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Inflation preferences

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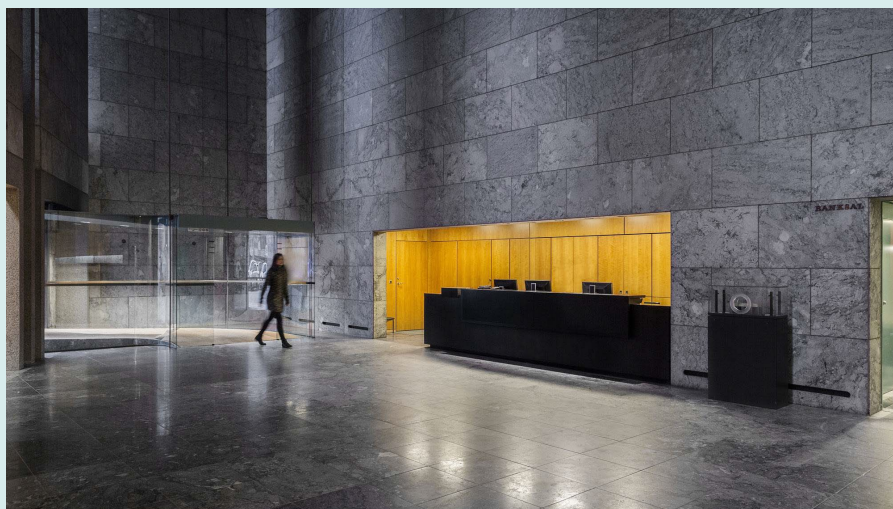
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Inflation Preferences

We document novel survey-based facts about preferred long-run inflation rates among US consumers. Consumers on average prefer a 0.20% annual inflation rate, well below the Federal Reserve's 2% target. Inflation preferences not only correlate with demographic and socioeconomic characteristics, but also with economic reasoning. A randomized control trial reveals that two narratives based on economic models – describing how inflation lowers the real value of wages and money holdings – affect inflation preferences. While our results can inform the design of central bank communication on inflation targets, they also raise questions about the alignment between such targets and consumer preferences.

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Abstract

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Keywords: Household expectations, Survey, Inflation preferences

JEL-Codes: C83, E31, E52

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1 Introduction

Most modern central banks operate under a mandate of price stability. In the United States, for example, Congress has given the Federal Reserve System a mandate to promote stable prices, maximum employment, and moderate long-term interest rates. However, the interpretation of price stability in policy circles and academia has evolved to targeting a given level of low and stable *inflation*. This leap from stable prices to stable inflation is justified by the notion that *some inflation* can be good, deriving from theoretical economic models.¹ In contrast, consumers are known to dislike inflation (Shiller, 1997; Stantcheva, 2024). This tension raises two sets of questions that we explore in this paper. First, does a gap exist between preferences held by the population and the actual inflation target of the Federal Reserve, and, if so, how wide is it? And second, can policymakers influence consumers’ preferred inflation rate by communicating theories, and if so, to what extent?

Using a novel, nationally representative survey of US residents, our analysis establishes that there indeed exists a sizeable gap between consumer preferences and actual policy targets: US consumers prefer a substantially lower inflation rate than that targeted by the Federal Reserve. The median (mean) unconditional inflation preference of respondents in our survey is for 0% (0.20%) inflation, and a large majority (more than 80%) prefers a monetary policy targeting a long-term inflation rate for the US economy lower than the Fed’s two-percent target. To better understand the sources of this tension, our analysis takes two steps. First, we highlight factors that are systematically related to consumer inflation preferences. Second, we embed a randomized control trial (RCT) in our survey and establish the *causal* relationship between inflation preferences and economic narratives consumers may have in mind. We thereby show that policymakers can influence consumer inflation preferences by communicating economic narratives—and we outline the scope for doing so.

The first step in our analysis shows that respondents’ demographic and socioeconomic characteristics, together with their economic reasoning, are highly correlated with their inflation preferences. Older respondents, for example, prefer lower inflation on average. Survey participants whose total income is more reliant on wages also prefer lower inflation. In contrast, respondents who have studied economics report significantly higher inflation preferences. This finding points to the potential importance of reasoning and economic narratives for inflation preferences among the public. Indeed, when articulating their preferred rate of inflation, consumers report having in mind narratives that economists deem relevant, and some of those narratives correlate meaningfully with inflation

¹There are several arguments for a target above zero, including (1) adjusting for productivity growth (Adam and Weber, 2019), (2) providing monetary policy leeway given the risk of hitting the effective lower bound (i.e., Coibion et al., 2012), (3) higher targets in response to lower natural rates (Blanchard et al., 2010), or (4) inflation “greasing the wheels of the labor market” (Tobin, 1972). Notably, in early work on central bank targets, Svensson (1999) argues that price-level targeting may be preferable to inflation targeting from the view of a loss-function minimizing central bank.

preferences. Respondents who considered how inflation erodes wages also expressed preferences for lower inflation. In contrast, those who considered the consequences of the effective zero lower bound on economic activity expressed preferences for higher inflation.

The second step of our analysis offers novel evidence for a *causal* relation between inflation preferences and economic narratives. In the RCT embedded in our survey, respondents were randomly assigned either to a control group or one of five treatment groups. Each treatment group informs respondents about a specific narrative that captures a theory on the optimal rate of inflation. We find that two narratives altered inflation preferences significantly, statistically and economically: Narratives about (1) the effect of inflation on the real value of cash holdings and (2) inflation eroding real wages are both causally linked to lower inflation preferences.

Viewed through a simple conceptual framework, our analysis provides further insight on the relationship between economic narratives and inflation preferences: Communicating information on economic narratives about inflation shifts the net inflation preferences elicited by changing the relative likelihood that respondents place on certain narratives as explanations of optimal inflation. This shift, however, applies only to certain theories and among certain demographics. In particular, informing individuals about three theories increases the likelihood of these theories among the treated respondents: (1) Inflation increases the opportunity cost of holding money; (2) inflation gives more room for policy under the effective zero lower bound; and (3) higher inflation can improve labor market conditions. By contrast, informing the respondents that inflation erodes wages or affects nominal asset prices does not affect the likelihood of these explanations being accepted.² Moreover, the treatment effects are stronger among certain demographics: When offered narratives corresponding to these theories, older participants, women, and those without a formal economic education are more influenced in their probabilities assigned. As for inflation preferences, this framework implies that the narrative about the real-wage effects of inflation matters, alone.

Overall, our findings have broad implications for monetary policy. To the extent that an effective monetary policy should justify its inflation target, our survey indicates that communicating such justifications can and does resonate with the public—but only in certain dimensions and differently for different demographics. Our results pave the way for future research to compare the magnitudes of these effects more comprehensively across different communication policies, thereby informing communication choices for monetary policy. Moreover, our results highlight a quantitatively significant discrepancy between inflation targets set by policymakers and inflation rates preferred by consumers, warranting future research to align modelling with the empirical environment.

²It is important to note that this null effect could arise from two conflicting empirical possibilities: Either such theories do not resonate with respondents, or respondents are already sufficiently informed, so that further information does not alter their views. Given that untreated respondents in the control condition subscribe to these theories when asked, we surmise that the second alternative is more likely.

Related literature While the literature has made strides in studying the theoretical optimal long-run inflation rate, there is scant work that directly elicits constituents’ preferences over inflation. The pioneering survey of Shiller (1997) and its recent redux by Stantcheva (2024) come close by eliciting the reasons why respondents dislike inflation. Our findings resonate with the main result—that people dislike inflation because it erodes their standard of living. Frey (2008), Hübner and Klemm (2015), and Ruprah and Luengas (2011), as well as Di Tella et al. (2001), echo the findings in Shiller (1997) more generally by presenting cross-country survey evidence that people’s happiness or life satisfaction is adversely related to their country’s inflation rate. Consistent with this evidence, Draeger et al. (2024) show that consumers in Germany prefer inflation to be lower than the rate they expect over the next 12 months. The complementary contribution of our analysis is threefold: First, we *quantify* the long-term preferred rates of inflation held by respondents, together with their demographic and socioeconomic correlates. Second, we map out the relevance of economic models in the formation of such preferences. Third, we implement an RCT to gauge the scope for central bank communication to shape inflation preferences.

In charting the economic narratives that people have in mind when they express their inflation preferences, we connect to the work in Candia et al. (2020), Hajdini et al. (2022) and Jain et al. (2024). Based on an RCT, Hajdini et al. (2022) causally establish a perceived low individual-level pass-through of inflation expectations into future income growth and point to underlying labor-market frictions as the reason. Jain et al. (2024) extend these findings, showing that consumers link high inflation with bad labor-market conditions. Similarly, Candia et al. (2020) interpret evidence on inflation expectations in a manner somewhat analogous to our analysis of inflation preferences: Consumers provide a supply-side interpretation of inflation (“inflation is bad for the economy”) because it implies negative income effects. Complementing these papers, our analysis asks about inflation preferences, directly and systematically, and relates them to economic narratives respondents may have in mind. We do so by implementing an RCT with treatments in the form of narratives—corresponding to mainstream economic theories—and by eliciting the narratives in preference formation.

Our paper also speaks to a large literature on preferences concerning the macro economy and broad demographic and socioeconomic correlates. For example, Falk et al. (2018) document substantial heterogeneity in economic preferences across and within countries, establishing correlations with demographic factors and economic outcomes. Coles and Chen (1990), Hofstetter and Rosas (2021), Jayadev (2008), Lelyveld (1999), and Scheve (2003, 2004) document variations in the short-run trade-off between inflation and unemployment across countries, while Hayo (1998) shows trends and heterogeneity in broad macroeconomic policy preferences, including over “fighting rising prices.” Similarly, Aklin et al. (2022), Easterly and Fischer (2001), and Howarth and Rommerskirchen (2016) document significant heterogeneity in the aversion to inflation. While our analysis resonates with

the broad finding that economic preferences are highly heterogeneous, and can be systematically related to demographic and socioeconomic factors, our complementary contribution lies in our specific focus on long-run inflation preferences, which constitute a central element of central-bank objective functions.

Finally, we address the viability of central-bank communication about policy targets. Our approach aligns with Coibion et al. (2022), who study the impact of policy communication on inflation expectations, as well as Andre et al. (2022), who study the impact of subjective economic models on expectations of unemployment and inflation. Although our focus is on preferences rather than expectations we also implement an RCT, which is crucial in the policy-communication context as correlational surveys cannot establish the causal potential of economic narratives. For example, D’Acunto et al. (2020) use an RCT to demonstrate that monetary-policy communication about targets, as opposed to instruments for reaching policy objectives, is more effective, especially with hard-to-reach demographic groups.

