricted mean	6.24	5.84	5.43	5.63
	Share with extreme responses	0.29	0.36	0.31	0.29
	Huber mean	2.54	2.51	2.69	2.62
Expected inflation, point prediction	Raw mean	10.96	13.78	13.26	11.80
	Raw median	3.00	5.00***	4.00	5.00***
	Restricted mean	3.36	4.47	3.24	3.98
	Share with extreme responses	0.25	0.26	0.30	0.27
	Huber mean	2.86	3.49**	2.91	3.32*
Expected inflation, implied mean	Raw mean	2.00	2.61	2.67	1.87
	Raw median	1.60	1.47	2.00	1.14
	Restricted mean	2.00	2.61	2.67	1.87
	Share with extreme responses	0.00	0.00	0.00	0.00
	Huber mean	1.68	1.13***	1.53	1.39**
Average probability of observing inflation greater than 4% next year	Raw mean	33.63	40.44*	37.24	34.02
	Raw median	30.00	30.00	30.00	30.00
	Restricted mean	33.63	40.44*	37.24	34.02
	Share with extreme responses	0.00	0.00	0.00	0.00
	Huber mean	18.35	22.08**	21.38**	17.52
Uncertainty about future inflation, implied standard deviation	Raw mean	4.14	4.20	4.64	4.48
	Raw median	2.80	3.51	4.31***	3.94**
	Restricted mean	4.14	4.20	4.64	4.48
	Share with extreme responses	0.00	0.00	0.00	0.00
	Huber mean	1.52	1.92**	2.16***	2.01***
Fed's inflation target conditional on 1% inflation in 2021	Raw mean	19.64	21.59	15.38	19.34
	Raw median	4.00	5.00	4.00	3.00
	Restricted mean	5.67	4.45	4.42	4.31
	Share with extreme responses	0.58	0.62	0.65	0.61
	Huber mean	2.19	2.15	2.29	1.96*
Fed's inflation target conditional on 3% inflation in 2021	Raw mean	20.00	21.23	15.01	18.02
	Raw median	5.00	8.00*	4.00	5.00
	Restricted mean	4.44	5.82	4.66	5.57
	Share with extreme responses	0.67	0.71	0.62	0.66
	Huber mean	2.66	2.71	2.70	2.86
Expected growth rate of GDP next year	Raw mean	8.77	14.00	10.27	11.91
	Raw median	3.00	5.00*	5.00**	4.00
	Restricted mean	1.91	2.63	1.72	1.29
	Share with extreme responses	0.32	0.38	0.38	0.31
	Huber mean	1.89	4.07***	3.08*	2.78
Expected growth rate of personal income next year	Raw mean	10.15	9.63	10.76	10.64
	Raw median	4.00	5.00*	5.00*	4.00
	Restricted mean	2.36	2.55	2.69	1.79
	Share with extreme responses	0.27	0.32	0.32	0.28
	Huber mean	2.62	3.99**	3.00	2.95

Notes: The number of observations is 260 (Aug 26), 258 (Aug 27), 483 (Aug 28), and 458 (Aug 29 – Sep 1). ***, **, * denotes statistically significant difference from Aug 26 values at 1, 5, and 10% levels. See Appendix Table 1 for the definition of extreme responses.

Appendix Table 5. Test Random Assignment of Treatment Groups.

	Treatment with information about:	
	Inflation Targeting	Average Inflation Targeting
	(1)	(2)
Age	-0.001	0.001
	(0.001)	(0.000)
Male	-0.015	0.003
	(0.019)	(0.017)
# children	-0.002	-0.001
	(0.007)	(0.006)
Marital status (omitted category: other [widowed, divorced, partners])		
married	0.002	-0.006
	(0.025)	(0.019)
single	-0.021	0.003
	(0.029)	(0.023)
Non-white	0.009	0.005
	(0.023)	(0.020)
Hispanic	0.009	0.006
	(0.030)	(0.025)
Education (omitted category: Less than high school)		
High school diploma or equivalent	-0.011	0.061
	(0.057)	(0.041)
Some college, but no degree	0.013	0.039
	(0.057)	(0.041)
Bachelor's degree	0.020	0.039
	(0.058)	(0.043)
Master's degree	-0.021	0.067
	(0.061)	(0.046)
Doctorate or Professional Degree	-0.072	0.046
	(0.070)	(0.055)
Income (omitted category: less than $10,000)		
$10,000 - $19,999	-0.029	0.021
	(0.042)	(0.034)
$20,000 - $34,999	-0.031	0.011
	(0.036)	(0.028)
$35,000 - $49,999	-0.057	0.003
	(0.037)	(0.029)
$50,000 - $99,999	-0.028	0.016
	(0.035)	(0.030)
$100,000 - $199,999	-0.015	0.035
	(0.041)	(0.036)
More than $200,000	-0.008	0.014
	(0.059)	(0.051)
Political affiliation (omitted category: independent)		
Democrat	-0.014	0.029
	(0.024)	(0.020)
Republican	0.030	0.010
	(0.023)	(0.019)
Other	-0.034	-0.012
	(0.040)	(0.030)
Observations	5,273	5,273
R-squared	0.005	0.004

Notes: The dependent variable is a dummy variable equal to one if a person is treated with information indicated in the column title. Linear (OLS) probability model. Robust standard errors are in parentheses.

Appendix Table 6. Demographic Statistics for Respondents.

	Mean	St.Dev.
Age	42.44	17.53
Male	0.49	0.50
Number of children	1.17	1.30
Married	0.47	0.50
Single	0.32	0.47
Non-white	0.29	0.46
Hispanic	0.18	0.39
Education		
Less than high school	0.04	0.20
High school diploma or equivalent	0.34	0.47
Some college, but no degree	0.20	0.40
Bachelor's degree	0.24	0.43
Master's degree	0.13	0.34
Doctorate or Professional Degree	0.04	0.19
Income		
less than $10,000	0.11	0.31
$10,000 - $19,999	0.07	0.26
$20,000 - $34,999	0.12	0.33
$35,000 - $49,999	0.10	0.30
$50,000 - $99,999	0.30	0.46
$100,000 - $199,999	0.24	0.43
More than $200,000	0.05	0.22
Sources of economic news		
Articles in either general-interest newspapers or specialized econ. & fin. newspapers	0.35	0.48
Online or in print (like the USA Today, NYT, WSJ, Economist)	0.35	0.48
Twitter, Facebook, or other social media	0.39	0.49
News or other programs on television and radio	0.60	0.49
Other internet sources (blogs, discussion forums)	0.16	0.37
Coworkers	0.12	0.33
Friends and relatives	0.35	0.48
I did not come across any information on economic and business conditions	0.07	0.25
Official sources (like the web pages of the gov't, stat. agencies, or the FRBs)	0.23	0.42
Frequency of getting economic news		
At least once an hour	0.09	0.29
At least once a day	0.46	0.50
At least once a week	0.27	0.44
At least once a month	0.07	0.26
Once in a few months		
Once a year	0.01	0.08
I do not get news about the economy	0.06	0.24
Other	0.00	0.04
Political affiliation		
Democrat	0.36	0.48
Republican	0.30	0.46
Independent	0.28	0.45
Other	0.06	0.24

Appendix Table 7. Time Series of Perceptions and Awareness, Additional Dates.

