How Do Households Respond to Expected Inflation? An Investigation of Transmission Mechanisms[*]

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Abstract

We investigate the channels through which inflation expectations affect household spending by conducting surveys featuring hypothetical scenarios about an increase in inflation expectations. Most households do not adjust their current spending, often because they perceive inflation expectations as irrelevant or adhere to fixed budget plans. Among those who do adjust, most decrease their spending, primarily due to wealth effects. Changes in related economic forecasts, such as sluggish nominal income growth and heightened financial uncertainty, are more likely to lead to lower spending. Few households increase spending as prescribed by the traditional intertemporal substitution channel. Our findings provide insights into the discussion of using inflation expectations as a policy tool and highlight key frictions to incorporate into theoretical models.

Keywords: survey, inflation expectations, consumption, mechanisms
JEL Classification: D84, D15, E2, E52, E7

1   Introduction

In standard economic models, inflation expectations play a crucial role in shaping households' consumption and savings decisions, and firms' pricing strategies and wage negotiations. Understanding whether these theoretical relationships are empirically supported is particularly important in light of the recent surge in inflation across many countries. High inflation has sparked concerns about the potential rise in short- and long-term inflation expectations and how these shifts may affect agents' behavior and further increase realized inflation.

Our study leverages experimental methods to examine how household spending decisions respond to higher inflation expectations and identify the mechanisms driving these responses. Existing economic theory proposes a variety of channels for how consumption may respond to changes in inflation expectations. For instance, intertemporal substitution suggests higher inflation expectations will result in a lower real interest rate (if the nominal interest rate response is sluggish) and, therefore, more consumption today. However, there are other mechanisms that predict current consumption will fall in response to higher expected inflation. For example, higher future inflation will act as a tax on savings and erode wealth, or sticky nominal wages may result in a decrease in real income. Given that there are various mechanisms that have different predictions, the overall sign of the relationship between expected inflation and current spending is theoretically ambiguous.

There is a large empirical literature on the relationship between inflation expectations and spending decisions. Existing studies estimate the *combined* effect of all possible mechanisms, and have yielded mixed evidence regarding both the sign and magnitude of the aggregate effect (Weber et al., 2022; D'Acunto et al., 2023c; Coibion et al., 2023). Our study takes a different approach by identifying the different mechanisms at work and evaluating their empirical importance. This strategy not only informs how inflation expectations affect spending, but also sheds light on the underlying channels. A deeper understanding of the mechanisms is a useful input into the discussions about forward guidance and using expectations as a monetary policy tool.[1] Pinpointing the mechanisms also sheds light on the type of frictions to incorporate into theoretical frameworks.

We systematically study the channels through which inflation expectations affect households' spending plans using a tailored survey instrument. The survey was administered to representative samples of the US population, yielding over 5,500 total responses. In the main experiment, we have four between-subject treatments differing along two dimensions. Respondents are either asked about durable or non-durable consumption, and

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[1]Some economists have discussed whether engineering higher inflation expectations could serve as an alternative monetary policy to stimulate current spending (Coibion et al., 2020; Yellen, 2015). This proposal, while untried, could be particularly relevant during periods when policy rates are constrained by the zero lower bound, such as in the aftermath of the Great Recession.

either given a hypothetical scenario featuring a temporary increase in their short-term (1-year) inflation expectations or a more permanent increase in their long-term (10-year) inflation expectations.

Our survey instrument includes two key innovations. First, we introduce a controlled and hypothetical change in household inflation expectations to estimate how this affects respondents' planned current *real* consumption (over the next 3 months). The hypothetical scenarios feature an increase in inflation expectations over a specified horizon that always begins in three months. That is, current prices (over the next three months) are unchanged in the hypothetical scenario. So any change in current spending is a change in *real* consumption. Second, the survey is designed to identify the different channels underlying each respondent's spending response. To achieve a comprehensive understanding of the mechanisms, we use several methods to elicit them: (i) respondents provide unstructured text responses in an open box; (ii) respondents are shown a list of mechanisms and asked whether each was a consideration in their thought process or not; and (iii) respondents rank the considerations that applied to them by allocating a total of 100 points across the mechanisms. We also ask respondents about their expectations about their household income growth, the federal funds rate, and uncertainty about their financial situation before and after the hypothetical scenario. These questions allow us to evaluate whether these variables are affected by the hypothetical scenario, as well as tailor the channels that are presented to respondents.