2 Survey

Our survey includes a nationally representative sample of 1,000 responses in the control group and 500 responses in each of five treatments, collected in February and March 2024. The survey was administered by Qualtrics Research Services. Table A.1 in the Appendix compares a demographic breakdown of our survey sample to the sampling targets. In order to obtain sampling weights *exactly* representative of the US population, we apply iterative proportional fitting to create respondent weights (“raking,” see for example Bishop et al., 1975; Idel, 2016). Appendix C provides further details on the survey.

Our survey is organised into five stages.³ The first elicits respondents’ prior long-term inflation preferences—that is, consumer preferences for inflation in a typical year:

Consider the economy you live in. Its prices tend to move up or down over time. What would you prefer the inflation rate to be for these goods and services, in a typical year?
On average, the inflation rate should be:

- O positive*
- O zero*
- O negative*

If a respondent selects either positive or negative inflation, a follow-up question is posed. Depending on the answer given to the previous question, the follow-up question refers to inflation or deflation:

In a typical year, what rate of [inflation/deflation] would you prefer?

³Appendix C contains a complete description of the survey questions, including their layout.

Respondents can select one of six ranges for inflation, from “*more than 0% and less than or equal to 1%*” to “*more than 8%, please specify ----*.”

This two-step format mimics that used for eliciting point-forecast inflation expectations in the New York Fed Survey of Consumer Expectations (e.g., Armantier et al., 2017). A series of questions that probe demographic and socioeconomic characteristics follow. These include gender, income, general education, economic education, ethnicity, and state of residence. They have the added benefit of serving as a buffer before posterior inflation preferences are elicited in stage three.

In the second stage, respondents are randomly assigned to one of five treatments or a control group. The treatments (see T1-T5 below) feature narratives that correspond to one of five models of price determination, encompassing the predominant paradigms in the literature. The control group receives no information.

T1 (Friedman) *You don’t earn interest on your cash at home and only little interest on money in your checking account. But if goods and services become more expensive over time (inflation), your cash becomes less valuable. Hence, lower inflation can be beneficial when you hold cash.*

This first narrative represents the paradigm of determining optimal inflation via the (opportunity) cost of producing currency, which is (approximately) zero, hence calling for deflation as optimal in the long run (Friedman, 1969).

T2 (ELB) *When prices increase over time (inflation), interest rates tend to be high. But in times of economic crisis, lower interest rates are needed to boost the economy. Higher inflation, therefore, gives central banks more opportunities to lower interest rates and help the economy to recover.*

This second narrative refers to the notion that the existence of an effective lower bound (ELB) on nominal interest rates makes it more difficult for inflation-targeting central banks to meet their inflation objectives with conventional monetary policy tools. This is the case not only when policy rates are at (or close to) the ELB, but also when policy rates have risen above it. Under this paradigm, therefore, some positive inflation is optimal to mitigate the risk of policy rates becoming constrained by the ELB (see, e.g., Andrade et al., 2019; Coibion et al., 2012).

T3 (Labor market) *In times of crisis, it is sometimes necessary for firms to reduce wages in order to keep people employed. But if they cannot cut wages, they might fire employees instead. Higher inflation reduces wages implicitly. Thus, firms are not forced to reduce wages explicitly or fire workers in times of crisis.*

This third narrative corresponds to the premise that higher inflation reduces real wages implicitly, and making high inflation an attractive way for firms to keep workers employed. In other words, inflation under this paradigm is useful because it “greases the wheels of the labor market” (see, e.g., Tobin, [1972](#)).

T4 (Wage inflation) *When prices increase over time (inflation), worker’s wages may not immediately adjust in proportion. Inflation, therefore, affects the amount of goods and services that workers can buy with their wages. By keeping inflation low, workers can buy a similar amount of goods and services over time.*

Conversely, the fourth narrative describes how nominal wages may be sticky and may not immediately catch up with changes in prices, thereby making it more desirable for prices to be stable over time.

T5 (Asset inflation) *When prices increase over time (inflation), the dollar value of your assets (such as real estate, retirement savings, stocks, bonds and so on) may not immediately adjust in proportion. Inflation, therefore, affects the amount of goods and services that you can buy with your assets. By keeping inflation low, you can buy a similar amount of goods and services with your assets over time.*

The fifth narrative concerns potential asset-holders and outlines the general belief that the nominal values of assets—such as real estate and stocks—may not immediately adjust in proportion to changes in prices (see, e.g., Fama and Schwert, [1977](#) for evidence).

The third stage of the survey presents a variant of the question about inflation preferences featured in the first stage. The purpose is to elicit respondents’ posterior long-term inflation preferences. The posterior question is thus posed in a similar but not identical manner, with slightly adjusted wording (see Appendix [C](#)).

In the fourth stage, after eliciting the posterior inflation preference, respondents are presented with narratives corresponding to all five inflation models, irrespective of experimental condition and in random order. For each narrative, the respondent is asked whether she had considered it when articulating inflation preferences in the question prior.

The fifth and final stage presents a series of questions about the Federal Reserve and its monetary policy, and the respondents’ economic situation. This stage also features some hypothetical questions in vignette form about inflation and personal economic behavior, as well as inflation and personal wage growth. The purpose is to gauge whether consumers in the sample selected understand the consequences of inflation for *their own* economic situation. Appendix [C](#) contains a comprehensive list of our survey questions.

3 Determinants of inflation pPreferences

We document a striking tension between the inflation rate consumers prefer and the one they perceive to be the target of the Federal Reserve. The histogram in the left panel of Figure 1 displays the distribution of respondents’ answers to the question eliciting their prior inflation *preferences* (stage 1 in the survey).⁴ The mean of the inflation preferences is 0.20%,⁵ and the median is at 0%. 34.49% of respondents state a preference for inflation above 0, while 23.54% prefer deflation. Table A.3 in the Appendix provides further descriptive statistics on the unconditional inflation preference. This distribution of inflation preferences contrasts with the distribution of the *perceived* inflation target of the Federal Reserve, plotted as the density of the answers to question F4 in Appendix C, in the left panel of Figure 1. The mean perceived target is 3.38%, while the median is at 2%, locating a potentially well-informed consumer in the vicinity of the Fed’s official target. The right panel of Figure 1 explicitly shows the distribution of the gap at the individual level, between the perceived inflation target of the Fed and the preferred inflation rate. Notably, 88.50% of respondents would prefer an average inflation rate below the perceived inflation target. Likewise, comparing preferences to the *actual* target—close to 2% inflation per year—we still find that 83.47% of respondents would prefer less inflation.

To better understand the sources of this tension, we show first which demographic and socioeconomic factors are at play, and second, which economic models consumers may have in mind when their preferences are elicited.

3.1 Demographic and Socioeconomic Determinants

To explore the relationship between inflation preferences and demographic and socioeconomic factors, we regress respondent preferences π_i^* (prior preference) on a set of demographic characteristics, denoted by D_i , and on socioeconomic conditions, E_i :

$$\pi_i^* = \beta_0 + \delta D_i + \zeta E_i + \epsilon_i \quad (1)$$

where the vectors δ and ζ correspond to the impact associated with the demographic and socioeconomic characteristics. To gauge how much each set of factors account for the variation in inflation preferences, our analysis considers specifications that include D_i and E_i separately, as well as jointly, shown in Columns (1) and (2) of Table 2 and respectively Column (3). Demographic factors include gender, age bracket, college education, having had an economics-related major, ethnicity,

⁴We use the mean of the selected bin as the respondents’ inflation preference. To avoid extreme outliers driving results in what follows, preferences are winsorized at 15% (-15%) inflation. This step affects 0.31% of respondents. Similarly, the perceived Fed target is winsorized at 100% (-100%).

⁵This average is calculated as the Huber-robust and survey-weighted mean.

and political leaning. Socioeconomic conditions include income bracket, the composition of income according to various sources, as well as the size and composition of financial (non-housing) assets. Other variables include information on real-estate holdings and mortgages.

A number of patterns emerge for demographic characteristics. First, and across specifications, older respondents prefer less inflation on average. For example, participants over 55 prefer 0.951 percentage points *lower* inflation than those below 35 years of age, while those aged 35 to 55 prefer 0.281 percentage points lower inflation. Second, relative to Democratic voters, Republicans and independent voters also prefer lower inflation. Third, respondents indicating that they have majored in economics report significantly *higher* inflation preferences, by nearly a full percentage point.

In terms of socioeconomic factors, respondents with low disposable income, below USD 50k per year, prefer significantly higher inflation. When breaking down income into different major sources, respondents with a higher share of labor income prefer less inflation. A 10-percentage points higher share of wage income in total income corresponds to a 0.065-percentage point *lower* inflation preference. By contrast, asset-rich respondents prefer on average inflation to be higher. The composition of assets—the share of cash, pension, and financial-investment holdings—does not seem to play a significant role for preferences. Instead, home-ownership is associated with lower inflation preferences, by 0.263 percentage points. Those who hold a home mortgage, however, prefer more inflation, by 0.391 percentage points, consistent with the redistributive effect of inflation, from savers to borrowers, as described by Fisher (1933). Our age effect—with older respondents more averse to inflation—is possibly a further manifestation of this effect, as younger (older) households are more likely to be borrowers (savers) (see e.g., Doepke and Schneider, 2006).

3.2 Economic inflation models

An additional potential determinant of inflation preferences that we specifically explore is the set of economic narratives that consumers might have in mind (see, e.g., Shiller, 2017). It is important to note that we consider here a relatively narrow definition of narratives as simplified explanations of *economic models* that have implications for the optimal rate of inflation. Accordingly, this section summarizes the importance of narratives corresponding to economic models from the literature, and their quantitative relation to the inflation preferences elicited.

To gauge the baseline prominence of the respective narratives, we proceed by considering the information elicited from our untreated respondents—that is, those who did not receive any narrative treatments—right after they stated their inflation preferences. Notably, respondents generally indicate that they deem more than one economic narrative to have been relevant in their articulation of inflation preferences; only 5.6% of respondents indicated that they considered exactly one

narrative; and 10.4/22.2/24.9/30.1% considered 2/3/4/5 different narratives, respectively; while a mere 6.8% stated that they considered none of the narratives given. As for the most prominent narrative, 77.4% of respondents indicated that they considered the narrative about inflation eroding workers’ purchasing power. In contrast, the narrative about potentially positive effects of inflation on aggregate employment (“greasing the wheels of the labor market”) is the least prominent, with only 56.6% of respondents stating that they considered it. Table 1, Column (1) provides for each economic narrative on inflation the fraction of respondents indicating that they considered it.