Question	Share of people choosing a listed response	Date										
		Sep 2-8	Sep 9-15	Sep 16-22	Sep 23-29	Sep 30-Oct 6	Oct 7-13	Oct 14-20	Oct 21-27	Oct 28-Nov 3	Nov 4-10	Nov 11-16
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Have you heard any news about monetary policy or the Federal Reserve in the last week?	"Yes"	0.28	0.23	0.26	0.28	0.30+	0.34†	0.31†	0.26	0.33†	0.25	0.29*
How many news articles, TV/radio reports, or other pieces of news about monetary policy or the Federal Reserve did you hear or read?	Just one	0.37	0.27*	0.32	0.43	0.37	0.35	0.33	0.37	0.33	0.36	0.29
	2	0.2	0.17	0.22	0.18	0.23	0.2	0.19	0.17	0.22	0.19	0.26
	3 to 5	0.07*	0.10+	0.01	0.07	0.08*	0.05	0.05	0.05	0.07	0.1	0.05
	5+	0.09*	0.05	0.07	0.05	0.02	0.03	0.04	0.06	0.07	0.03	0.03
	I don't remember	0.27*	0.40	0.38	0.27	0.3	0.38	0.39	0.35	0.31	0.33	0.38
Where did you hear this news about monetary policy or the Federal Reserve?	Articles in either general-interest newspapers…	0.39	0.45	0.48	0.42	0.4	0.45	0.38*	0.42	0.46	0.43	0.45
	Online or in print (like the USA Today, NYT, …)	0.39	0.45	0.48	0.42	0.4	0.45	0.38*	0.42	0.46	0.43	0.45
	Twitter, Facebook, or other social media	0.3	0.34	0.24	0.39+	0.35	0.31	0.3	0.29	0.36	0.39*	0.40+
	News or other programs on television and radio	0.48	0.54	0.5	0.54	0.38†	0.38†	0.45+	0.49	0.41†	0.33†	0.46*
	Other internet sources (blogs, discussion forums)	0.11	0.14	0.14	0.11	0.07	0.06	0.12	0.08	0.09	0.08	0.06
	Coworkers	0.14	0.16	0.09	0.16	0.24+	0.17	0.16	0.19*	0.17	0.15	0.17
	Friends and relatives	0.13	0.2	0.13	0.25	0.29*	0.2	0.25	0.29*	0.27*	0.26	0.24
	Official sources	0.23	0.33+	0.21	0.29+	0.34†	0.29*	0.29*	0.27	0.33†	0.26	0.25
When did you hear the most recent news about monetary policy or the Federal Reserve?	In the last few hours	0.09	0.11	0.08	0.08	0.15	0.23†	0.16	0.16	0.15	0.12	0.13
	Earlier today	0.16	0.2	0.13	0.15	0.27	0.21	0.22	0.19	0.23	0.19	0.19
	Yesterday	0.19*	0.2	0.21	0.26	0.18+	0.18+	0.23	0.2	0.27	0.22	0.3
	Two days ago	0.18	0.2	0.21	0.2	0.21	0.14	0.17	0.15	0.14	0.17	0.10+
	Three days ago	0.11+	0.05	0.14†	0.12+	0.07	0.1	0.05	0.10*	0.08	0.12+	0.11*
	More than three days ago	0.17*	0.17*	0.15	0.13	0.09	0.09	0.06*	0.13	0.07	0.08	0.12
	I don't remember	0.1	0.07	0.08	0.06	0.04	0.04	0.1	0.06	0.07	0.09	0.05
What was the main news about monetary policy or the Federal Reserve that you heard most recently?	There was an international meeting of central bankers	0.15	0.19	0.12+	0.22	0.3	0.26	0.24	0.27	0.29	0.15	0.21
	There was a change in interest rates announced	0.18	0.26	0.23	0.28*	0.30+	0.25	0.26	0.35†	0.34†	0.29*	0.27
	There was a change in the leadership at the Fed	0.16	0.12*	0.10+	0.17	0.26	0.25	0.27	0.29*	0.30*	0.27	0.2
	There was an announce. about new strategies at the Fed	0.45	0.47*	0.45*	0.3	0.47+	0.29	0.33	0.35	0.33	0.4	0.47*
	The Federal Reserve put in place new lending facilities…	0.27	0.20*	0.17+	0.26	0.29	0.32	0.33	0.27	0.26	0.23	0.25
	I don't remember	0.1	0.12	0.1	0.13	0.05	0.07	0.11	0.1	0.08	0.07	0.04+
Whom did you hear news about?	Jerome Powell	0.45	0.37	0.43	0.45	0.43	0.49	0.51*	0.51*	0.34	0.46	0.43
	Christine Lagarde	0.15	0.18	0.15	0.31	0.29	0.22	0.27	0.26	0.31*	0.35*	0.35+
	Alan Greenspan	0.2	0.18	0.08+	0.19	0.23	0.27*	0.27*	0.26	0.29+	0.2	0.17
	Janet Yellen	0.11	0.18	0.1	0.23	0.37†	0.2	0.35†	0.33†	0.34†	0.28+	0.25
	None of the above	0	0	0	0	0	0	0	0	0	0	0
	I don't remember their names	0.26	0.4	0.38	0.20+	0.16†	0.16†	0.10†	0.19+	0.20+	0.19*	0.15†

Notes: †, +, * denotes statistically significant difference from August 26 values at 1, 5, and 10% levels.

Appendix Table 8. Knowledge about the Fed's Objectives and Policy Regime, All Respondents, Additional Dates.

Question	Share of people choosing a listed response	Date										
		Sep 2-8	Sep 9-15	Sep 16-22	Sep 23-29	Sep 30-Oct 6	Oct 7-13	Oct 14-20	Oct 21-27	Oct 28-Nov 3	Nov 4-10	Nov 11-16
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
In terms of the Federal Reserve's broad economic objectives, what do you think it views as most important among the following: (please pick up to 2)	Keeping interest rates low to reduce the govt 's cost of borrowing	0.37^{+}	0.35	0.33	0.33	0.31	0.29	0.29	0.31	0.3	0.31	0.30
	Promoting maximum employment	0.22	0.21	0.22	0.26	0.21	0.20*	0.23	0.22	0.22	0.24	0.24
	Keeping stock prices high	0.15	0.14	0.15	0.15	0.17	0.19	0.13	0.16	0.15	0.15	0.17
	Bailing out failing financial institutions	0.11*	0.13	0.12	0.14	0.12	0.14	0.13	0.14	0.12	0.11*	0.12
	Ensuring price stability	0.29	0.25	0.28	0.22^{+}	0.22*	0.23	0.25	0.26	0.26	0.24	0.26
	Maintaining a strong dollar	0.34	0.35	0.39^{+}	0.33	0.29	0.29	0.29	0.29	0.28*	0.31	0.31
	Reducing economic inequality	0.17	0.14	0.17	0.14	0.21	0.16	0.17	0.14*	0.17	0.19	0.14
	Fighting climate change	0.09	0.14	0.12	0.14	0.17^{+}	0.14	0.18^{+}	0.17^{+}	0.18†	0.13	0.13
In terms of prices in the economy, which do you think best represents what the Federal Reserve is trying to do: (select all that apply)	Keep the inflation rate as close as possible to a specific target at all times	0.26^{+}	0.29	0.28	0.3	0.3	0.3	0.28	0.32	0.31	0.29	0.3
	Make inflation, on average, be approximately equal to a target rate	0.25	0.21	0.19	0.24	0.28^{+}	0.24	0.26*	0.26*	0.25	0.26	0.25
	Keep prices from rising over time	0.24	0.28	0.26	0.28	0.31	0.24	0.28	0.24	0.25	0.28	0.3
	Ensure inflation is sufficiently high to erode the value of government debt	0.14	0.16	0.10^{+}	0.15	0.21†	0.20^{+}	0.19	0.20^{+}	0.17	0.12	0.15
	Keep the inflation rate low enough to promote a strong dollar	0.37	0.37	0.43	0.36	0.4	0.34*	0.35*	0.35*	0.38	0.35*	0.36
	None of the above, I don't know, or missing	0.23	0.22	0.25*	0.22	0.18	0.21	0.2	0.22	0.21	0.23	0.17

Notes: †, +, * denotes statistically significant difference from August 26 values at 1, 5, and 10% levels.

Appendix Table 9. One Year Later: The Effects of Information Treatments on Expectations

Outcome variable	Regressor			p-value			N obs.	R^2
	$\mathbb{I}(treatIT)$	$\mathbb{I}(treatAIT)$	$\mathbb{I}(treatAIT\&IT)$	(1) = (2)	(1) = (3)	(2) = (3)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Expected inflation, 5-years ahead	-0.303***	-0.478***	-0.394***	0.117	0.414	0.438	6,270	0.003
	(0.115)	(0.114)	(0.113)					
Probability of expected (1-year ahead) inflation being greater than 5%	-2.307***	-2.450***	-1.788**	0.870	0.547	0.449	7,441	0.002
	(0.878)	(0.891)	(0.879)					
Expected GDP growth, 5-years ahead	-0.039	-0.081	-0.354**	0.793	0.047	0.091	6,518	0.001
	(0.160)	(0.163)	(0.162)					
Expected growth of personal disposable income, 5-years ahead	0.096	-0.061	-0.227	0.422	0.095	0.379	6,569	0.000
	(0.199)	(0.193)	(0.192)					
Credibility of the Fed	1.621**	1.002	0.951	0.390	0.351	0.944	7,516	0.001
	(0.725)	(0.724)	(0.720)					
Time when mortgage rates are expected to increase	0.037*	0.017	-0.001	0.322	0.058	0.358	5,894	0.001
	(0.020)	(0.019)	(0.019)					
Unsure when mortgage rates are expected to increase	-0.024	-0.010	0.005	0.385	0.078	0.381	7,551	0.001
	(0.015)	(0.016)	(0.017)					