Recent studies have demonstrated that responses to hypothetical questions are consistent with those obtained from randomized controlled trials (RCTs), thereby affirming their efficacy (Colarieti et al., 2024; Kumar et al., 2023). Moreover, the use of hypothetical scenarios in our study offers significant advantages. It allows us to induce specific changes in inflation expectations (both in terms of magnitude and time horizon) that are otherwise difficult to generate in naturally occurring settings or information-provision experiments (Coibion et al. 2023; Armantier et al., 2022). Furthermore, relative to the approaches that rely on cross-sectional variation, the within-person variation generated by our design allows us to more cleanly isolate the effect of higher inflation expectations, and to capture the extensive margin effect in addition to the average quantitative effect.

We start by reporting our results on economic beliefs. First, as in Hajdini et al. (2022) and Jain et al. (2024), we find that in response to an increase in short-term inflation expectations, most households expect their nominal income to remain unchanged, which implies a lower real income. However, in long-term treatments, households are significantly more likely to think their income will rise or outpace inflation relative to short-term treatments. Second, approximately 40% of households have beliefs consistent with the Taylor rule and expect the Fed to increase interest rates. Third, while approximately 25% believe elevated inflation expectations increase their financial uncertainty, the hypothet-

ical scenario does not change the majority of respondents' sense of financial predictability. Finally, most people associate higher expected inflation with a worsening economy, consistent with the findings of Kamdar and Ray (2024) and Binetti et al. (2024).

We then investigate how an increase in inflation expectations affects spending plans. On the extensive margin, we find most households (63%) do not change their consumption basket—a result that, to our knowledge, has not been documented before. Another 11% say they would maintain their dollar spending but change their consumption bundle. About 20% state that they would decrease spending, and the remaining 6% would increase spending. In terms of the average quantitative effect on spending, we find that an increase in long-term inflation expectations significantly reduces durable goods spending, while short-term expectations have an inconsequential effect. Spending on non-durable goods is not significantly affected by the increase in long- or short-term inflation expectations. Overall, higher inflation expectations either have no effect or a negative effect on consumption.

Next, we examine the underlying mechanisms that drive spending choices. Most of the respondents who did not change their spending plans indicated that they have a fixed budget or that future inflation does not affect their current spending decisions at all. There is also some evidence that liquidity constraints played a role. This finding suggests that for a significant proportion of households, inflation expectations do not play a role in their spending decisions. For those who decreased spending, the main reasons were wealth effects and wanting to save to purchase inflation-hedged assets. We also find substantial evidence of channels linked to other economic forecasts driving respondents to decrease spending. For instance, respondents often cited factors such as income growth failing to keep pace with inflation and increased uncertainty associated with elevated inflation (Friedman, 1977; Ball et al., 1990; Binder, 2017). Finally, among the relatively small group of respondents who reported an increase in their spending, the primary channels were intertemporal substitution and stockpiling.

We conduct four additional surveys to check the robustness and generalizability of our main findings. The first assesses how a large change in inflation expectations, specifically a 10 percentage point increase in short-term beliefs, affects durable spending. The second and third surveys assess the impact of a different timing scheme of the short-term hypothetical scenario which increases the total change in inflation expectations. In these treatments, extensive margin adjustments are similar to those in the main treatments. However, the average quantitative effect on durable spending is significantly negative. This suggests that larger increases in inflation expectations are more likely to decrease average durable spending.