To understand the *relative* importance of different narratives at the individual-respondent level—rather than a narrative’s unconditional aggregate frequency count—we calculate $p_i(m_k)$, the relative weight respondent i places on narrative m_k , as:

$$p_i(m_k) = \begin{cases} \frac{\mathbb{I}_i(m_k)}{\sum_{j=1}^5 \mathbb{I}_i(m_j)} & \text{if } \sum_{j=1}^5 \mathbb{I}_i(m_j) > 0 \\ 0 & \text{if } \sum_{j=1}^5 \mathbb{I}_i(m_j) = 0 \end{cases} \quad (2)$$

where $\mathbb{I}_i(m_k)$ denotes an indicator variable equal to 1 if respondent i reports considering narrative m_k . For example, if a respondent considered 2 narratives, the wage-inflation narrative and the ELB narrative, then $p_i(ELB) = \frac{1}{2}$. Our results show that respondents on average place a weight of 21.5% on the wage-inflation narrative, which is the highest weight placed on any narrative, and also aligns with the aggregate frequency counts described above. In contrast, the weight on the labor-market effects of inflation is the lowest, at 14.5%, again consistent with the above findings. Table 1 shows all relative weights across the different narratives.

Two narratives of inflation, indicated by respondents as relevant in their considerations, exhibit a statistically significant relationship with consumer inflation preferences in line with the respective economic theory. Our analysis gauges the strength of this relationship by estimating the following specification:

$$\pi_i^* = \beta_0 + \sum_{k=1}^5 \alpha_k \mathbb{I}_i(m_k) + \delta D_i + \zeta E_i + \epsilon_i \quad (3)$$

where again $\mathbb{I}_i(m_k)$ denotes an indicator variable equal to 1 if respondent i considered narrative m_k . As Columns (4) to (8) of Table 2 show, respondents who considered the narrative on wage inflation eroding purchasing power reported significantly *lower* inflation preferences, on average by 0.734 percentage points. In contrast, respondents who considered the ELB on average stated inflation preferences that are 0.533 percentage points *higher*.

The share of variation explained by the economic narratives in total, accounting for inflation preferences, is 13.7% according to Owen values. The two other sets of factors, demographics and socioeconomic characteristics, account for 46.9% and 39.4%, respectively. In other words, all three sets of factors play a role, and economic narratives appear to be the least important of the three.

Interestingly, the effective-lower-bound narrative accounts for the largest share of the inflation-preferences variation explained by the five narratives (50.5%), with the wage-inflation narrative coming in second (26.2%). The narrative on labor-market effects accounts for 10% of the variation explained by the five narratives. In contrast, the Friedman and asset-inflation narratives seem to account for very little of the total variation explained (3.6% and 2.7%, respectively), even though a significant share of survey respondents indicated that they considered them.

4 Causal evidence: randomized control trial

While we find that narratives are indeed associated with respondents' inflation preferences, the direction of causality can go either way. On the one hand, narratives can shape consumers' preferences. On the other, socioeconomic and demographic factors, or even ex-post justification and unobserved characteristics, can determine which narratives resonate with respondents. This section draws on our RCT to establish the causal effects of economic narratives on inflation preferences. To this end, we first introduce a simple formal framework to conceptualize this interplay between economic narratives and inflation preferences, and then present our findings.

Formally, our framework considers a set of individual types, denoted by $\theta \in \Theta$, where θ can capture either the whole population or demographic or socioeconomic types, such as gender, age, and economic conditions. We assume that these types consider a set of possible models about inflation, denoted by $m \in M$, where m can denote models of optimal or preferred inflation as in one of our treatments or other potential models that these types might consider.

Denote by $\pi^*(\theta|m)$ the optimal or preferred inflation rate from the perspective of an individual of type θ , given economic model m . These preferred inflation rates should differ across types and models because, for instance, individuals with a higher propensity to save might prefer lower inflation since their assets would be devalued more under higher inflation. Additionally, participants in our study are presumed to arrive with a preconceived probability distribution over models: $p(m|\theta)$ (which are meant to map to the weights that respondents assign to each narrative in our survey). Their desired inflation rate, therefore, can be expressed as the preferred inflation average under these probability weights:

$$\pi^*(\theta) = \mathbb{E}^m[\pi^*(\theta|m)] = \sum_{m \in M} p(m|\theta) \pi^*(\theta|m) \quad (4)$$

Our experimental treatments are designed to alter $p(m|\theta)$ by signaling to participants that certain models are more likely than others. Since $\pi^*(\theta|m)$ already conditions on m , we posit that revealing information about m does not change an individual's preference conditional on m .

Now, consider a treatment arm featuring a specific model $m_0 \in M$. Let $p(m|\theta, m_0)$ denote the

probability assigned to model m by an individual of type θ who was treated with information about model m_0 . We proceed with the assumption that while this treatment can change the probability weight assigned to that model m_0 , it does not change the *relative* probabilities assigned to models other than m_0 ; i.e., for any $m' \neq m_0$:

$$\frac{p(m'|\theta)}{1 - p(m_0|\theta)} = \frac{p(m'|\theta, m_0)}{1 - p(m_0|\theta, m_0)} \quad (5)$$

As a result, one can derive the following identity that relates type θ 's pre- and post-treatment inflation preferences to one another:

$$\underbrace{\pi^*(\theta|T = m_0)}_{\text{post-treatment belief}} = \underbrace{\pi^*(\theta)}_{\text{pre-treatment belief}} + \underbrace{\overbrace{(p(m_0|\theta, m_0) - p(m_0|\theta))}^{(1)} \times \overbrace{(\pi^*(\theta|m_0) - \pi^*(\theta|\neg m_0))}^{(2)}}_{\text{treatment effect}} \quad (6)$$

According to this equation, the treatment effect—that is, the difference between the pre- and post-treatment beliefs—is comprised of two components. (1) $p(m_0|\theta, m_0) - p(m_0|\theta)$, which captures the change in the likelihood of model m_0 from the perspective of type θ . Importantly, if the treatment does not change the likelihood of model m_0 , we expect to see no differences between the control and treatment groups, a prediction that follows from term (1) being equal to 0. (2) $\pi^*(\theta|m_0) - \pi^*(\theta|\neg m_0)$, where $\neg m_0$ denotes the set of all models in M except for m_0 . This term captures that idea that if the treatment *does* shift the likelihood of model m_0 , so that (1) is not zero, then the treatment effect is proportional to the difference between type θ 's preferred inflation under model m_0 relative to all other models in M .

Thus, to summarize and answer our motivating question for this framework, the sign and the size of the treatment effect under different models depends on two channels: (1) how much the treatment with m_0 shifts the likelihood of m_0 among the treated individuals and in which direction, and (2) how different type θ 's preferred rate of inflation is under model m_0 versus all other models in M .

Given the lens of this framework, we first show that some of the treatments employed in the RCT shift the subjective probabilities of models across participants. To do so, we estimate the following equation across all treatment arms:

$$p_i(m_k) = \beta_0 + \sum_{k=1}^5 \alpha_k \mathbb{T}_i(m_k) + \delta D_i + \zeta E_i + \epsilon_i \quad (7)$$

where $p_i(m_k)$ is the probability assigned to the model in treatment k by participant i . Equation (2) above describes the construction of these probabilities assigned to theories. $\mathbb{T}_i(m_k)$ is an indicator

variable equal to 1 if respondent i received treatment m_k and zero otherwise. Finally, D_i and E_i filter out demographic and socioeconomic effects.

Several findings emerge based on the estimation of equation (7). Receiving a treatment shifts upwards the probability for the *corresponding* inflation model for the Friedman, ELB, and labor market models. In addition, we find a number of *indirect* treatment effects: receiving the treatment on the Friedman model, for example, reduces the probability assigned to the ELB and wage inflation models.⁶ These findings suggest that communicating these specific theories shapes the overall beliefs of participants about their likelihood and, therefore, may affect overall inflation preferences. Panel A of Table 3 shows these results.

However, these findings also mask the heterogeneous effects of these treatments across various demographic and socioeconomic groups. After all, one would expect, for instance, that those with higher education are more familiar with economic impacts of inflation—not to mention those with an economics education—which in turn should render their beliefs more resilient to our treatments. To test this hypothesis, we consider next an augmented specification, where we interact demographic factors θ , such as an indicator variable for age or gender, with the *direct* treatments:

$$p_i(m_k) = \beta_0 + \sum_{\theta \in \Theta} [\gamma_{k,\theta} \mathbb{T}_i(m_k) \times \theta_i] + \delta D_i + \zeta E_i + \epsilon_i \quad (8)$$

where D_i and E_i again capture specific demographic or economic fixed effects.

Indeed, the treatments have widely heterogeneous empirical effects across demographic and socioeconomic groups on the *probability* assigned to the economic models of optimal inflation. For example, as Panel B in Table 3 shows, respondents *without* an economics education increase the probability weight assigned to models when they receive the corresponding treatment narratives. At the same time, respondents *with* an economics major increase the probability placed on the Friedman rule, only. Likewise, there are differences according to gender and age, as well as differences across political affiliation. While Democrats and Republicans can both be influenced in their probability assessment of the applicability of the Friedman model and the ELB, they react differently to labor market theories. In response to treatment, the probability Republicans place on greasing the wheels of the labor market increases, while for Democrats the probability placed on the real-wage concerns increases.

Next, we explore the estimated *net* effects of treatments on inflation preference following equa-

⁶There are two potential explanations for this effect. First, the treatment might provide information that makes respondents less likely to consider another inflation model. Second, given the construction of probabilities in equation (2), a higher likelihood of considering one model mechanically reduces the probability on other models via a higher weight in the denominator in equation (2).

tion (6). Specifically, we estimate the following specification:

$$\pi_{Posterior}^* = \beta_0 + \beta_1 \pi_{Prior}^* + \sum_{k=1}^5 \alpha_k \mathbb{T}_i(m_k) + \epsilon_i \quad (9)$$

The results presented in Table 4 show that receiving the treatment on the Friedman model reduces inflation preferences significantly, by 0.168 percentage points on average. The treatment on inflation eroding wages likewise reduces the preference by 0.144 percentage points. The other treatments do not generate causal effects.