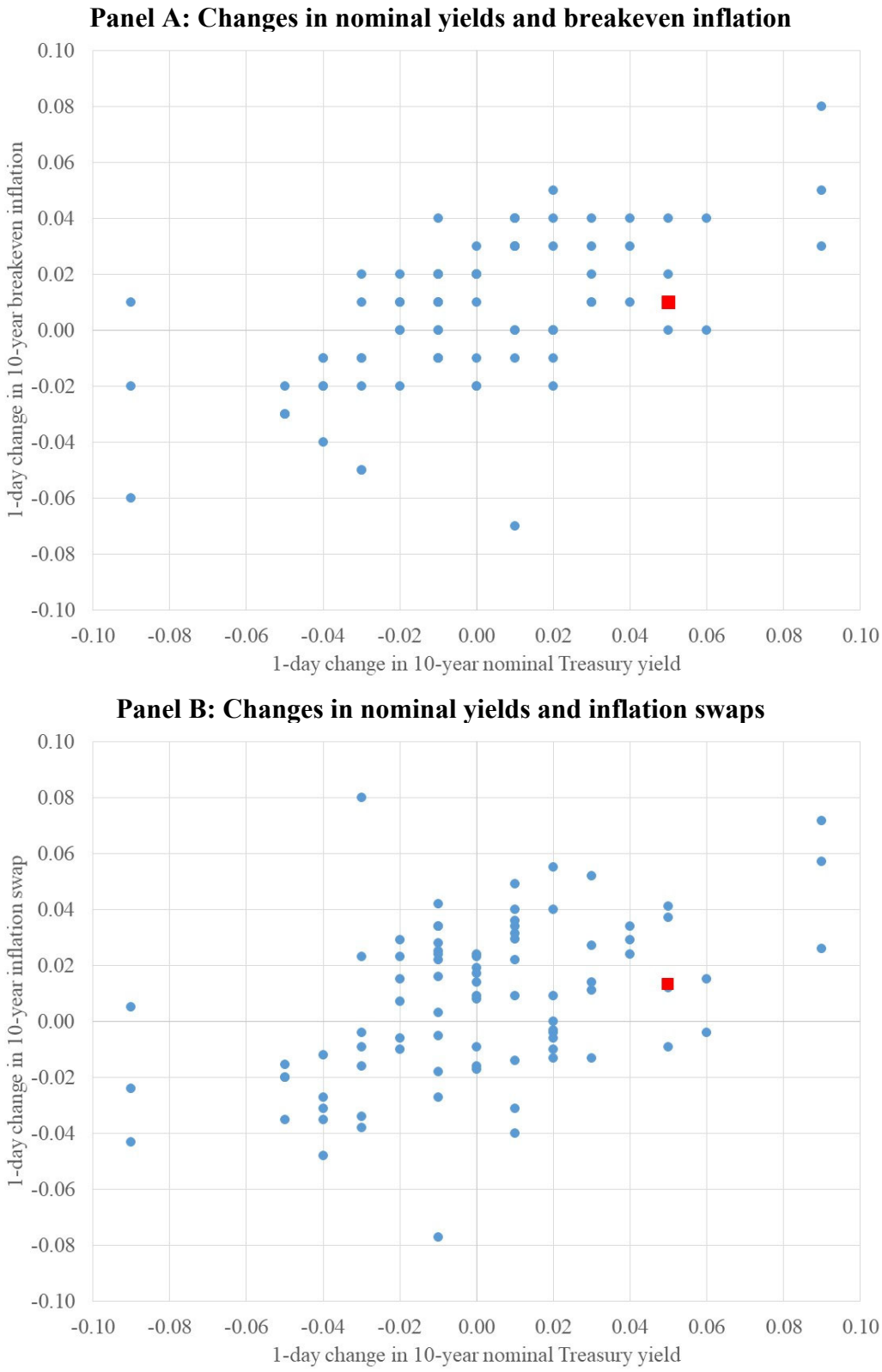
Notes: Results are from surveys implemented in 2021. The table reports Huber-robust estimations of outcome variables on indicator variables for each treatment, specification (2). Outcome variables are indicated in the left column. Column (3) reports the p-value for the null hypothesis that the treatment effects for inflation targeting (IT) and average inflation targeting (AIT) are the same. "*Time when mortgage rate expected to increase*" is coded as follows: 0 = "Second half 2021," 1 = "Sometime in 2022," 2 = "Sometime in 2023," 3 = "In 2024 or later," 4 = "They are unlikely to rise." "*Unsure when mortgage rates are expected to increase*" is an indicator variable equal to one if a respondent reported that he/she is unsure about when mortgage rates are going to increase. "*Credibility of the Fed*" is measured on a scale of 0 (very low credibility) to 100 (very high credibility); the survey question is "How would you rate the credibility of the Federal Reserve in terms of its ability to achieve maximum employment and stable prices?" Robust standard errors are reported in parentheses. ***, **, * denotes statistical significance at 1, 5, and 10% levels.

Appendix Table 10. The Effect of Information Treatments on 5-year-ahead Inflation Expectations, by demographic group.

	Regressor		p-value	N obs.	R^2
	$\mathbb{I}(treatIT)$	$\mathbb{I}(treatAIT)$			
	(1)	(2)	(3)	(4)	(5)
	Outcome: Expected inflation, 5-years ahead				
Full sample	-0.475***	-0.467***	0.944	4266	0.006
	(0.096)	(0.117)			
Education					
High school of less	-0.537**	-0.689***	0.549	751	0.010
	(0.217)	(0.255)			
Some college	-0.631***	-0.625**	0.982	1191	0.007
	(0.215)	(0.252)			
Bachelor	-0.406***	-0.131	0.154	1461	0.004
	(0.149)	(0.194)			
Graduate	-0.383**	-0.466**	0.707	863	0.006
	(0.184)	(0.228)			
Gender					
Female	-0.575***	-0.621***	0.799	2042	0.007
	(0.155)	(0.184)			
Male	-0.394***	-0.337**	0.693	2224	0.005
	(0.118)	(0.147)			
HH Income					
Less than $20K	-1.038***	-0.742**	0.361	685	0.019
	(0.273)	(0.330)			
$20K-$50K	-0.545**	-0.814***	0.292	1242	0.008
	(0.222)	(0.265)			
$50K-$100K	-0.444***	-0.296	0.465	1386	0.004
	(0.164)	(0.205)			
More than $100K	-0.182	-0.258	0.685	953	0.002
	(0.158)	(0.188)			
Political affiliation					
Democrat	-0.543***	-0.569***	0.893	1506	0.007
	(0.166)	(0.194)			
Republican	-0.487***	-0.574***	0.655	1426	0.007
	(0.167)	(0.210)			
Other and independent	-0.379**	-0.252	0.542	1334	0.004
	(0.168)	(0.202)			
Share of income saved					
Around 10%	-0.283*	-0.441**	0.352	1776	0.004
	(0.144)	(0.176)			
Around 25%-50%	-0.670***	-0.539**	0.568	866	0.014
	(0.189)	(0.228)			
No saving	-0.595***	-0.439**	0.452	1624	0.007
	(0.174)	(0.211)			