For the fourth robustness treatment, we introduce a supply shock scenario that features higher gas prices, and respondents *endogenously* update their inflation expectations

and in turn durable spending. This design is similar to the hypothetical vignettes in Andre et al. (2022) and also closer to RCT studies with information treatments, in that respondents endogenously change their expectations. Over half of the participants still do not change their planned durable spending. Although a higher fraction of respondents would decrease spending in response, the average quantitative effect is comparable to the main long-term durable treatment. These results reinforce the message that increasing inflation expectations is unlikely to boost consumption. They also confirm that the "no change" mechanisms remain important even if the cause of rising inflation expectations is specified—at least in the case of an oil supply shock.

Related Literature. Our paper is closely related to the work investigating how inflation expectations affect household spending. This literature computes simple cross-sectional correlations, or to establish causality uses RCTs, or event studies. In addition to providing evidence of how individual spending responds to changes in inflation expectations, our main contribution is to provide a comprehensive analysis of the channels through which short- and long-term inflation expectations impact current durable and non-durable spending.

The existing empirical evidence on the effect of inflation expectations on spending is mixed. Evidence for a positive relationship includes Duca-Radu et al. (2021), Vellekoop and Wiederholt, 2019, Binder and Brunet (2022), D'Acunto et al. (2021) for durable spending, Burke and Ozdagli (2020) for durable spending for certain types of households, D'Acunto et al. (2023b) for high-IQ men, and Coibion et al. (2022) for nondurable spending. Evidence for an insignificant or negative relationship includes Bachmann et al. (2015a), Galashin et al. (2020), Coibion et al. (2022), Coibion et al. (2023) and Andrade et al. (2023) for durable spending; Burke and Ozdagli (2020) and Coibion et al. (2023) for nondurable spending.

Our study suggests that spending responses to changes in inflation expectations exhibit substantial heterogeneity and that several channels are at work. Overall, our findings are more aligned with the second set of results.[2] We find limited evidence of intertemporal substitution. Instead, a novel insight from our findings is the strong evidence in support of channels that lead to no changes in current spending, such as having a fixed budget or the perceived irrelevance of inflation expectations. These channels are consistent with mental accounting (Thaler, 1999) or hand-to-mouth consumption (Aguiar et al., 2020). Furthermore, we find support for channels that result in a decrease in spending, such as the erosion of savings and nominal income rigidity. These mechanisms are con-

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[2]Our results for durable goods are in line with Coibion et al. (2023, 2022), who find a decrease in durable spending in response to higher inflation expectations in an RCT. For non-durable spending, we found no significant effect on spending. This aligns with Coibion et al. (2023) but contrasts with Coibion et al. (2022), who find a significant positive effect. A possible reason for the difference is that the pandemic strengthened the perceived negative wealth effect of inflation.

sistent with previous findings that households view inflation as a bad outcome (Kamdar and Ray, 2024; Coibion et al., 2023) due to wealth effects (Schnorpfeil et al., 2023) or the belief that income will not keep up (Shiller, 1996; Stantcheva, 2024).

While other work has focused on the effects of changes in short-term inflation expectations, we also study long-term expectations. This is an important question considering many policymakers emphasize the key role of long-term beliefs in realized inflation (Bernanke, 2007; Draghi, 2014). We find that the negative effect on durable spending is stronger with longer-term increases in inflation expectations.

Our paper also contributes to the literature investigating the relationship between expectations of inflation and other economic variables. We confirm that households often associate higher inflation expectations with (i) expectations of a deteriorating economy (Kamdar and Ray, 2024), (ii) limited pass-through to income expectations over the short horizons (Jain et al., 2024; Hajdini et al., 2022; Shiller, 1996; Stantcheva, 2024), and (iii) higher interest rates (Dräger et al., 2016; Carvalho and Nechio, 2014). In addition, we find that the longer the duration of higher expected inflation, the more likely respondents are to expect their income to keep up or exceed inflation and interest rates to rise.