To complement the analysis of the treatment effects, we additionally estimate a two-step procedure that implements an estimation of our structural model, equation (6). As a first step, using the data from the control group, the two-step procedure constructs the average weights assigned to specific theories by respondents, based on their demographic and socioeconomic characteristics. This step estimates the following specification:

$$p_i(m_k|\theta) = \beta_0 + \delta D_i + \zeta E_i + \epsilon_i \quad (10)$$

We can then, for any respondent receiving a treatment, construct $\Delta p_i(m_k|\theta) = p_i(m_k|\theta) - \hat{p}_i(m_k|\theta)$ as the difference between the weight any respondent places on theory m and the weight he would on average place on m conditional on not receiving a treatment:

$$\hat{p}_i(m_k|\theta) = \hat{\beta}_0 + \hat{\delta} D_i + \hat{\zeta} E_i \quad (11)$$

As a second step, given $\Delta p_i(m_k|\theta)$, the two-step procedure estimates the effect of treatments on shifting inflation preferences, taking into account any induced shifts in the probabilities assigned to economic models, in line with equation (6):

$$\pi_{i,Posterior}^* = \beta_0 + \beta_1 \pi_{i,Prior}^* + \sum_{k=1}^5 \gamma_k [\Delta p_i(m_k|\theta) \times \mathbb{T}_i(m_k)] + \sum_{k=1}^5 \varphi_k \Delta p_i(m_k|\theta) + \epsilon_i \quad (12)$$

This procedure yields a statistically significant, economically large effect of treating respondents with the narrative that emphasizes the negative real wage effects of inflation. Conditional on this treatment representing the only ‘true’ model of the world, respondents exhibit an approximately 1-percentage point lower preferred long-term inflation rate relative to all other theories. Column 2 in Table 4 shows this result.⁷

⁷Column (3) in this table also shows that this effect persists when we control for direct treatment effects in the estimated specification. This rules out the possibility that the interaction term spuriously captures any direct treatment effects, confirming that the treatment operates causally through shifts in the probability assessments. While there should be no such direct treatment effects according to the structural model, there may be several

5 Conclusion

Our paper provides two novel findings on the understanding of inflation preferences. First, our survey *quantifies* inflation preferences in the US population, including their correlation with demographic and socioeconomic characteristics—as well as economic reasoning. Second, our RCT demonstrates a *causal* relationship between economic narratives and inflation preferences. This shows that central banks may have communication tools at hand to align people’s inflation preferences with models of optimal inflation.

Our results pave the way for future research, which could compare the magnitudes of these effects more comprehensively across different communication policies, further informing communication choices for monetary policy. Moreover, our results highlight a quantitatively significant discrepancy between inflation targets set by policymakers and inflation rates preferred by consumers.

explanations, such as systematic measurement error in the probability shifts that lead to such findings, or the need to further refine the structural model. Regardless, the estimation provides a clear causal interpretation through the lens of the model.

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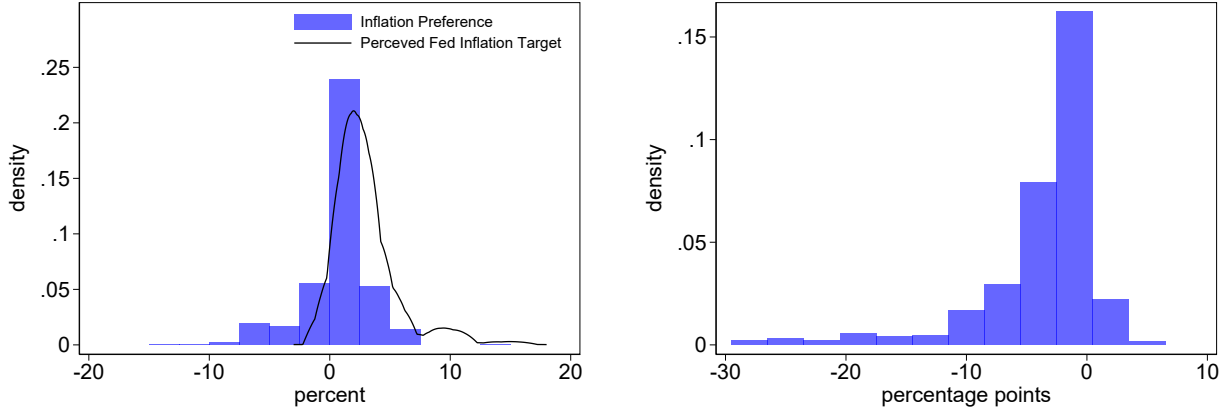
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Figure 1: Subjective inflation preferences and the perceived target of the Fed



Notes: Left panel: Blue bars indicate the distribution of inflation preferences by means of a histogram. Black line shows kernel density for the perceived Fed inflation target. Right panel: Blue bars indicate the distribution of the gap between the subjective preferences and the perceived inflation target by means of a histogram. Huber-robust and survey weights applied. ($N = 3520$).

Table 1: Consideration of inflation theories

	(1) $\bar{\mathbb{I}}(m_k)$	(2) $\bar{p}(m_k)$
Friedman	69.7%	18.1%
ELB	64.5%	16.9%
Labor market	56.6%	14.5%
Wage inflation	77.4%	21.5%
Asset inflation	74.8%	20.0%

Notes: The table displays the fraction of respondents that indicate they have considered the respective theory, in column (1). Survey weighted results displayed in column (1). In column (2), the table displays the weight assigned to a specific theory, following equation (2). Huber robust and survey weights used in column (2). Results based on untreated respondents.

Table 2: Determinants of inflation preferences

	(1) π_i^*	(2) π_i^*	(3) π_i^*	(4) π_i^*	(5) π_i^*	(6) π_i^*	(7) π_i^*	(8) π_i^*
Female	-0.166** (-2.23)		-0.0653 (-0.83)	-0.0966 (-0.62)		-0.207 (-1.35)		-0.0827 (-0.53)
35 to 55 years	-0.287*** (-2.79)		-0.281*** (-2.66)	-0.0135 (-0.07)		-0.0474 (-0.23)		-0.00751 (-0.04)
over 55 years	-0.765*** (-7.49)		-0.951*** (-8.35)	-0.890*** (-4.04)		-0.549*** (-2.75)		-0.815*** (-3.71)
College degree or above	0.267*** (3.00)		-0.0298 (-0.28)	0.0227 (0.11)		0.344* (1.95)		-0.00329 (-0.02)
Economics major	1.027*** (9.92)		0.906*** (8.58)	0.829*** (3.82)		0.973*** (4.40)		0.820*** (3.75)
Hispanic	-0.0638 (-0.58)		-0.0542 (-0.45)	-0.308 (-1.32)		-0.309 (-1.44)		-0.312 (-1.34)
Black	0.236** (2.02)		0.213* (1.73)	0.178 (0.71)		0.124 (0.54)		0.0823 (0.33)
Asian	-0.370** (-2.41)		-0.283* (-1.76)	-0.570* (-1.77)		-0.680** (-2.21)		-0.658** (-2.09)
Republican	-0.255*** (-2.87)		-0.258*** (-2.80)	-0.346* (-1.87)		-0.450** (-2.49)		-0.403** (-2.19)
Independent	-0.357*** (-4.06)		-0.326*** (-3.59)	-0.485*** (-2.70)		-0.551*** (-3.13)		-0.470*** (-2.67)
50k to 100k income		-0.561*** (-4.88)	-0.321*** (-2.60)	-0.727*** (-3.01)			-0.802*** (-3.53)	-0.663*** (-2.74)
over 100k income		-0.0187 (-0.15)	-0.0757 (-0.53)	-0.412 (-1.47)			-0.0844 (-0.34)	-0.304 (-1.09)
Labor income (share)		-0.00952*** (-7.71)	-0.00647*** (-5.17)	-0.0100*** (-4.20)			-0.0112*** (-4.68)	-0.00931*** (-3.92)
Pens./Trans. income (share)		-0.00402*** (-2.90)	0.00186 (1.26)	-0.000802 (-0.29)			-0.00528** (-1.98)	-0.000668 (-0.24)
20K to 200k assets		0.394*** (3.95)	0.309*** (3.07)	0.399* (1.92)			0.401* (1.94)	0.403* (1.96)
over 200k assets		0.870*** (7.06)	0.867*** (6.76)	0.870*** (3.21)			0.829*** (3.19)	0.872*** (3.25)
Investment assets (share)		-0.462** (-2.16)	-0.344 (-1.60)	-0.441 (-1.04)			-0.476 (-1.13)	-0.362 (-0.87)
Retirement assets (share)		-0.225 (-1.25)	-0.225 (-1.25)	-0.541 (-1.57)			-0.397 (-1.19)	-0.485 (-1.44)
Homeowner		-0.508*** (-4.49)	-0.263** (-2.28)	0.198 (0.85)			0.00422 (0.02)	0.207 (0.90)
Home mortgage		0.562*** (5.80)	0.391*** (4.06)	0.258 (1.33)			0.471** (2.37)	0.280 (1.45)
$\mathbb{I}_i(\text{Friedman})$					0.194 (1.12)	0.152 (0.85)	0.122 (0.67)	0.139 (0.78)
$\mathbb{I}_i(\text{ELB})$					0.648*** (3.93)	0.574*** (3.38)	0.616*** (3.58)	0.533*** (3.16)
$\mathbb{I}_i(\text{Labor market})$					0.219 (1.40)	0.0643 (0.39)	0.168 (1.00)	0.0429 (0.26)
$\mathbb{I}_i(\text{Wage inflation})$					-0.689*** (-3.64)	-0.723*** (-3.67)	-0.748*** (-3.74)	-0.734*** (-3.71)
$\mathbb{I}_i(\text{Asset inflation})$					-0.207 (-1.06)	-0.225 (-1.11)	-0.229 (-1.08)	-0.190 (-0.92)
Constant	0.506*** (4.49)	0.833*** (4.57)	0.831*** (3.86)	1.246*** (3.12)	0.127 (0.83)	0.714*** (2.70)	0.971*** (2.67)	1.334*** (3.17)
N	3520	3520	3520	1002	1002	1002	1002	1002
r2	0.0797	0.0565	0.113	0.126	0.0279	0.0960	0.0941	0.145