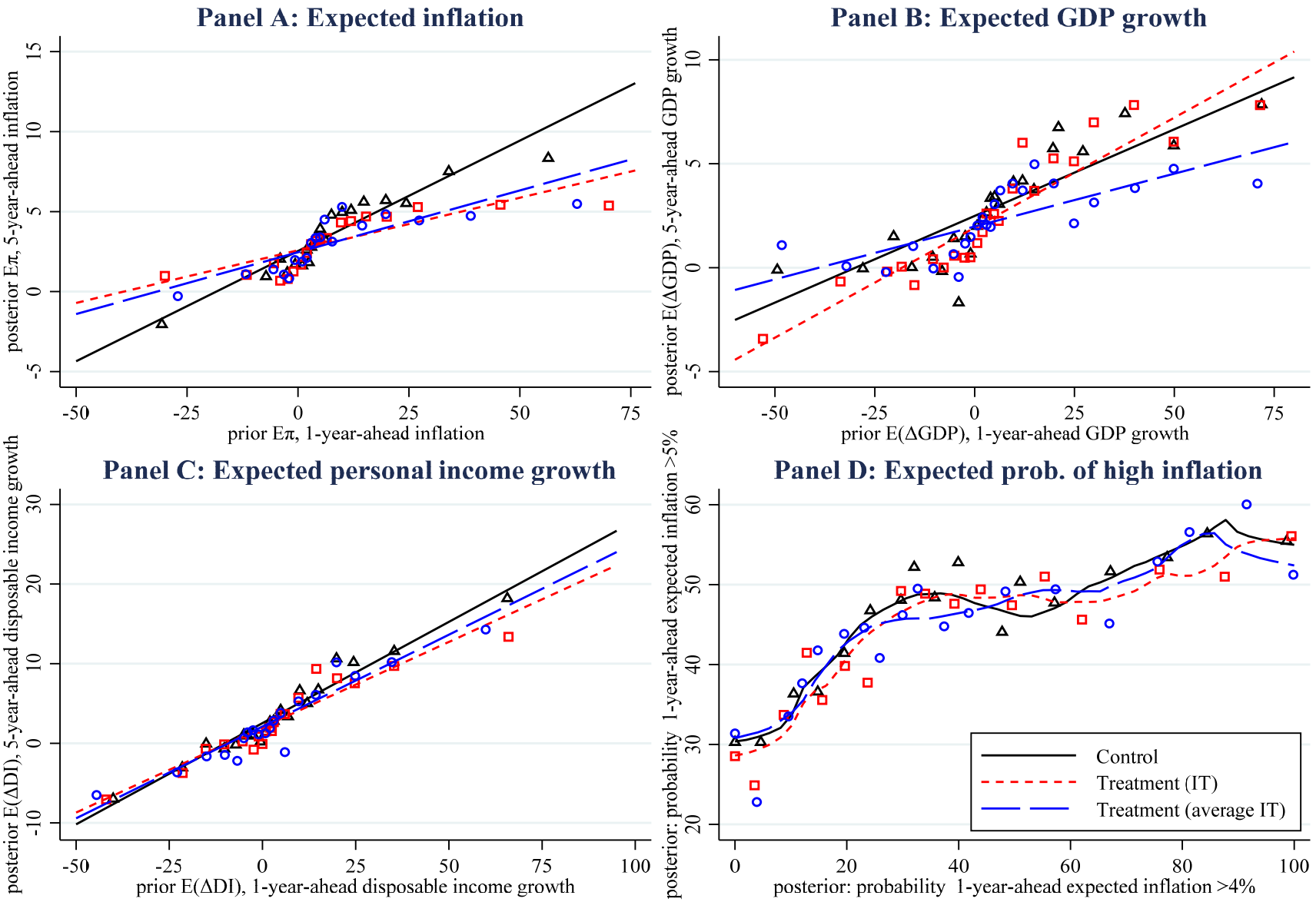
Notes: this table reproduces Table 4 for various subsamples. The outcome variable is 5-year-ahead inflation expectations.

Appendix Figure 1. Financial Market Changes in Yields and Expected Inflation.



Notes: The panels plot the 1-day change in 10-year nominal Treasury yields (constant maturity rate) and the implied 1-day change in breakeven inflation computed based on the 10-year Treasury inflation-protected security (constant maturity rate) (Panel A) or the 1-day change in the 10-year inflation swap rate (Panel B) over the period April 28, 2020, through August 27, 2020. Data for August 27, 2020, are in red squares. Data from Federal Reserve Board via St. Louis Fed's FRED and Bloomberg.

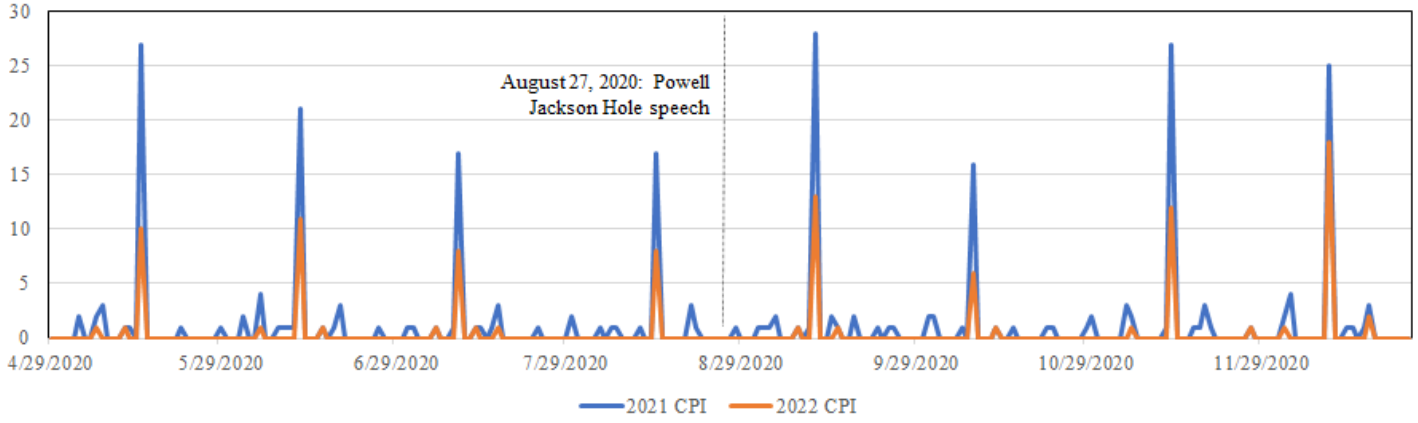
Appendix Figure 2. Changes in Posterior Beliefs by Treatment Group.



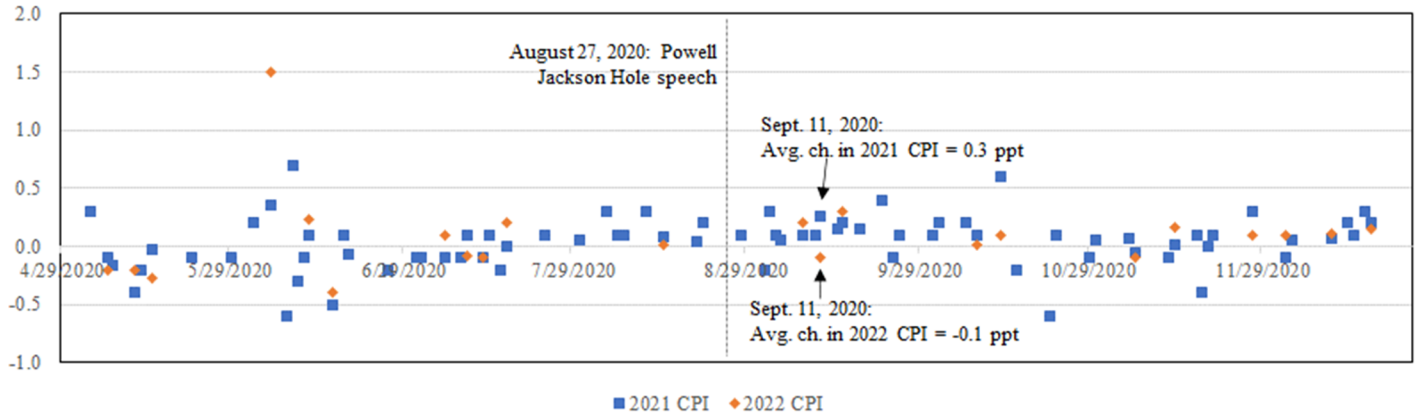
Notes: The figure reports bin-scatter plots for posterior vs. prior beliefs about economic variables. Huber-robust regressions are used to construct slopes. Panel D reports lowess regressions as fitted curves.

Appendix Figure 3. Revisions in Professional Forecasts.