Finally, our methodology builds on the growing literature that uses hypothetical scenarios in surveys to investigate macroeconomic questions, the so-called "vignette" or "strategic survey" approach (see Armantier et al., 2022 for a review). Applications include health-dependent utility and life cycle consumption (Ameriks et al., 2020), consumption theory (Fuster et al., 2021; Christelis et al., 2019; Colarieti et al., 2024), causal effect of hypothetical shocks (e.g., to past inflation, oil supply, or monetary policy) on inflation expectations (Andre et al., 2022; Armantier et al., 2022; Aidala et al., 2023), and labor market responses to future inflation (Pilossoph and Ryngaert, 2022). The strategic survey methodology allows us to design controlled exogenous scenarios that are tailored to address the question of interest but that do not frequently occur in field settings. To the best of our knowledge, we are the first to apply this method to examine the transmission mechanisms between inflation expectations and consumption decisions.

The paper proceeds as follows. Section 2 details the channels through which inflation expectations may influence spending decisions. In Section 3, we discuss the survey design and implementation. Sections 4 and 5 present the survey findings for the main treatments and robustness treatments, respectively. Implications for policy and theory are discussed in Section 6, and Section 7 concludes.

2 Transmission Mechanisms

This section reviews the channels through which inflation expectations may influence households' current spending decisions. We categorize these into "direct" and "indirect" channels. Direct channels affect spending decisions without involving expectations of other economic variables. Indirect channels operate by influencing household's expectations of other variables such as household income growth, household financial uncertainty, or interest rates, which, in turn, impact spending behavior.

We begin with direct channels through which higher inflation expectations increase current spending. First, higher inflation expectations reduce the real interest rate through the Fisher equation, and a lower real interest boosts current spending through the Euler equation. This is the standard *intertemporal substitution* channel. Second, according to the literature on infrequent purchasing, households consume a predetermined, constant quantity of a specific good per unit of time (Robin, 1993; Boizot et al., 2001). Households that anticipate future price increases may begin *stockpiling* goods before prices rise further.

Other mechanisms suggest that an exogenous increase in expected inflation may lead to a decrease in current spending. First, higher future inflation acts as a tax on nominal assets, inducing a negative *savers' wealth effect*. Second, households may engage in *inflation-hedging* by acquiring assets such as real estate that are partially protected from higher inflation, thereby reducing their consumption spending.

Moreover, there are several reasons why inflation expectations may not affect current spending. First, households may be unable to borrow or may be unable to tap into their assets due to *liquidity constraints*.[3] This could curtail the intertemporal substitution effects of increased inflation expectations, akin to how they dampen the efficacy of forward guidance on interest rates (McKay et al., 2016). Additionally, households may operate on a *fixed budget*, adhering strictly to a predetermined plan, e.g., as a result of behavioral mental accounting (Aguiar et al., 2020; Thaler, 1999). These two mechanisms could explain why subjects either purchase the same bundle of goods in response to higher inflation expectations or acquire a different bundle of goods while maintaining constant total dollar spending. Lastly, for some households, future inflation may be *not a consideration* at all for current consumption decisions due to myopia, present biases, or cognitive limitations (Hajdini, 2023; O'Donoghue and Rabin, 2015).

Next, we discuss the indirect channels, which operate through a change in an economic expectation other than inflation. For example, an increase in inflation expectations may

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[3]We combine liquidity and borrowing constraints into one mechanism since both suggest households are unable to increase spending despite their desire to do so due to a financial friction. We describe this mechanism as "I do not have money and cannot borrow," encompassing both concepts. For simplicity, we refer to this channel as "liquidity constraints".

be associated with a change in household income growth expectations. If households associate inflation with a better economy, they may expect their income to grow at a faster rate than inflation (*flexible income*) and increase current spending. If households believe their income growth rate will remain in line with inflation, thereby keeping their *real income unchanged*, they may maintain their current consumption. If households believe their income growth rate will not keep pace with inflation, they may perceive higher prices as an erosion of their real purchasing power, leading to a decrease in current spending. We call this mechanism the *rigid income* channel. This could be the result of high expected inflation being associated with a negative outlook about the economy's future (Volcker, 2011; Kamdar and Ray, 2024). Note that households could increase their current spending even if they expect their income growth rate not to keep up with inflation due to *nominal illusion* (Bachmann et al., 2015a). Finally, any future income growth also implies expected wealth gains for fixed-rate debt holders, as higher inflation erodes the real value of the debt. Consequently, as in Fisher (1933), current spending could increase through a *debtor's wealth effect.*