Notes: Table shows the effect of demographic and socioeconomic factors on inflation preferences of consumers. The labor income (pension and transfer income) share of total income refers to question E4 in the survey (see Appendix C). The share of investment assets (retirement assets) of total assets is based on responses to questions E9, E10 and E11 (see Appendix C for the construction of these variables). The estimated equation for the full model (column 3) is $\pi_i^* = \beta_0 + \delta D_i + \zeta E_i + \epsilon_i$. Columns (4) to (8) estimated on only untreated respondents. The estimated equation for the full model (column 8) is $\pi_i^* = \beta_0 + \sum_{k=1}^5 \alpha_k \mathbb{I}_i(m_k) + \delta D_i + \zeta E_i + \epsilon_i$. Huber-robust and survey weighted estimates. t statistics in parentheses * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3: RCT: treatment effect on inflation model probability

	(1) $p_i(\text{Friedman})$	(2) $p_i(\text{ELB})$	(3) $p_i(\text{Labor})$	(4) $p_i(\text{Wage})$	(5) $p_i(\text{Asset})$
Panel A: All treatments					
$\mathbb{T}_i(\text{Friedman})$	0.0358*** (4.31)	-0.0177** (-2.23)	0.000372 (0.05)	-0.0221*** (-2.76)	0.00158 (0.21)
$\mathbb{T}_i(\text{ELB})$	-0.0147* (-1.85)	0.0213** (2.30)	-0.00493 (-0.60)	-0.00563 (-0.67)	-0.00982 (-1.22)
$\mathbb{T}_i(\text{Labor market})$	-0.00339 (-0.42)	-0.0104 (-1.28)	0.0171** (1.97)	0.00292 (0.36)	0.00827 (1.06)
$\mathbb{T}_i(\text{Wage inflation})$	-0.00251 (-0.32)	-0.0116 (-1.45)	0.0148* (1.73)	0.0111 (1.34)	0.0105 (1.32)
$\mathbb{T}_i(\text{Asset inflation})$	0.00683 (0.90)	-0.00958 (-1.18)	-0.000446 (-0.06)	0.000338 (0.04)	0.0112 (1.43)
D_i and E_i controls	Yes	Yes	Yes	Yes	Yes
N	3519	3519	3519	3519	3519
r2	0.0216	0.0206	0.0320	0.0290	0.0223
Panel B: Direct treatments					
All respondents					
Treatment	0.0379*** (5.12)	0.0296*** (3.53)	0.0154** (1.99)	0.0152** (2.09)	0.00951 (1.37)
I) Age					
Treatment \times below 35	0.0328** (2.15)	0.00842 (0.54)	0.00164 (0.11)	-0.0114 (-0.89)	0.0140 (1.04)
Treatment \times 35 to 55	0.0303** (2.55)	0.0182 (1.40)	0.0251* (1.94)	0.0194 (1.58)	-0.00891 (-0.78)
Treatment \times over 55	0.0487*** (4.10)	0.0549*** (3.79)	0.0185 (1.48)	0.0343*** (2.69)	0.0199* (1.77)
II) Gender					
Treatment \times male	0.0303*** (3.22)	0.0211* (1.92)	0.0241** (2.23)	0.0164* (1.65)	-0.00111 (-0.12)
Treatment \times female	0.0454*** (3.97)	0.0380*** (3.02)	0.00695 (0.63)	0.0141 (1.34)	0.0193* (1.90)
III) Economic education					
Treatment \times No econ. major	0.0364*** (4.27)	0.0365*** (3.87)	0.0222** (2.50)	0.0179** (2.16)	0.0153* (1.88)
Treatment \times Econ. major	0.0433*** (2.99)	0.0000897 (0.01)	-0.0155 (-1.06)	0.00523 (0.35)	-0.0120 (-0.95)
IV) Political affiliation					
Treatment \times Democrat	0.0342*** (3.15)	0.0362*** (2.89)	0.0187 (1.63)	0.0263** (2.33)	0.00617 (0.56)
Treatment \times Republican	0.0445*** (3.25)	0.0267* (1.76)	0.0334** (2.51)	-0.000636 (-0.05)	0.00553 (0.48)
Treatment \times Independent	0.0364** (2.44)	0.0225 (1.36)	-0.0134 (-0.82)	0.0157 (1.08)	0.0187 (1.34)

Notes: The upper part of the table (A) All treatments) reports estimates for the following model: $p_i(m_k|\theta) = \beta_0 + \sum_{k=1}^5 \alpha_k \mathbb{T}_i(m_k) + \delta D_i + \gamma E_i + \epsilon_i$. Demographic controls include dummies for gender, age, education, economics education, ethnicity, race and political affiliation; Socioeconomic controls include dummies for income, financial asset holdings, ownership of real estate, real estate mortgages as well as the share of labor (pension and transfers) income and the share of fin. investments (retirement investments) on total assets (see also the variables in Table 2.) Table 3 shows coefficients for all control variables. The lower part of the table (B) direct Treatments) shows the effect of receiving a treatment on the weight assigned to the same theory as the treatment. For each inflation theory (columns 1-5), the following equation is estimated: $p_i(m_k|\theta) = \beta_0 + \sum_k \alpha_k \mathbb{T}_i(m_k) + \delta D_i + \gamma E_i + \epsilon_i$. Rows I) to IV) in the table interact the treatment effect with demographic characteristics, such as age, gender, economics education and political affiliation, $p_i(m_k) = \beta_0 + \sum_{\theta \in \Theta} \gamma_{k,\theta} [\mathbb{T}_i(m_k) \times \theta_i] + \delta D_i + \gamma E_i + \epsilon_i$. Huber-robust and survey weighted estimates. t statistics in parentheses * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 4: RCT: treatment effect on inflation preference

	(1) π_i^* (posterior)	(2) π_i^* (posterior)	(3) π_i^* (posterior)
Inflation preference (prior)	0.657*** (39.40)	0.645*** (37.75)	0.642*** (37.32)
$\mathbb{T}_i(\text{Friedman})$	-0.187** (-2.33)		-0.168* (-1.95)
$\mathbb{T}_i(\text{ELB})$	0.0344 (0.41)		0.0154 (0.18)
$\mathbb{T}_i(\text{Labor market})$	0.0446 (0.56)		0.0402 (0.48)
$\mathbb{T}_i(\text{Wage inflation})$	-0.146* (-1.88)		-0.138* (-1.71)
$\mathbb{T}_i(\text{Asset inflation})$	-0.0249 (-0.31)		-0.0227 (-0.27)
$\Delta p_i(\text{Friedman})$		-0.172 (-1.00)	-0.166 (-0.95)
$\Delta p_i(\text{ELB})$		0.439** (2.30)	0.431** (2.23)
$\Delta p_i(\text{Labor market})$		0.0854 (0.44)	0.103 (0.52)
$\Delta p_i(\text{Wage inflation})$		0.0145 (0.08)	0.00638 (0.03)
$\Delta p_i(\text{Asset inflation})$		0.0386 (0.22)	0.0477 (0.27)
$\mathbb{T}_i(\text{Friedman}) \times \Delta p(\text{Friedman})$		-0.166 (-0.47)	-0.0110 (-0.03)
$\mathbb{T}_i(\text{ELB}) \times \Delta p(\text{ELB})$		0.727 (1.53)	0.717 (1.49)
$\mathbb{T}_i(\text{Labor market}) \times \Delta p(\text{Labor market})$		0.0974 (0.22)	0.0303 (0.07)
$\mathbb{T}_i(\text{Wage inflation}) \times \Delta p(\text{Wage inflation})$		-1.056** (-2.15)	-1.015** (-2.06)
$\mathbb{T}_i(\text{Asset inflation}) \times \Delta p(\text{Asset inflation})$		0.485 (0.93)	0.471 (0.89)
Constant	0.283*** (6.33)	0.248*** (9.35)	0.287*** (6.16)
N	3518	3519	3518
r2	0.523	0.509	0.505

Notes: Table shows the effect of receiving a treatment on the stated inflation preference. Model estimated in column (1): $\pi_{Posterior}^* = \beta_0 + \beta_1 \pi_{Prior}^* + \sum_{k=1}^5 \alpha_k \mathbb{T}_i(m_k) + \epsilon_i$. Model estimated in column (2) refers to the structural equation (6): $\pi_{i,Posterior}^* = \beta_0 + \beta_1 \pi_{i,Prior}^* + \sum_{k=1}^5 \varphi_k \Delta p_i(m_k|\theta) + \sum_{k=1}^5 \gamma_k [\Delta p_i(m_k|\theta) \times \mathbb{T}_i(m_k)] + \epsilon_i$. Model estimated in column (3): $\pi_{i,Posterior}^* = \beta_0 + \beta_1 \pi_{i,Prior}^* + \sum_{k=1}^5 \varphi_k \Delta p_i(m_k|\theta) + \sum_{k=1}^5 \gamma_k [\Delta p_i(m_k|\theta) \times \mathbb{T}_i(m_k)] + \sum_{k=1}^5 \alpha_k \mathbb{T}_i(m_k) + \epsilon_i$. Huber-robust and survey weighted estimates. t statistics in parentheses * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

A Additional figures and tables

Table A.1: Survey respondent characteristics

	Survey	US population		Survey	US population
Age			Ethnicity		
18-34	27.3%	29.8%	Non-hispanic White	63.3%	57.7%
35-55	35.5%	32.4%	Non-hispanic Black	10.3%	11.9%
>55	37.2%	37.8%	Hispanic	19.3%	19.1%
			Asian and other	7.0%	11.3%
Gender			Household income		
Female	51.2%	51.1%	less than 50k	23.8%	23.3%
Male	48.2%	48.9%	50k - 100k	39.1%	39.7%
Other	0.7%	-%	more than 100k	37.1%	37.0%
Region			Education		
Midwest	20.0%	20.5%	some college or less	67.0%	67.0%
Northeast	17.1%	17.3%	bachelor's degree or more	33.0%	33.0%
South	39.2%	38.6%			
West	23.6%	23.6%			
N=3,520					

Notes: The “Survey” column represents characteristics in our survey; the “US population” column gives the value for the US population, obtained from the US Census Bureau (household income, age, ethnicity, gender, education: ACS, 2022; region: National Population Estimate, 2023). The US population statistics represent the target values for the survey weights. The survey weighted population statistics from our sample perfectly match the US population statistics. To calculate weights for the gender dimension, respondents who select “other” are added to the “male” group. Due to rounding, some percentages might not exactly add up to 100.