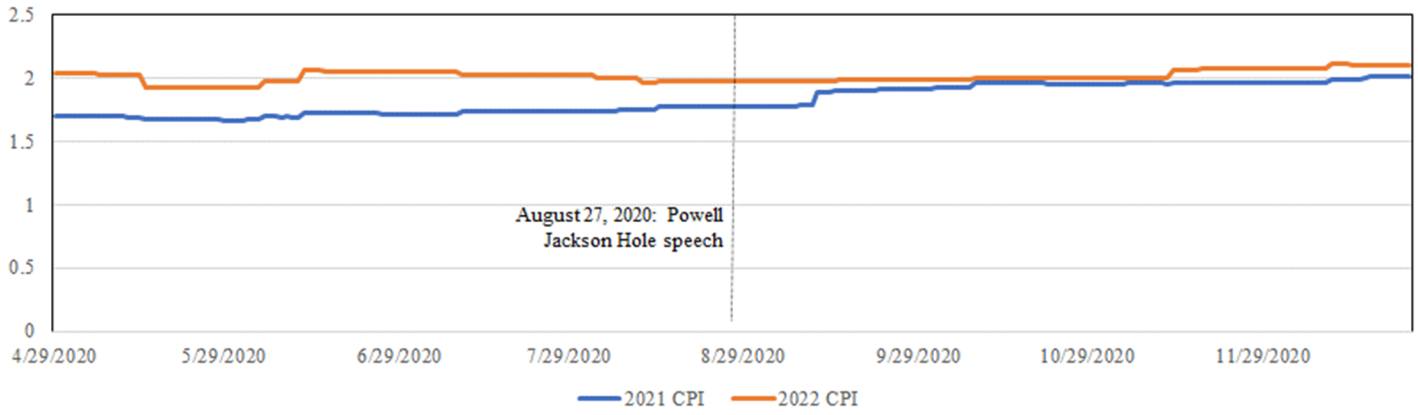
Panel A: Number of Forecast Revisions



Panel B: Average Forecast Revision, Conditional on Changing Forecasts (percentage points)

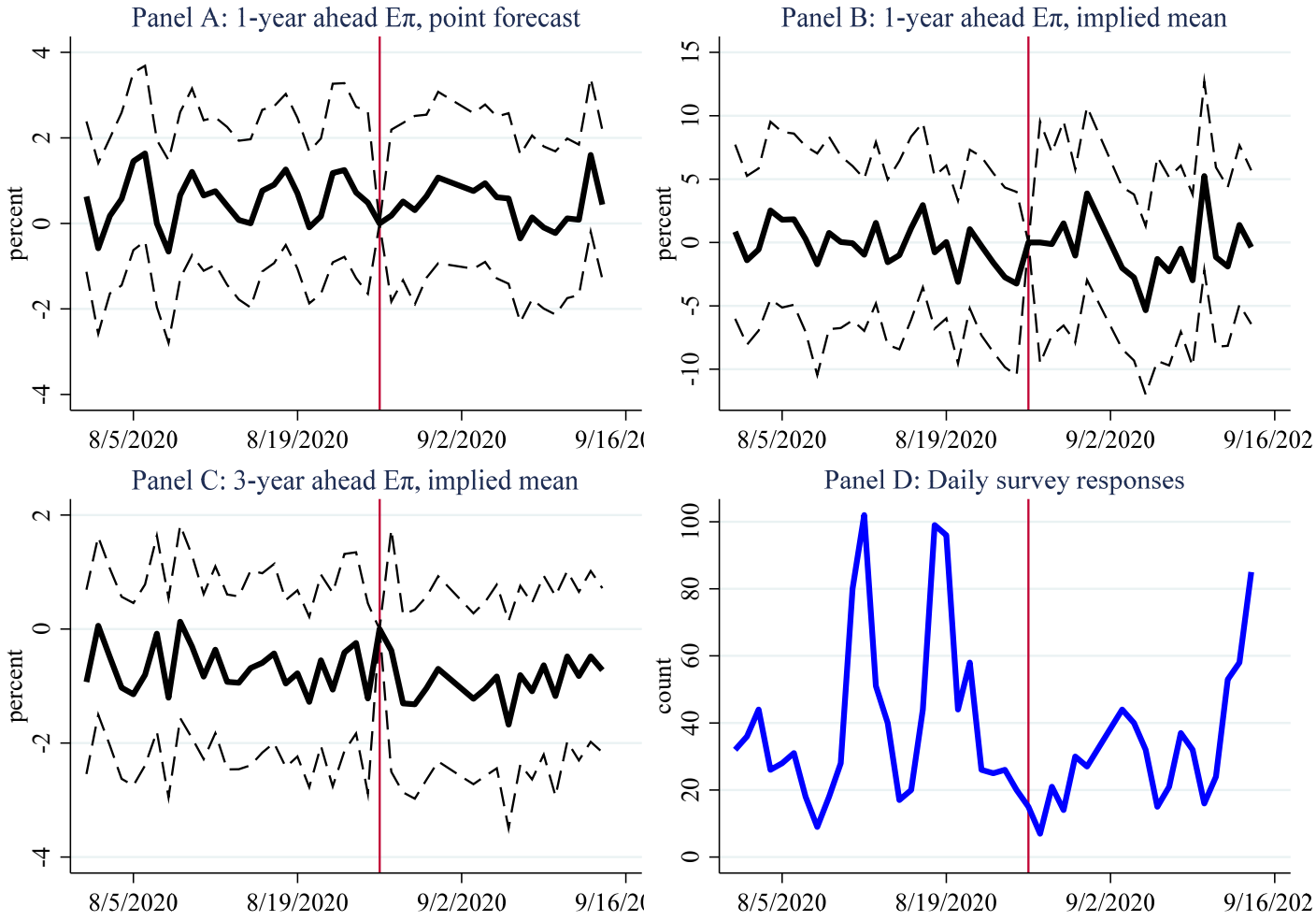


Panel C: Consensus Forecast (Mean)



Notes: The figures are based on professional forecasts in the Bloomberg ECFC survey.

Appendix Figure 4. Evolution of inflation expectations in the Survey of Consumer Expectations.



Notes: Panels A-C report Huber-robust differences in inflation expectations relative to the event date. The solid line shows the differences, the dashed lines show 95% confidence interval. Panel D shows the number of respondents on a given survey date. The vertical red line shows the event date (the Jackson Hole speech). The frequency is daily.

Survey Instruments

Survey Questionnaire 2020:

Q1 Please enter your age:

_____

Q2 What is your level of English?

- ○ Native (1)
- ○ Fluent (2)
- ○ Less than fluent (3)

Q3 Please indicate your gender.

- ○ Male (1)
- ○ Female (2)
- ○ Other (3)

Q48 What is the highest level of school you have completed, or the highest degree you have achieved?

- ○ Less than high school (1)
- ○ High school diploma or equivalent (2)
- ○ Some college, but no degree (3)
- ○ Bachelor's degree (4)
- ○ Master's degree (5)
- ○ Doctorate or Professional Degree (6)

Q49 Please indicate the range of your yearly net disposable income

- ○ Less than $10,000 (1)
- ○ $10,000 - $19,999 (2)
- ○ $20,000 - $34,999 (3)
- ○ $35,000 - $49,999 (4)
- ○ $50,000 - $99,999 (5)
- ○ $100,000 - $199,999 (6)
- ○ More than $200,000 (7)

Q50 What is the postal (zip) code for the address of your permanent residence?

_____

Q124 In which state do you currently reside?

▼ Alabama (1) ... I do not reside in the United States (53)

Q51 How would you identify your ethnicity?

Please select all that apply.

- ☐ Asian/Asian American (1)
- ☐ Black/African American (2)
- ☐ White/Caucasian (3)
- ☐ Other (4)
- ☐ Prefer not to say (5)

Q52 Do you consider yourself of Hispanic, Latino or Spanish origin?

- ○ Yes (1)
- ○ No (2)

Q5T In some of the following questions, we will ask you to think about the percent chance of something happening in the future. Your answers can range from 0 to 100, where 0 means there is absolutely no chance, and 100 means that it is absolutely certain. For example, numbers like: 2 and 5 percent may indicate "almost no chance," 18 percent or so may

mean "not much chance," 47 or 52 percent chance may be a "pretty even chance," 83 percent or so may mean a "very good chance," 95 or 98 percent chance may be "almost certain."

Q134.1 The next few questions are about economic output.
Over the next 12 months, do you think that there will be an increase or decrease in GDP?

- ○ Increase (1)
- ○ Decrease (2)

Q134.2I What do you expect the rate of increase in GDP to be over the next 12 months? Please give your best guess.
I expect the rate of increase to be ___ percent over the next 12 months.

Q134.2D What do you expect the rate of decrease in GDP to be over the next 12 months? Please give your best guess.
I expect the rate of decrease to be ___ percent over the next 12 months.

QA1.1 In your view, will the total income of all members of your household (including you), after taxes and deductions, increase or decrease over the next 12 months?

- ○ Increase (4)
- ○ Decrease (5)

QA1.2I By how much do you expect total income of all members of your household to increase over the next 12 months? Please give your best guess.

Over the next 12 months, I expect total income of all members of my household to increase by ___ percent.

QA1.2D By how much do you expect total income of all members of your household to decrease over the next 12 months? Please give your best guess.
Over the next 12 months, I expect total income of all members of my household to decrease by ___ percent.

Q11.1 The next few questions are about inflation.
Over the next 12 months, do you think that there will be inflation or deflation?

- ○ Inflation (1)
- ○ Deflation (opposite of inflation) (2)

Q11.2I What do you expect the rate of inflation to be over the next 12 months? Please give your best guess.
I expect the rate of inflation to be ___ percent over the next 12 months.