Besides household income, an increase in inflation expectations might induce expectations about other economic variables to change. First, higher future inflation may be associated with increased *uncertainty* about the economy (Friedman, 1977; Ball et al., 1990; Binder, 2017). As a result, individuals may reduce current spending due to precautionary savings motives. Second, households may change their expectations about interest rates. Specifically, as prices are expected to rise further, the central bank may increase interest rates over this period to curtail inflation (as in the traditional Taylor rule). Consequently, households must allocate more funds to service their *variable-rate debt* in the future, leading them to increase their savings and reduce current spending. Finally, for three indirect channels—uncertainty, variable debt, and debtor's wealth effect—we include a reverse counterpart. These mechanisms are contrary to what economists might expect based on theory, but could still capture how some households think and are included for the sake of completeness. For example, the *uncertainty (reverse)* channel posits that higher expected inflation decreases uncertainty and thus increases spending.

Tables 1 and 2 describe all the channels discussed in this section in the context of durable goods spending, divided by whether the mechanism implies a change in spending or not, respectively. The same channels were considered for non-durable goods. The first column lists the terms used throughout the paper to refer to each channel. Column (2) presents how we describe each channel to respondents without economic jargon. Column (3) classifies each channel as direct or indirect.

To understand household spending decisions, it is important to quantify the relative significance of each of these channels. From a theoretical standpoint, the relative importance of each channel is often ambiguous. However, in some cases, theory does provide

Table 1: Description of Underlying Channels for Spending Changes

Name	Explanation	Effect
	As prices will rise even more after the next 3 months, ...	
Current Spending: Increase		
Intertemporal Substitution	the return on savings won't be worth as much after the next 3 months, thus, saving over the next 3 months becomes less attractive. So, I will buy more durable goods over the next 3 months.	Direct
Stockpiling	I will buy more durable goods over the next 3 months before prices go up even more.	Direct
Nominal Illusion	my household income will increase further over this period. So, I will buy more durable goods over the next 3 months.	Indirect
Flexible Income	my household income will rise faster than price increases over this period. So, I will buy more durable goods over the next 3 months.	Indirect
Uncertainty (reverse)	my household will face lower financial uncertainty over this period. So, I will buy more durable goods over the next 3 months.	Indirect
Variable Debt (reverse)	the Fed (the central bank of the U.S.) will decrease interest rates over this period. Thus, my household can pay less for our variable rate loans over this period. So, I will buy more durable goods over the next 3 months.	Indirect
Debtor's Wealth Effect	given that my debt payments are fixed and my income will increase further over this period, I will have more money left after paying my fixed debts. So, I will buy more durable goods over the next 3 months.	Indirect
Current Spending: Decrease		
Savers' Wealth Effect	my existing savings over this period won't be worth as much. So, I will buy less durable goods over the next 3 months.	Direct
Inflation Hedge	I will move more money to assets not as affected by rising prices, such as real estate, and buy less durable goods over the next 3 months.	Direct
Rigid Income	my household income will not keep up with the price increases over this period. So, I will buy less durable goods over the next 3 months.	Indirect
Uncertainty	my household will face higher financial uncertainty over this period. So, I will buy less durable goods over the next 3 months.	Indirect
Variable Debt	the Fed (the central bank of the U.S.) will raise interest rates over this period. As a result, my household must pay more for our variable rate loans over this period. So, I will buy less durable goods over the next 3 months to save up for the higher future payments.	Indirect
Debtor's Wealth Effect (reverse)	given that my debt payments are fixed and my household income will decrease over this period, I will have less money left after paying my fixed debts. So, I will buy less durable goods over the next 3 months.	Indirect