Table A.2: Descriptive statistics by treatment status

	Control		Treatment 1		Treatment 2		Treatment 3		Treatment 4		Treatment 5		Full Sample	
	N=1002		Friedman N=505		ELB N=501		Labor market N=501		Wage inflation N=505		Asset inflation N=505			
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Gender</i>														
Female	0.50	0.50	0.51	0.50	0.50	0.50	0.51	0.50	0.53	0.50	0.52	0.50	0.51	0.50
<i>Age</i>														
below 35	0.30	0.46	0.28	0.45	0.28	0.45	0.31	0.46	0.31	0.46	0.30	0.46	0.30	0.46
35 to 55	0.33	0.47	0.35	0.48	0.33	0.47	0.32	0.47	0.33	0.47	0.29	0.46	0.32	0.47
over 55	0.37	0.48	0.37	0.48	0.39	0.49	0.37	0.48	0.36	0.48	0.41	0.49	0.38	0.48
<i>Household income</i>														
less than 50k	0.23	0.42	0.22	0.41	0.21	0.41	0.25	0.44	0.23	0.42	0.26	0.44	0.23	0.42
50k to 100k	0.39	0.49	0.41	0.49	0.42	0.49	0.38	0.49	0.40	0.49	0.38	0.49	0.40	0.49
more than 100k	0.37	0.48	0.37	0.48	0.36	0.48	0.37	0.48	0.38	0.49	0.36	0.48	0.37	0.48
<i>Education</i>														
some college or less	0.65	0.48	0.66	0.47	0.68	0.47	0.70	0.46	0.68	0.47	0.68	0.47	0.67	0.47
bachelor's degree or more	0.35	0.48	0.34	0.47	0.32	0.47	0.30	0.46	0.32	0.47	0.32	0.47	0.33	0.47
<i>Census region</i>														
Northeast	0.15	0.36	0.18	0.38	0.17	0.37	0.20	0.40	0.18	0.38	0.18	0.39	0.17	0.38
Midwest	0.21	0.41	0.20	0.40	0.23	0.42	0.20	0.40	0.20	0.40	0.19	0.39	0.20	0.40
South	0.40	0.49	0.39	0.49	0.36	0.48	0.38	0.49	0.36	0.48	0.40	0.49	0.39	0.49
West	0.24	0.43	0.23	0.42	0.24	0.43	0.22	0.41	0.26	0.44	0.23	0.42	0.24	0.42
<i>Ethnicity</i>														
Non-hispanic White	0.59	0.49	0.59	0.49	0.60	0.49	0.59	0.49	0.56	0.50	0.53	0.50	0.58	0.49
Non-hispanic Black	0.10	0.30	0.11	0.31	0.11	0.32	0.13	0.33	0.14	0.35	0.14	0.35	0.12	0.32
Hispanic	0.21	0.40	0.20	0.40	0.17	0.38	0.19	0.39	0.19	0.39	0.18	0.38	0.19	0.39
Asian or other	0.11	0.31	0.11	0.31	0.12	0.32	0.10	0.30	0.10	0.31	0.14	0.35	0.11	0.32

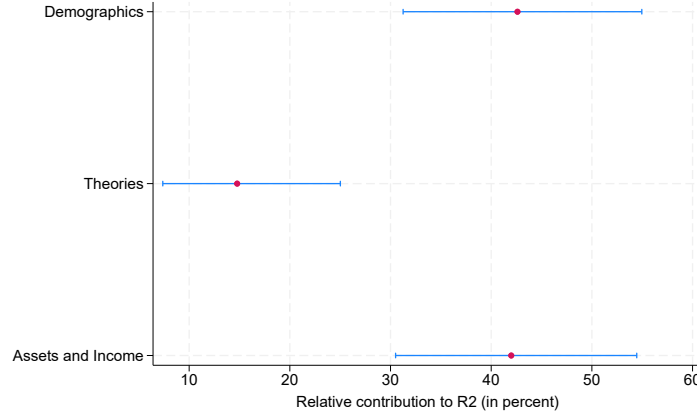
Notes: The table displays sample moments for demographic and socioeconomic characteristics, according to treatment status. All moments are computed using sampling weights.

Table A.3: Preferred inflation

	Raw			Robust		
	mean	median	sd	mean	median	sd
Prior inflation preference	0.07	0.00	2.66	0.20	0.00	2.07
Posterior inflation preference	0.29	0.00	2.47	0.36	0.00	2.01
Perceived Fed target	8.98	2.50	18.40	3.38	2.00	3.97

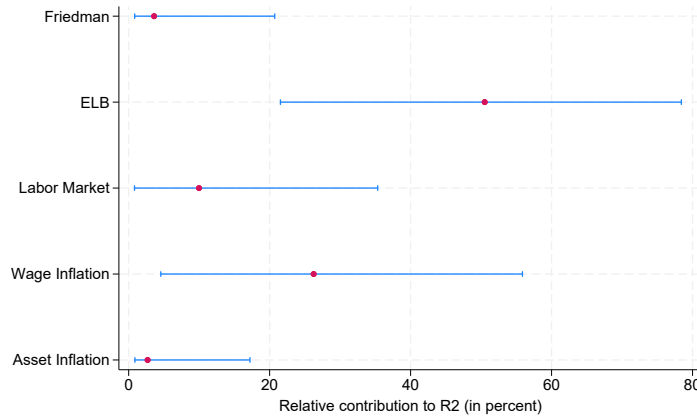
Notes: Table shows descriptive statistics (mean, median and standard deviation) for inflation preferences (prior and posterior), as well as the perceived inflation target of the Fed. Both raw (survey weighted) and robust (survey and Huber-robust) statistics displayed. For each bin in the question on inflation preferences, we take the mean value. The data on inflation preferences is winsorized at 15% (-15%) while the data on the perceived inflation target is winsorized at 100% to avoid extreme outliers driving the results for the non Huber-robust weighted statistics.

Figure A.1: Owen values



Notes: Figure displays the Owen values (relative contribution of a group of regressors to the total explained R2 of a model) for groups of variables. Demographic variables: for gender, age, education, economics education, ethnicity, race and political affiliation; Socioeconomic variables: income, financial asset holdings, ownership of real estate, real estate mortgages as well as the share of labor (pension and transfers) income and the share of fin. investments (retirement investments) on total assets (see also the variables in Table 2.). Theories: Consideration of economic narratives by individual respondent. Predicted variable is the prior inflation preference. Whiskers indicate 95% confidence intervals. Results based on 10.000 bootstrap iterations. Survey responses of untreated respondents used ($N = 1002$).

Figure A.2: Owen values - narratives about inflation



Notes: Figure displays the Owen values (relative contribution of a group of regressors to the total explained R2 of a model) for the five economic narratives. The estimation does not control for other factors. Predicted variable is the prior inflation preference. Whiskers indicate 95% confidence intervals. Results based on 10.000 bootstrap iterations. Survey responses of untreated respondents used ($N = 1002$).

Table A.4: Inflation theories: RCT (with control variables)

	(1) $p_i(\text{Friedman})$	(2) $p_i(\text{ELB})$	(3) $p_i(\text{Labor})$	(4) $p_i(\text{Wage})$	(5) $p_i(\text{Asset})$
$\mathbb{T}_i(\text{Friedman})$	0.0358*** (4.31)	-0.0177** (-2.23)	0.000372 (0.05)	-0.0221*** (-2.76)	0.00158 (0.21)
$\mathbb{T}_i(\text{ELB})$	-0.0147* (-1.85)	0.0213*** (2.30)	-0.00493 (-0.60)	-0.00563 (-0.67)	-0.00982 (-1.22)
$\mathbb{T}_i(\text{Labor market})$	-0.00339 (-0.42)	-0.0104 (-1.28)	0.0171** (1.97)	0.00292 (0.36)	0.00827 (1.06)
$\mathbb{T}_i(\text{Wage inflation})$	-0.00251 (-0.32)	-0.0116 (-1.45)	0.0148* (1.73)	0.0111 (1.34)	0.0105 (1.32)
$\mathbb{T}_i(\text{Asset inflation})$	0.00683 (0.90)	-0.00958 (-1.18)	-0.000446 (-0.06)	0.000338 (0.04)	0.0112 (1.43)
Female	-0.0168*** (-3.29)	0.00116 (0.22)	-0.0125** (-2.34)	0.00293 (0.55)	0.00256 (0.50)
35 to 55 years	-0.00259 (-0.40)	0.00254 (0.37)	-0.0191*** (-2.73)	0.00860 (1.29)	0.00228 (0.35)
over 55 years	-0.00991 (-1.33)	-0.00700 (-0.90)	-0.0476*** (-6.00)	0.0293*** (3.70)	0.0156** (2.05)
College degree or above	0.00721 (1.18)	0.00663 (1.01)	0.00416 (0.63)	0.00688 (1.03)	0.00890 (1.39)
Economics major	0.00616 (1.02)	0.0266*** (4.01)	0.0116* (1.86)	-0.0133** (-2.17)	-0.00264 (-0.43)
Hispanic	-0.00213 (-0.30)	0.0108 (1.38)	0.0123 (1.65)	0.00103 (0.14)	0.00253 (0.36)
Black	-0.00507 (-0.64)	0.0134 (1.61)	0.00338 (0.40)	-0.0232*** (-2.83)	0.00642 (0.80)
Asian	0.00976 (0.92)	-0.00208 (-0.20)	-0.00198 (-0.19)	0.00372 (0.35)	-0.0131 (-1.33)
Republican	0.00359 (0.60)	0.0130** (2.09)	0.00210 (0.35)	-0.0103* (-1.69)	-0.00591 (-1.03)
Independent	0.0119* (1.87)	-0.00423 (-0.64)	0.00116 (0.17)	0.00372 (0.57)	0.00278 (0.44)
50k to 100k income	0.00938 (1.18)	0.00162 (0.19)	0.00243 (0.29)	0.00746 (0.87)	0.0231*** (2.90)
over 100k income	-0.000895 (-0.10)	-0.00748 (-0.77)	0.00291 (0.31)	0.00680 (0.69)	0.0299*** (3.19)
Labor income (share)	-0.0000290 (-0.35)	-0.000136 (-1.60)	-0.0000929 (-1.11)	0.000310*** (3.77)	0.0000477 (0.58)
Pens./Trans. income (share)	-0.000154 (-1.52)	-0.0000239 (-0.23)	0.0000712 (0.70)	0.000257** (2.49)	0.0000310 (0.31)
20K to 200k assets	0.00697 (0.98)	0.0109 (1.51)	-0.000514 (-0.07)	0.0106 (1.41)	0.0148** (2.16)
over 200k assets	0.00418 (0.51)	0.0180** (2.19)	-0.0112 (-1.33)	0.0156* (1.82)	0.0181** (2.28)
Investment assets (share)	0.00970 (0.68)	-0.0198 (-1.27)	-0.0152 (-1.02)	-0.0193 (-1.24)	0.00890 (0.62)
Retirement assets (share)	0.00324 (0.26)	-0.0165 (-1.21)	-0.00368 (-0.28)	-0.0249* (-1.85)	0.00616 (0.49)
Homeowner	0.00690 (0.92)	-0.00530 (-0.68)	-0.00534 (-0.66)	-0.0120 (-1.50)	0.00563 (0.75)
Home mortgage	0.00336 (0.53)	-0.000605 (-0.10)	0.00902 (1.38)	0.0145** (2.29)	-0.00368 (-0.59)
Constant	0.177*** (11.76)	0.172*** (10.81)	0.178*** (11.73)	0.193*** (12.64)	0.151*** (10.48)
N	3519	3519	3519	3519	3519
r ²	0.0216	0.0206	0.0320	0.0290	0.0223