Q11.2D What do you expect the rate of deflation to be over the next 12 months? Please give your best guess.
I expect the rate of deflation to be ___ percent over the next 12 months.

Q13 Now we would like you to think about what may happen to inflation over the next 12 months. We realize that this question may take a little more effort. In your view, what would you say is the percent chance that, over the next 12 months. . .

the rate of inflation will be 12% or higher : _____ (1)
the rate of inflation will be between 8% and 12% : _____ (2)
the rate of inflation will be between 4% and 8% : _____ (3)
the rate of inflation will be between 2% and 4% : _____ (4)
the rate of inflation will be between 0% and 2% : _____ (5)
the rate of deflation (opposite of inflation) will be between 0% and 2% : _____ (6)
the rate of deflation (opposite of inflation) will be between 2% and 4% : _____ (7)
the rate of deflation (opposite of inflation) will be between 4% and 8% : _____ (8)
the rate of deflation (opposite of inflation) will be between 8% and 12% : _____ (9)
the rate of deflation (opposite of inflation) will be 12% or higher : _____ (10)

Total : _____

Q15.1 Now we would like you to think about inflation further into the future. Over the 12-month period between September 2022 and September 2023 do you think that there will be inflation or deflation?

- ○ Inflation (1)
- ○ Deflation (opposite of inflation) (2)

Q15.2I What do you expect the rate of inflation to be over the 12-month period between September 2022 and September 2023? Please give your best guess.
I expect the rate of inflation to be ___ percent.

Q15.2D What do you expect the rate of deflation to be over the 12-month period between September 2022 and September 2023? Please give your best guess.
I expect the rate of deflation to be ___ percent.

Q164 Compared with your normal level of spending before the coronavirus outbreak in, say, January or February, what percentage of that level of spending did you do or do you anticipate doing in the following months?

	Essentially None 0 20 40 60 80 100 120 140 160 180 200	About the same	Double or much higher
July ()			
August ()			
September ()			

QJH1 How do you usually get news about the economy? Select all that apply.[23]

- ☐ Official sources (like the web pages of the government, statistical agencies, or the Federal Reserve Banks) (1)
- ☐ Articles in either general-interest newspapers or specialized economics and finance newspapers, online or in print (like the USA Today, New York Times, Wall Street Journal, Economist) (2)
- ☐ Twitter, Facebook, or other social media (3)
- ☐ News or other programs on television and radio (5)
- ☐ Coworkers (7)
- ☐ Friends and relatives (8)
- ☐ Other internet sources (blogs, discussion forums) (4)
- ☐ I did not come across any information on economic and business conditions (9)
- ☐ Another source: (10) _____

QJH2 How often do you get news about the economy?

- ○ At least once an hour (1)
- ○ At least once a day (2)
- ○ At least once a week (3)
- ○ At least once a month (4)
- ○ Once in a few months (5)
- ○ Once a year (6)
- ○ I do not get news about the economy (7)
- ○ Other: (8) _____

[23] Immediately before this question is a block of questions related to the COVID-19 outbreak.

QJH3 Have you heard any news about monetary policy or the Federal Reserve in the last week?

- ○ Yes (1)
- ○ No (2)

QJH4 About how many news articles, TV or radio reports, or other pieces of news about monetary policy or the Federal Reserve did you read or hear in the last week?

- ○ Just one (1)
- ○ Two (2)
- ○ Three to five (3)
- ○ More than five (4)
- ○ I don't remember (5)

QJH5 Where did you hear this news about monetary policy or the Federal Reserve? Select all that apply.

- ☐ Official sources (like the web pages of the government, statistical agencies, or the Federal Reserve Banks) (1)
- ☐ Articles in either general-interest newspapers or specialized economics and finance newspapers, online or in print (like the USA Today, New York Times, Wall Street Journal, Economist) (2)
- ☐ Twitter, Facebook, or other social media (3)
- ☐ News or other programs on television and radio (5)
- ☐ Coworkers (7)
- ☐ Friends and relatives (8)
- ☐ Other internet sources (blogs, discussion forums) (4)
- ☐ Another source: (9) _____

QJH6 When did you hear the most recent news about monetary policy or the Federal Reserve? Please select the most appropriate answer.

- ○ In the last couple of hours (1)
- ○ Earlier today (2)
- ○ Yesterday (3)
- ○ Two days ago (4)
- ○ Three days ago (5)
- ○ More than three days ago (6)
- ○ I don't remember (7)

QJH7 What were the main pieces of news about monetary policy or the Federal Reserve that you heard most recently? Select all that apply.

- ☐ There was an international meeting of central bankers (1)
- ☐ There was a change in interest rates announced (2)
- ☐ There was a change in the leadership at the Federal Reserve (3)
- ☐ There was an announcement about new strategies at the Federal Reserve (4)
- ☐ The Federal Reserve put in place new lending facilities to fight the recession (5)
- ☐ Other: (6) _____
- ☐ I don't remember (7)

QJH8 Who did you hear news about? Select all that apply.

- [ ] Jerome Powell (1)
- [ ] Christine Lagarde (2)
- [ ] Alan Greenspan (3)
- [ ] Janet Yellen (4)
- [ ] None of the above (5)
- [ ] I don't remember their names (6)

QJH9 In terms of the Federal Reserve's broad economic objectives, what do you think it views as most important among the following? Please select up to 2.

- [ ] Keeping interest rates low to reduce the government's cost of borrowing (1)
- [ ] Promoting maximum employment (2)
- [ ] Keeping stock prices high (3)
- [ ] Bailing out failing financial institutions (4)
- [ ] Ensuring price stability (5)
- [ ] Maintaining a strong dollar (6)
- [ ] Reducing economic inequality (7)
- [ ] Fighting climate change (8)

QJH10 In terms of prices in the economy, which do you think best represents what the Federal Reserve is trying to do? Select all that apply.

- ☐ Keep the inflation rate as close as possible to a specific target at all times (1)
- ☐ Make inflation, on average, be approximately equal to a target rate (2)
- ☐ Keep prices from rising over time (3)
- ☐ Ensure inflation is sufficiently high to erode the value of government debt (4)
- ☐ Keep the inflation rate low enough to promote a strong dollar (5)
- ☐ None of the above (6)
- ☐ I don't know (7)

QJH11 What rate of inflation do you think the Federal Reserve tries to achieve in the longer run?_____% per year

QJH12.1 Suppose that the inflation rate in 2021 turns out to be around 1%. What inflation rate do you think the Federal Reserve will try to achieve over the following year or two?_____ % per year

QJH12.2 Suppose that the inflation rate in 2021 turns out to be around 3%. What inflation rate do you think the Federal Reserve will try to achieve over the following year or two?_____ % per year

Information Treatment 1

TJH1 Please proceed to the next question.

Information Treatment 2

TJH2 As of January 2020, the Federal Reserve was targeting an inflation rate of 2% per year. Effectively, this means that when inflation is below the target, the Federal Reserve will try to push inflation **back up to the target**. And vice versa, when inflation is above the target, the Federal Reserve will try to push inflation **back down to the target**.

Information Treatment 3

TJH3 The Federal Reserve targets an **average** inflation rate of 2% per year. Effectively, this means that when inflation is below the target, the Federal Reserve will try to push inflation **above the target for some time**. And vice versa, when inflation is above the target, the Federal Reserve will try to push inflation **below the target for some time**.

QJH13 Over the next 5 years, do you think there will be inflation or deflation on average?

- ○ Inflation (1)
- ○ Deflation (opposite of inflation) (2)

QJH13a What do you expect the average annual rate of inflation to be over the next 5 years? Please give your best guess.
I expect the average annual rate of inflation to be ___ percent per year over the next 5 years.

QJH13b What do you expect the average annual rate of deflation to be over the next 5 years? Please give your best guess.
I expect the average annual rate of deflation to be ___ percent per year over the next 5 years.

QJH14 Over the next 5 years, do you think that there will be an increase or decrease in GDP on average?

- ○ Increase (1)
- ○ Decrease (2)

QJH14a What do you expect the average annual rate of increase in GDP will be over the next 5 years? Please give your best guess.
I expect the average annual rate of increase to be ___ percent per year over the next 5 years.

QJH14b What do you expect the average annual rate of decrease in GDP will be over the next 5 years? Please give your best guess.
I expect the average annual rate of decrease to be ___ percent per year over the next 5 years.

QJH15 In your view, will the total income of all members of your household (including you), after taxes and deductions, increase or decrease over the next 5 years on average?