Table 2: Description of Underlying Channels for Unchanged Spending

Name	Explanation	Effect
	As prices will rise even more after the next 3 months, ...	
Current Spending: Unchanged, but Bundle Changes		
Liquidity Constraints	I don't have money and cannot borrow to increase my spending over the next 3 months.	Direct
Fixed Budget	I have a fixed budget plan and stick with it.	Direct
Current Spending: Unchanged, and Bundle Unchanged		
Liquidity Constraints	I don't have money and cannot borrow to increase my spending over the next 3 months.	Direct
Fixed Budget	I have a fixed budget plan and stick with it.	Direct
Not a Consideration	When I plan my spending over the next 3 months, the price changes after the next 3 months do not matter.	Direct
Real Income Unchanged	My household income will keep up with price increases over this period. So, I will not change my spending decisions over the next 3 months.	Indirect

hypotheses regarding if a given channel's importance will vary based on (i) the types of goods under consideration—durable vs. non-durable, and (ii) the duration of the rise in inflation expectations—long-term vs. short-term.

For example, Bachmann et al. (2015a) theoretically illustrates that intertemporal substitution considerations may be stronger for durable goods. Additionally, the inflation hedge channel may be less applicable to durables because they naturally provide a higher degree of inflation hedging. Finally, one would expect liquidity constraints to be a more important consideration for durable good spending because durables tend to be big-ticket items.

Additionally, the strength of some channels may depend on the duration of the increase in expected inflation. In Appendix A, we illustrate this with a simple three-period model. Relative to a change in short-term inflation expectations, a change in long-term inflation expectations leads to a stronger wealth effect, with a more severe erosion of nominal income and wealth. Similarly, the intertemporal substitution effect could also be stronger with changes in long-term inflation expectations. Assuming a sluggish response of the nominal interest rate, higher future prices makes current consumption relatively cheaper, thus encouraging current spending. More persistent changes in inflation expectations induce larger changes in future prices relative to current prices, generating a larger effect on current consumption.

Furthermore, changes in inflation expectations may cause people to change their expectations of other economic variables. The effects of these changes may depend on whether the rise in inflation expectations is transitory or persistent. For example, people may be more likely to expect their financial predictability to worsen, their income to keep

up with inflation, or nominal interest rates to increase if higher expected inflation is persistent. These beliefs will in turn affect the applicability of the associated indirect channels.

3 Survey Design and Implementation

In this section, we describe the design of the main survey, as well as four additional surveys conducted as robustness checks.

3.1 Main Survey

Our main survey consists of four treatments. Each treatment either asks about spending on durable goods or non-durable goods and services, and the rise in inflation expectations is either short-term (over a year) or long-term (over 10 years). In the following, we abbreviate the treatments to SD (standing for short-term durable), SN (standing for short-term non-durable), LD (standing for long-term durable), and LN (standing for long-term non-durable).

Survey Structure. Each survey consists of four modules: a pre-hypothetical scenario module, a hypothetical scenario module, a post-hypothetical scenario module, and a demographics module. The pre-hypothetical scenario module obtains respondents' "priors" about expected inflation, (non)durable spending, household income growth, household financial uncertainty, and the federal funds rate. We refer to them as "priors" because the expectations about these variables are elicited before respondents are exposed to the hypothetical scenario. The hypothetical scenario module describes a hypothetical situation where the respondent's inflation expectations are raised for either a short period (1 year) or for a long period (10 years). Then, the post-hypothetical scenario module obtains the respondents' "posteriors" of (non)durable spending, as well as the other aforementioned economic variables. In addition, the post-hypothetical scenario module works towards understanding respondents' changes in (non)durable spending by using an open-text box as well as allowing respondents to select mechanisms from a list consistent with each respondent's posteriors.[4] The final module asks standard demographics questions, as well as cognitive reflection and financial situation questions.[5]

Pre-Hypothetical Scenario Module. We begin the pre-hypothetical scenario

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[4]While being prompted to answer questions about expectations and spending plans, respondents are informed that there are no right or wrong answers, and we are interested in their personal views. To help participants comprehend the survey questions, we carefully designed the questionnaire with expert input from the Center for Survey Research at Indiana University Bloomington, refining both its structure and phrasing. In addition, we embedded control questions to confirm respondents' understanding of the content.