Notes: Table shows the effect of receiving a treatment on the weight assigned to specific theories. Huber-robust and survey weighted estimates. The table reports estimates for the following model: $p_i(m_k|\theta) = \beta_0 + \sum_{k=1}^5 \alpha_k \mathbb{T}_i(m_k) + \delta D_i + \gamma E_i + \epsilon_i$. t statistics in parentheses * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

B Do consumers understand inflation?

This section provides evidence to buttress the relevance of our findings showing that respondents understand the economic consequences of *unconditional* changes in (long-run) inflation, over which they express their preferences.

To assess this, our survey included several experiments at the end to test respondents' understanding of the implications of inflation on their economic situation and decision making. We present the following vignettes: In one vignette, each respondent is treated with a hypothetical long-run inflation rate and asked about her expected wage growth *conditional* on that inflation rate. In another, respondents are asked to assume inflation to be $X \in [-5, 5]$ percentage points higher or lower. They are then confronted with a number of economic decisions and asked to indicate, on a five-point scale, whether they are more or less likely to engage in the respective activity. Economic decisions evaluated include the amount of cash held, the frequency of wage negotiations and job searches, the likelihood of real estate purchases, and the amount of financial assets held. Our analysis thus relates outcomes Y_i to these induced changes in (long-run) inflation or the level of inflation X_i , that is:

$$Y_i = \alpha X_i + \delta D_i + \gamma E_i + \epsilon_i \quad (13)$$

where we are interested in the estimate of α .

Overall, results show that respondents appear to have an understanding of the economic consequences of changes in inflation. As Table B.1 shows, respondents indicate a positive relation between expected wage growth and the level of long-run inflation. Respondents who were treated with a higher hypothetical inflation rate also indicate that they are likely to negotiate their wages more often; to search for a new job more frequently; that they are less likely to invest into real estate; and that they are likely to hold less financial assets and cash.

Table B.1: Inflation and economic expectations and behavior

	(1)	(2)	(3)	(4)	(5)	(6)
		Pr(much more or more likely/often)				
	Wage growth	Cash holdings	Negotiate wages	Job search	Buy real estate	Asset holdings
Inflation level (random)	0.0408*** (3.92)					
Δ long run inflation (random)		-0.00599 (-0.78)	0.0465*** (6.00)	0.0391*** (4.87)	-0.0780*** (-9.67)	-0.00752 (-0.97)
D_i and E_i Control	Yes	Yes	Yes	Yes	Yes	Yes
N	3512	3520	3520	3520	3520	3520
r2	0.0925					
		Pr(much less or less likely/often)				
		Cash holdings	Negotiate wages	Job search	Buy real estate	Asset holdings
Δ long run inflation (random)		0.0418*** (4.33)	-0.0321*** (-3.37)	-0.0227*** (-2.69)	0.116*** (13.59)	0.0371*** (3.89)
D_i and E_i Control		Yes	Yes	Yes	Yes	Yes
N		3520	3520	3520	3520	3520

Notes: The table shows the effect of hypothetical inflation levels (column 1) and changes in long-run inflation (columns 2-6) on economic decisions. Column 1 reports an OLS model, and columns 2-6 probit relations. All models control for demographic and socioeconomic factors, and use survey-weighted estimates. The OLS model in column (1) additionally uses Huber robust weights. t statistics in parentheses * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

C Survey Appendix

This section lists relevant survey questions used within the paper.

C.1 Survey overview

The survey was administered on the Qualtrics Research Core Platform, which recruited participants. Responses were provided in February-March 2024. Qualtrics Research Services produced a representative sample by drawing respondents from several actively managed, double-opt-in market research panels, complemented with social media (Qualtrics, 2019).

C.2 Sample

Invitations were issued to US residents, which were screened for residence status, English language fluency, and age. All respondents who failed to meet the screening criteria were discontinued from the survey. Only respondents who confirmed residence in the US, who professed English language fluency, and who reported to be of ages 18 or above, were entered into to the survey proper. Approximately one third were targeted to be between 18 and 34 years of age, another third between 35 and 55, and the final third older than age 55. We also required a distribution across US regions in proportion to population size, drawing 20 percent of our sample from the Midwest, 20 percent from the Northeast, 40 percent from the South, and 20 percent from the West.

To ensure response quality, we followed industry standards by embedding filters to eliminate respondents who entered gibberish for at least one response, or who completed the survey in less than six minutes. The survey also included CAPTCHA tests to reduce the likelihood that bots would interfere.⁸

C.3 Inflation and unemployment definitions

Before being asked the first survey questions, all respondents are shown some information on the definitions of inflation and unemployment.

Inflation

Please read the following for background:

The inflation rate measures how much prices change from year to year.

Assume, for example, that the inflation rate is 2%. In that case, prices for a typical basket of goods and services have risen by 2% in the last 12 months; say, from \$1000 a year ago to \$1020 now. If

⁸Qualtrics Research Services provides the filtered data. The total sample size refers to the number of respondents after filtering.

the inflation rate is negative - prices decline on average - we refer to this as deflation.

As an example, if the deflation rate is 3%, for a bundle of goods and services that cost \$1000 a year ago, you would only pay \$970 now.

Unemployment

Please read the following for background:

The unemployment rate measures how many people of those who would like to work for a salary are without a job.

For example, an unemployment rate of 4% means that out of 1000 people who would like to work for pay, 40 do not have a job.

C.4 Prior preferences

To learn about respondents' expectations of future inflation and income, we use the following set of questions. Note that we first ask about participants' point estimates and then collect additional data on the individual distribution of expectations. With this approach, we can gain insights into individual uncertainty.

Pr1: Prior inflation preference

Consider the economy you live in. Its prices tend to move up or down over time. What would you prefer the inflation rate to be for these goods and services, in a typical year? On average, the inflation rate should be:

- O positive*
- O zero*
- O negative*

Depending on the answer given to the previous question, the participant is shown the next question:

Pr2: Prior inflation preference-numerical

*In a typical year, what rate of **inflation/deflation** would you prefer?*

- O more than 0% and less than or equal to 1%*
- O more than 1% and less than or equal to 2%*
- O more than 2% and less than or equal to 3%*
- O more than 3% and less than or equal to 5%*
- O more than 5% and less than or equal to 8%*

O more than 8%, please specify ----

C.5 Inflation narratives

To test which mental economic models participants consider when forming their inflation preferences we present survey respondents with the following inflation narratives. First, we ask the control group to select which of the following narratives they consider after answering questions Pr1 and Pr2. Second, when performing the RCT we present each treatment group with one of the following questions.

Please read the following statement by some economists about inflation

T1: Friedman: *You don't earn interest on your cash at home and only little interest on money in your checking account. But if goods and services become more expensive over time (inflation), your cash becomes less valuable. Hence, lower inflation can be beneficial when you hold cash.*

T2: ELB: *When prices increase over time (inflation), interest rates tend to be high. But in times of economic crisis, lower interest rates are needed to boost the economy. Higher inflation, therefore, gives central banks more opportunities to lower interest rates and help the economy to recover.*

T3: Labor market: *In times of crisis, it is sometimes necessary for firms to reduce wages in order to keep people employed. But if they cannot cut wages, they might fire employees instead. Higher inflation reduces wages implicitly. Thus, firms are not forced to reduce wages explicitly or fire workers in times of crisis.*

T4: Wage inflation: *When prices increase over time (inflation), worker's wages may not immediately adjust in proportion. Inflation, therefore, affects the amount of goods and services that workers can buy with their wages. By keeping inflation low, workers can buy a similar amount of goods and services over time.*

T5: Asset inflation: *When prices increase over time (inflation), the dollar value of your assets (such as real estate, retirement savings, stocks, bonds and so on) may not immediately adjust in proportion. Inflation, therefore, affects the amount of goods and services that you can buy with your assets. By keeping inflation low, you can buy a similar amount of goods and services with your assets over time.*

C.6 Posterior preferences

Po1: Posterior inflation preference

Inflation rates tend to vary from year to year. Imagine for a moment that you could pick the inflation rate for the economy. In your opinion, what would be the optimal inflation rate, in a typical year? On average, the inflation rate should be:

- O positive*
- O zero*
- O negative*

Depending on the answer given to the previous question, the participant is shown the next question:

Po2: Posterior inflation preference - numerical

*In a typical year, what would you say is the optimal rate of **inflation/deflation**?*

- O more than 0% and less than or equal to 1%*
- O more than 1% and less than or equal to 2%*
- O more than 2% and less than or equal to 3%*
- O more than 3% and less than or equal to 5%*
- O more than 5% and less than or equal to 8%*
- O more than 8%, please specify ----*

C.7 Consideration of inflation theories

After the posterior inflation preference, all respondents are asked the following question, separately for all five theories, in random order.

When you were thinking about your answer to the previous question, did your thoughts relate to any of the following ideas?

Please read each statement and choose yes or no. The next statement will appear after you choose your answer.

[Inflation narrative (T1-T5)]

- O Yes, I thought about this*
- O No, I didn't think about this*

C.8 Federal Reserve

F1: What would you say is the mandate of the U.S. Federal Reserve? Please select the answers that you think fits its mandate best.