- ○ Increase (1)
- ○ Decrease (2)

QJH15a What do you expect the average annual rate of increase in the total income of all members of your household will be over the next 5 years? Please give your best guess.

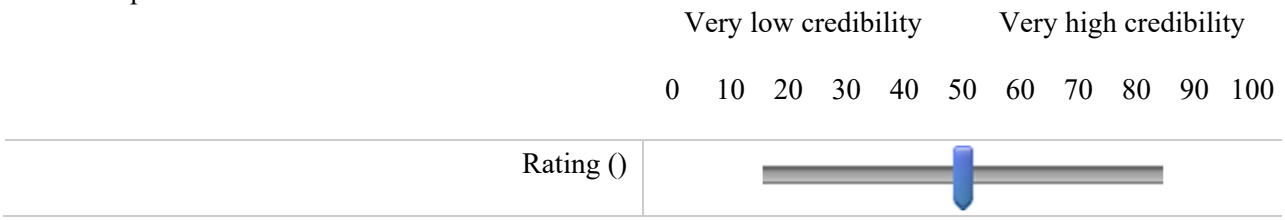
I expect the average annual rate of increase in the total income of all members of my household to be ___ percent per year over the next 5 years.

QJH15b What do you expect the average annual rate of decrease in the total income of all members of your household will be over the next 5 years? Please give your best guess.
I expect the average annual rate of decrease in the total income of all members of my household to be ___ percent per year over the next 5 years.

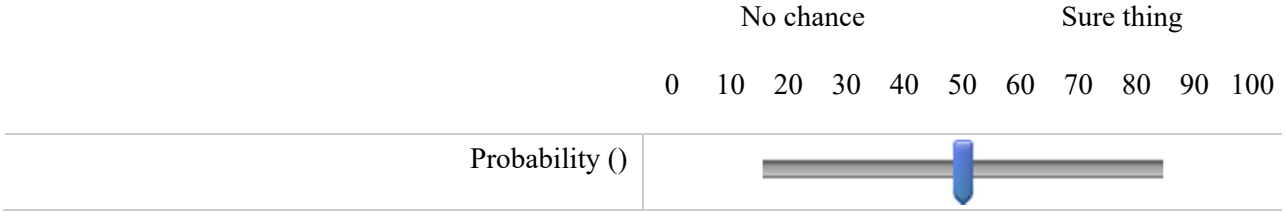
QJH16 When do you expect that mortgage rates will start to rise in a significant way?

- Second half of 2020 (1)
- First half of 2021 (2)
- Second half of 2021 (3)
- Sometime in 2022 (4)
- Sometime in 2023 (5)
- In 2024 or later (6)
- They are unlikely to rise (7)
- Not sure (8)

QJH17 How would you rate the credibility of the Federal Reserve in terms of its ability to achieve maximum employment and stable prices?



QJH18 What do you think is the chance that inflation will be more than 5% in the next 12 months?



Q27 Which fraction of your income do you invest?

- I spend more money than I earn. I often use credit cards or other loans to supplement my monthly income (1)
- I spend all of my income each month (2)
- I save around 10% of my monthly income (3)
- I save around 25% of my monthly income (4)
- I save at least 50% of my monthly income (5)

Q53 What is your civil status?

- ○ Single (1)
- ○ Partner (not co-habiting) (2)
- ○ Partner (co-habiting) (3)
- ○ Married (4)
- ○ Divorced (5)
- ○ Widowed (6)

Q121 What would you say is your political affiliation?

- ○ Democrat (1)
- ○ Independent (2)
- ○ Republican (3)
- ○ Other (4)

Q54 How many children do you have?

_____

Q55 What is the percent chance that you will leave any inheritance?

_____

Survey Questionnaire 2021:

Q1 Please enter your age:

_____

Q2 What is your level of English?

- ○ Native (1)
- ○ Fluent (2)
- ○ Less than fluent (3)

Q3 Please indicate your gender.

- ○ Male (1)
- ○ Female (2)
- ○ Other (3)

Q48 What is the highest level of school you have completed, or the highest degree you have achieved?

- ○ Less than high school (1)
- ○ High school diploma or equivalent (2)
- ○ Some college, but no degree (3)
- ○ Bachelor's degree (4)
- ○ Master's degree (5)
- ○ Doctorate or Professional Degree (6)

Q49 Please indicate the range of your yearly net disposable income

- ○ Less than $10,000 (1)
- ○ $10,000 - $19,999 (2)
- ○ $20,000 - $34,999 (3)
- ○ $35,000 - $49,999 (4)
- ○ $50,000 - $99,999 (5)
- ○ $100,000 - $199,999 (6)
- ○ More than $200,000 (7)

Q50 What is the postal (zip) code for the address of your permanent residence?

_____

Q124 In which state do you currently reside?

▼ Alabama (1) ... I do not reside in the United States (53)

Q51 How would you identify your ethnicity?

Please select all that apply.

- ☐ Asian/Asian American (1)
- ☐ Black/African American (2)
- ☐ White/Caucasian (3)
- ☐ Other (4)
- ☐ Prefer not to say (5)

Q52 Do you consider yourself of Hispanic, Latino or Spanish origin?

- ○ Yes (1)
- ○ No (2)

Q5T In some of the following questions, we will ask you to think about the percent chance of something happening in the future. Your answers can range from 0 to 100, where 0 means there is absolutely no chance, and 100 means that it is absolutely certain. For example, numbers like: 2 and 5 percent may indicate "almost no chance" 18 percent or so may mean "not much chance" 47 or 52 percent chance may be a "pretty even chance" 83 percent or so may mean a "very good chance" 95 or 98 percent chance may be "almost certain"

Q134.1 The next few questions are about economic output.
Over the next 12 months, do you think that there will be an increase or decrease in GDP?

- ○ Increase (1)
- ○ Decrease (2)

Q134.2I What do you expect the rate of increase in GDP to be over the next 12 months? Please give your best guess.

I expect the rate of increase to be ___ percent over the next 12 months.

_____

Q134.2D What do you expect the rate of decrease in GDP to be over the next 12 months? Please give your best guess.

I expect the rate of decrease to be ___ percent over the next 12 months.

QA1.1
In your view, will the total income of all members of your household (including you), after taxes and deductions, increase or decrease over the next 12 months?

- ○ Increase (4)
- ○ Decrease (5)

QA1.2I
By how much do you expect total income of all members of your household to increase over the next 12 months? Please give your best guess.
Over the next 12 months, I expect total income of all members of my household to increase by ___ percent.

QA1.2D

By how much do you expect total income of all members of your household to decrease over the next 12 months? Please give your best guess.

Over the next 12 months, I expect total income of all members of my household to decrease by ___ percent.

Q11.1 The next few questions are about inflation.
Over the next 12 months, do you think that there will be inflation or deflation?

- ○ Inflation (1)
- ○ Deflation (opposite of inflation) (2)

Q11.2I What do you expect the rate of inflation to be over the next 12 months? Please give your best guess.

I expect the rate of inflation to be ___ percent over the next 12 months.

_____

Q11.2D What do you expect the rate of deflation to be over the next 12 months? Please give your best guess.

I expect the rate of deflation to be ___ percent over the next 12 months.

_____

Q13 Now we would like you to think about what may happen to inflation over the next 12 months. We realize that this question may take a little more effort. In your view, what would you say is the percent chance that, over the next 12 months. . .
the rate of inflation will be 12% or higher : _____ (1)
the rate of inflation will be between 8% and 12% : _____ (2)
the rate of inflation will be between 4% and 8% : _____ (3)
the rate of inflation will be between 2% and 4% : _____ (4)
the rate of inflation will be between 0% and 2% : _____ (5)
the rate of deflation (opposite of inflation) will be between 0% and 2% : _____ (6)
the rate of deflation (opposite of inflation) will be between 2% and 4% : _____ (7)
the rate of deflation (opposite of inflation) will be between 4% and 8% : _____ (8)
the rate of deflation (opposite of inflation) will be between 8% and 12% : _____ (9)
the rate of deflation (opposite of inflation) will be 12% or higher : _____ (10)
Total : _____

Q15.1 Now we would like you to think about inflation further into the future. Over the 12-month period between June 2023 and June 2024 do you think that there will be inflation or deflation?

- ○ Inflation (1)
- ○ Deflation (opposite of inflation) (2)

Q15.2I What do you expect the rate of inflation to be over the 12-month period between June 2023 and June 2024? Please give your best guess.

I expect the rate of inflation to be ___ percent.