[5]The complete survey for the SD treatment can be found in the working paper version https://www.bankofcanada.ca/wp-content/uploads/2024/11/swp2024-44.pdf.

module by presenting respondents with a concise and non-technical explanation of price changes in percentages, fostering a common understanding of the concept. Then, we elicit respondents' percent price change expectations over the next three months, over the 12 months following the next three months, and the annual average over the 10 years following the next three months. We also ask for a qualitative measurement of their uncertainty over each horizon. These questions are designed to be aligned with established consumer surveys, such as the University of Michigan Survey of Consumers.[6] To ensure that subjects understand the time horizons, we provide exact dates and visual timelines. For example, for surveys fielded in early February 2023, for the 12-month horizon starting in three months, we state that we are interested in the period May 2023 to May 2024 and provide Figure 1a as a visual guide. For the 10-year horizon starting in three months, we state we are interested in the period May 2023 to May 2033 and provide Figure 1b as a reference.[7]
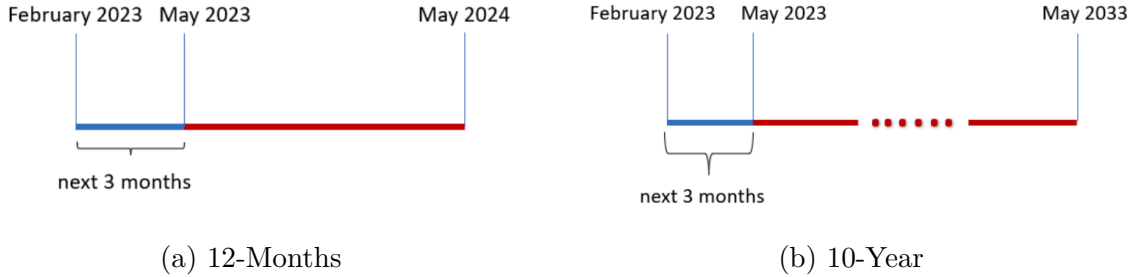
(a) 12-Months   (b) 10-Year

Figure 1: Visual Guide Timelines

Notes: Timelines respondents would see in February 2023 to indicate the next three months, the 12-month horizon or the 10-year horizon three months following the next three months.

We also elicit the respondents' beliefs about a variety of economic outcomes over the 12-month period or the 10-year period (depending on whether they are in a short- or long-term treatment), starting after three months. Specifically, we ask about their expectations for household income growth rate, the federal funds rate, and their ability to predict their household's financial situation. The federal funds rate and the household financial situation questions follow the phrasing of questions in the Bank of England Inflation Attitude Survey.

Next, depending on the treatment, respondents report their average monthly durable or nondurable goods spending over the last three months and their expected average monthly spending plan over the next three months. The expected consumption plan over

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[6]Existing consumer surveys ask about either "inflation" or "prices in general," and which approach is more effective is still under debate (Armantier et al., 2017). Our survey asks about the percent change in prices rather than "inflation" to avoid difficulties arising from the annualization of expectations over a three-month interval.

[7]To avoid confusion between cumulative percent changes and average annual percent changes for 10-year horizons, we have several follow-up questions asking whether individuals responded with cumulative rate, and if so, they are asked to correct their answers.

the next three months will serve as our measure of "current" consumption. These survey questions follow the CentER Internet panel phrasing (Coibion et al., 2023).