- O Keep inflation at a low target*
- O Keep inflation at a low target but also fight unemployment*
- O Fight unemployment and promote economic activity*
- O Stabilize the value of the U.S. dollar*

F2: The Federal Reserve is mandated by the congress to keep inflation and unemployment low. To the extent that both of these are not attainable at a given time, how much weight do you think the Federal Reserve should place on each of them?

Please assign weights between 0 and 100. A weight of 0 implies no weight on that goal and full weight on the other; that is, weights must add up to 100.

- Inflation ____*
- Unemployment ____*
- Total 100*

F3: Do you think that the Federal Reserve can control inflation in the long run?

- O Yes*
- O I don't know*
- O No*

F4: On average, which inflation rate do you think the U.S. Federal Reserve is trying to achieve for the US economy in a typical year?

It is trying to achieve ____% inflation in a typical year.

F5: How much does the U.S. Federal Reserve affect the general economy?

[7 point scale, from "not at all" to "very much"]

F6: How much do you trust that the U.S. Federal Reserve is able to deliver price stability?

[7 point scale, from "Do not trust at all" to "Trust entirely"]

C.9 Personal economic situation

W: How much of your income would you be willing to give up - in each year - for the [inflation/deflation] rate in the economy to be on average [POSTERIOR PREFERENCE] in a typical year, in line with your stated preference, rather than what the inflation rate was on average over the last 10 years?

I would be willing to give up --- % of my income, in a typical year.

E1: What is your current employment situation?

Please select all that apply.

- O Working full-time (for someone or self-employed)*
- O Working part-time (for someone or self-employed)*
- O Unpaid work (e.g. unpaid internship, volunteering, etc.)*
- O Not working, but would like to work*
- O Temporarily laid off*
- O On sick or other leave*
- O Permanently disabled or unable to work*
- O Retiree or early retiree*
- O Student, at school or in training*
- O Homemaker*
- O Other, please specify: ----*

E2: Are you self-employed or do you receive a wage each month?

- O I am self-employed (business owner)*
- O I receive a fixed wage each month (wage, pension...)*
- O I receive a variable wage each month, depending on how much I work (tips...)*
- O Does not apply.*

E3: Have you experienced personal unemployment, in the last three years?

- O Yes*
- O No*

E4: You indicated earlier that your total pre-tax household income is [display answer from question D5].

How much of your total income derives from the following sources?

Please assign weights between 0 and 100. A weight of 0 implies no income in that category. Weights must add up to 100.

- Wages and tips ----*
- Returns from financial investments ----*

- *Net income from business, farm or rent* ----
- *Transfers (e.g.,. social security, food stamps or unemployment benefits)* ----
- *Pensions* ----
- *Other income (e.g., child support or alimony)* ----
- *Total* 100

E5: What is your civil status?

- O Single*
- O Partner (not co-habiting)*
- O Partner (co-habiting)*
- O Married*
- O Divorced*
- O Widowed*

E6: Do you or your spouse/partner own or rent your current primary residence?

- O Own*
- O Rent*
- O Other, please specify* ----

E7: (If E6 is "Own") Do you have a mortgage on your primary residence?

Please select only one.

- O Yes*
- O No*

E8: (If E7 is "Yes") Does your mortgage have a fixed or variable interest rate?

Please select only one.

- O Fixed*
- O Variable*
- O Not applicable*

E9: Approximately how much money do you hold altogether, in cash and in checking or savings accounts?

- O below \$500*
- O \$500 to \$1,000*
- O \$1,000 to \$3,000*
- O \$3,000 to \$6,000*
- O \$6,000 to \$15,000*
- O \$15,000 to \$50,000*
- O \$50,000 to \$100,000*

O more than \$100,000

E10: Approximately what valuation would you place on your combined investments in stocks, funds, bonds and other financial investments (which are not retirement savings)?

O below \$1000

O \$1,000 to \$5,000

O \$5,000 to \$15,000

O \$15,000 to \$50,000

O \$50,000 to \$150,000

O \$150,000 to \$500,000

O more than \$500,000

E11: Approximately how much money do you hold, in retirement savings accounts (i.e., 401k plans)?

O below \$5000

O \$5,000 to \$10,000

O \$10,000 to \$50,000

O \$50,000 to \$100,000

O \$100,000 to \$200,000

O \$200,000 to \$500,000

O more than \$500,000

E12: What would you say is your political affiliation?

O Democrat

O Independent

O Republican

O Other

In order to construct the total amount of financial assets hold by a survey respondent, we sum the responses for question E9, E10 and E11. Correspondingly, the share of cash holdings/fin. investments/retirement funds on total assets is the fraction of the answer from question E9, E10 and E11, divided by the total amount of assets.

C.10 Vignettes

As a first vignette, we investigate the relation between inflation and expected wage growth. Given that price and wage inflation are closely related concepts, we verify whether participants understand how their inflation preference is related to the evolution of wage changes by asking the following questions. We provide each respondent with an individual, random increase/decrease in prices and ask them to report how they think their wages will increase/decrease, respectively.

*V1: Think about all the goods and services that you consume. Suppose that these prices **increase/decrease** by **X%**, in a typical year in the future. How do you think the wage you receive will change in a typical year?*

- O increase*
- O stay the same*
- O decrease*

Depending on the answer selected, respondents are asked a follow up question:

*If prices increase by **X%** in a typical year, I expect that my wage will **increase/decrease** by ---- in a typical year.*

- O 0% to 1%*
- O 1% to 2%*
- O 2% to 3%*
- O 3% to 5%*
- O 5% to 8%*
- O more than 8%, please specify ----*

Next, we verify that respondents understand how their personal characteristics and economic decisions affect their inflation preferences by means of the following vignettes. Each vignette presents a random numerical value for inflation and then presents respondents with each of the following questions. Whether inflation or deflation is displayed depends on their choice to question Pr1. Participants then respond by selecting from the list of options below.

*Imagine that the future inflation rate in the US, in a typical year, is **X** percentage points **lower/higher** than currently expected.*

V2: In this scenario, would you choose to hold more or less money (both in cash and in your checking or savings account)?

- O Much more*
- O Somewhat more*

- O Approximately the same*
- O Somewhat less*
- O Much less*

V3: In this scenario, how much more or less likely to buy real estate?

- O Much more likely*
- O Somewhat more likely*
- O Approximately the same*
- O Somewhat less likely*
- O Much less likely*

V4: In this scenario, how much more or less likely is it that you would look for a new job regularly?

- O Much more likely*
- O Somewhat more likely*
- O Approximately the same*
- O Somewhat less likely*
- O Much less likely*

V5: In this scenario, would you negotiate your wage more or less often?

- O Much more often*
- O Somewhat more often*
- O Approximately the same*
- O Somewhat less often*
- O Much less often*

V6: In this scenario, would you choose to hold more or less financial assets (such as retirement savings, stocks or bonds)?

- O Much more*
- O Somewhat more*
- O Approximately the same*
- O Somewhat less*
- O Much less*

C.11 Demographics and experiences

To explore demographics and to make the survey representative, we recorded certain demographic characteristics. These include age, gender, ethnicity, state of residence, the highest educational level, personal income, and the personal savings rate.

D1: Please enter your age.

D2: Please indicate your gender.

- O Male*
- O Female*
- O Non-binary / third gender*
- O Prefer not to say*

D3: How would you identify your ethnicity? Please select all that apply.

- O Asian/Asian American*
- O Black/African American*
- O White/Caucasian*
- O Other*
- O Prefer not to say*

D4: Do you consider yourself of Hispanic, Latino or Spanish origin?

- O Yes*
- O No*

D5: Which category represents the total combined pre-tax income of all members of your household (including you) during the past 12 months? Please include money from all jobs, net income from business, farm or rent, pensions, interest on savings or bonds, dividends, social security income, unemployment benefits, Food Stamps, workers' compensation or disability benefits, child support, alimony, scholarships, fellowships, grants, inheritances and gifts, and any other money income received by members of your household who are 15 years of age or older.

- O Less than \$10,000*
- O \$10,000 - \$19,999*
- O \$20,000 - \$29,999*
- O \$30,000 - \$39,999*
- O \$40,000 - \$49,999*
- O \$50,000 - \$59,999*
- O \$60,000 - \$49,999*

- O \$75,000 - \$99,999*
- O \$100,000 - \$149,999*
- O \$150,000 - \$199,999*
- O \$200,000 or more*

D6: In which state do you currently reside?

D7: What is the postal (zip) code for the address of your permanent residence?

D8: What is the highest level of school you have completed, or the highest degree you have achieved?

- O Less than high school*
- O High school diploma or equivalent*
- O Some college, but no degree*
- O Associate's degree*
- O Bachelor's degree*
- O Master's degree*
- O Doctorate or Professional Degree*

D9: Has your education involved any courses or modules related to economics, business or finance?

- O Yes, but only some courses (e.g., a minor or less in college, a graduate or professional degree)*
- O Yes, it was a major part of my degree (e.g., a major in college, a graduate or professional degree)*
- O No*

D10: Are you the main grocery shopper in your household?

- O Yes*
- O No*

C.12 Numerical ability

At the end of the survey, we ask a set of questions to evaluate the numerical ability of survey respondents. From the answers, we construct a numerical ability index, as the fraction of questions answered correctly. Questions used are similar to the New York Fed Survey of Consumer Expectations (e.g., Armantier et al., [2017](#)).

Num 1

In a sale, a shop is selling all items at half price. Before the sale, a sofa costs \$300. How much will it cost in the sale?

Num 2

Let's say you have \$200 in a savings account. The account earns ten per cent interest per year. Interest accrues at each anniversary of the account. If you never withdraw money or interest payments, how much will you have in the account at the end of two years?

Num 3

In the BIG BUCKS LOTTERY, the chances of winning a \$10.00 prize are 1%. What is your best guess about how many people would win a \$10.00 prize if 1,000 people each buy a single ticket from BIG BUCKS?

Num 4

If the chance of getting a disease is 10 percent, how many people out of 1,000 would be expected to get the disease?

Num 5

The chance of getting a viral infection is 0.0005. Out of 10,000 people, about how many of them are expected to get infected?

Num 6

Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After one year, how much would you be able to buy with the money in this account?

- O More than today*
- O Exactly the same*
- O Less than today*

Num 7

Please tell me whether this statement is true or false: Buying a single company's stock usually provides a safer return than a stock mutual fund.

- O True*
- O False*

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