Q15.2D What do you expect the rate of deflation to be over the 12-month period between June 2023 and June 2024? Please give your best guess.

I expect the rate of deflation to be ___ percent.

QJH1 How do you usually get news about the economy? Select all that apply.

- ☐ Official sources (like the web pages of the government, statistical agencies, or the Federal Reserve Banks) (1)
- ☐ Articles in either general-interest newspapers or specialized economics and finance newspapers, online or in print (like the USA Today, New York Times, Wall Street Journal, Economist) (2)
- ☐ Twitter, Facebook, or other social media (3)
- ☐ News or other programs on television and radio (4)
- ☐ Coworkers (5)
- ☐ Friends and Relatives (6)
- ☐ Other internet sources (blogs, discussion forums) (7)
- ☐ I did not come across any information on economic and business conditions (8)
- ☐ Another Source (9) _____

QJH2 How often do you get news about the economy?

- ○ At least once an hour (1)
- ○ At least once a day (2)
- ○ At least once a week (3)
- ○ At least once a month (4)
- ○ Once in a few months (5)
- ○ Once a year (6)
- ○ I do not get news about the economy (7)
- ○ Other (8) _____

QJH3 Have you heard any news about monetary policy or the Federal Reserve in the last week?

- ○ Yes (1)
- ○ No (2)

QJH4 About how many news articles, TV or radio reports, or other pieces of news about monetary policy or the Federal Reserve did you read or hear in the last week?

- ○ Just one (1)
- ○ Two (2)
- ○ Three to five (3)
- ○ More than five (4)
- ○ I don't remember (5)

QJH5 Where did you hear this news about monetary policy or the Federal Reserve? Select all that apply

- ☐ Official sources (like the web pages of the government, statistical agencies, or the Federal Reserve Banks) (1)
- ☐ Articles in either general-interest newspapers or specialized economics and finance newspapers, online or in print (like the USA Today, New York Times, Wall Street Journal, Economist) (2)
- ☐ Twitter, Facebook, or other social media (3)
- ☐ News or other programs on television and radio (4)
- ☐ Coworkers (5)
- ☐ Friends or Relatives (6)
- ☐ Other internet sources (blogs, discussion forums) (7)
- ☐ Another Source (8) _____

QJH6 When did you hear the most recent news about monetary policy or the Federal Reserve? Please select the most appropriate answer.

- ○ In the last couple of hours (1)
- ○ Earlier today (2)
- ○ Yesterday (3)
- ○ Two days ago (4)
- ○ Three days ago (5)
- ○ More than three days ago (6)
- ○ I don't remember (7)

QJH7a What were the main pieces of news about monetary policy or the Federal Reserve that you heard most recently? Select all that apply.

- ☐ There was an international meeting of central bankers (1)
- ☐ There was a change in interest rates announced (2)
- ☐ There were changes announced about asset purchase plans (3)
- ☐ There was a change in the leadership at the Federal Reserve (4)
- ☐ There was an announcement about new strategies at the Federal Reserve (5)
- ☐ The Federal Reserve put in place new lending facilities to fight the recession (6)
- ☐ Other (7) _____
- ☐ I don't remember (8)

QJH8 Who did you hear news about? Select all that apply.

- ☐ Jerome Powell (1)
- ☐ Christine Lagarde (2)
- ☐ Alan Greenspan (3)
- ☐ Janet Yellen (4)
- ☐ None of the above (5)
- ☐ I don't remember their names (6)

JH9 In terms of the Federal Reserve's broad economic objectives, what do you think it views as most important among the following? Please select up to 2

- ☐ Keeping interest rates low to reduce the government's cost of borrowing (1)
- ☐ Promoting maximum employment (2)
- ☐ Keeping stock prices high (3)
- ☐ Bailing out failing financial institutions (4)
- ☐ Ensuring price stability (5)
- ☐ Maintaining a strong dollar (6)

- [ ] Reducing economic inequality (7)
- [ ] Fighting climate change (8)

QJH10 In terms of prices in the economy, which do you think best represents what the Federal Reserve is trying to do? Select all that apply.

- [ ] Keep the inflation rate as close as possible to a specific target at all times (1)
- [ ] Make inflation, on average, be approximately equal to a target rate (2)
- [ ] Keep prices from rising over time (3)
- [ ] Ensure inflation is sufficiently high to erode the value of government debt (4)
- [ ] Keep the inflation rate low enough to promote a strong dollar (5)
- [ ] None of the above (6)
- [ ] I don't know (7)

QJH11 What rate of inflation do you think the Federal Reserve tries to achieve in the longer run?
_____% per year

QJH12.3 Suppose that the inflation rate in 2022 turns out to be around 1%. What inflation rate do you think the Federal Reserve will try to achieve over the following year or two?
_____ % per year

QJH12.4 Suppose that the inflation rate in 2022 turns out to be around 3%. What inflation rate do you think the Federal Reserve will try to achieve over the following year or two?
_____ % per year

TJH1 Please proceed to the next question.

TJH2 As of January 2020, the Federal Reserve was targeting an inflation rate of 2% per year. Effectively, this means that when inflation is below the target, the Federal Reserve will try to push inflation **back up to the target**. And vice versa, when inflation is above the target, the Federal Reserve will try to push inflation **back down to the target**.

TJH3 The Federal Reserve targets an **average** inflation rate of 2% per year. Effectively, this means that when inflation is below the target, the Federal Reserve will try to push inflation **above the target for some time**. And vice versa, when inflation is above the target, the Federal Reserve will try to push inflation **below the target for some time**.

TJH4 Before August 2020, the Federal Reserve was targeting an inflation rate of 2% per year. Effectively, that policy meant that when inflation is below the target, the Federal Reserve would try to push inflation **back up to the target**. And vice versa, when inflation is above the target, the Federal Reserve would try to push inflation **back down to the target**.

Now, the Federal Reserve targets an **average** inflation rate of 2% per year. Effectively, this means that when inflation is

below the target, the Federal Reserve will try to push inflation **above the target for some time**. And vice versa, when inflation is above the target, the Federal Reserve will try to push inflation **below the target for some time**.

QJH13 Over the next 5 years, do you think there will be inflation or deflation on average?

- ○ Inflation (1)
- ○ Deflation (opposite of inflation) (2)

QJH13a What do you expect the average annual rate of inflation to be over the next 5 years? Please give your best guess.
I expect the average annual rate of inflation to be ___ percent per year over the next 5 years.

_____

QJH13b What do you expect the average annual rate of deflation to be over the next 5 years? Please give your best guess.
I expect the average annual rate of deflation to be ___ percent per year over the next 5 years

_____

QJH14 Over the next 5 years, do you think that there will be an increase or decrease in GDP on average?

- ○ Increase (1)
- ○ Decrease (2)

QJH14a What do you expect the average annual rate of increase in GDP will be over the next 5 years? Please give your best guess.
I expect the average annual rate of increase to be ___ percent per year over the next 5 years.

_____

QJH14b What do you expect the average annual rate of decrease in GDP will be over the next 5 years? Please give your best guess.
I expect the average annual rate of decrease to be ___ percent per year over the next 5 years.

_____

QJH15 In your view, will the total income of all members of your household (including you), after taxes and deductions, increase or decrease over the next 5 years on average?

- ○ Increase (1)
- ○ Decrease (2)

QJH15a What do you expect the average annual rate of increase in the total income of all members of your household will be over the next 5 years? Please give your best guess.
I expect the average annual rate of increase in the total income of all members of my household to be ___ percent per year over the next 5 years.

_____

QJH15b What do you expect the average annual rate of decrease in the total income of all members of your household will be over the next 5 years? Please give your best guess.
I expect the average annual rate of decrease in the total income of all members of my household to be ___ percent per year over the next 5 years.

_____

QJH16 When do you expect that mortgage rates will start to rise in a significant way?

- ○ Second half 2021 (1)
- ○ Sometime in 2022 (2)
- ○ Sometime in 2023 (3)
- ○ In 2024 or later (4)
- ○ They are unlikely to rise (5)
- ○ Not sure (6)

QJH17 How would you rate the credibility of the Federal Reserve in terms of its ability to achieve maximum employment and stable prices?

Very low credibility Very high credibility

0 10 20 30 40 50 60 70 80 90 100

Rating () ()

QJH18 What do you think is the chance that inflation will be more than 5% in the next 12 months?

No chance Sure thing

0 10 20 30 40 50 60 70 80 90 100

Probability () ()

QJH19 What do you think is the chance that inflation will be more than 5% during 2024?

No chance Sure thing

0 10 20 30 40 50 60 70 80 90 100

Probability () ()