Hypothetical Scenario Module. The hypothetical scenario asks survey participants to think about a hypothetical situation in which their inflation expectations are higher than estimated in the initial module of the survey. In the short-term treatments, we tell respondents to imagine that they have received credible, new information about future inflation. Thus, they now expect inflation in the year following the next three months to be three percentage points higher than in their initial estimation. The average annual rate of 10-year inflation remains stable. Alternatively, in the long-term treatments, the three percentage point increase in expected inflation is long-lived. Respondents are asked to imagine that, after the next three months, the expected average annual rate of 10-year inflation also increases by three percentage points. In what follows, we provide the wording used in the short-term scenario:[8]

Now, imagine that you have received some information about future prices from a reliable source that you trust. In response to this new information, you update your expectations on prices as follows:

(1) Over the next 3 months from February 2023 to May 2023, you expect the percentage change in prices to be A% (this is the same as your initial expectation).

(2) Over the 12-month period from May 2023 to May 2024, you expect the percentage change in prices to be (B+3)% (this is 3% higher than your initial expectation).

(3) Over the 10-year period from May 2023 to May 2033, you expect the percentage change in prices per year on average to be C% (this is the same as your initial expectation).

The table below summarizes your initial expectations and updated expectations on future prices:

Expectations on changes in future prices	Over the next 3 months February 2023 to May 2023	Over the 12-month period May 2023 to May 2024	Over the 10-year period May 2023 to May 2033
Initial	A	B	C
Updated	A	B+3	C

There are several important items to note. First, we use blue text to indicate the next three months and red text to indicate horizons after the next three months. This coloring is consistent with the timelines used as visual guides throughout the survey. Second,

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[8]According to the standard log-linearized New Keynesian Euler equation (Galí, 2015), changes in future prices as formulated in our main short-term treatments do not affect current consumption. If we do not log-linearize (see Appendix A), or relax rational expectations (Woodford, 2019; Thaler and Shefrin, 1981), or introduce uninsurable income risk and borrowing constraints (McKay et al., 2016), then the change in inflation expectations as formulated in our short-term treatments affects current consumption through the Euler equation. We also conduct additional surveys to formulate a stronger change in short-term inflation expectations (see Section 5).

as we use consumption in the next three months to proxy current consumption, we tell subjects that in the alternative scenario, prices in the next three months will remain the same as initially expected. That is, additional price increases occur only after the next three months. The change in consumption in the next three months can therefore be interpreted as a change in *real* consumption.[9] Finally, after the hypothetical scenario is described, respondents are required to correctly answer a three-question quiz to confirm their understanding about the updated expectations on future prices (over the next 3 months, over the 12 months period following the next 3 months, and over the 10-year period following the next 3 months) before they can proceed to the next part of the survey.

Post-Hypothetical Scenario Module. The preceding module generates a hypothetical, controlled, and exogenous increase in household inflation expectations. Following that, the post-hypothetical scenario module (i) solicits posterior beliefs about other economic variables including spending, and (ii) examines the underlying mechanisms that drive the changes in household consumption spending. Soliciting posterior beliefs about other economic variables serves a dual purpose. It allows us to investigate whether higher inflation expectations affect respondents' outlook about other economic variables, potentially enhancing our understanding of the relationship between inflation expectations and spending. Furthermore, it allows us to shorten the survey as we can tailor channels presented to respondents.

The post-hypothetical scenario module begins with questions about how respondents would update their forecasts about economic variables, including household income growth, household financial uncertainty, the federal funds rate, and the general outlook of the economy. For each question, we provide the respondent with their prior answer and a summary of the hypothetical scenario.

As the final posterior question, we ask respondents how their household's planned spending in the next three months would change in the new scenario. Respondents are first presented with a qualitative question asking whether they expect to purchase the same amount and types of goods. If the answer is no, they then are asked whether their dollar spending will stay the same. If the answer is no, then they are asked whether their spending will increase or decrease. This series of questions allows us to separate respondents into four groups: households that will not change anything about their spending plans, households that will spend the same amount but change their basket of goods,

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[9]In survey pre-tests, we found that when the hypothetical scenario was an increase in prices in the next 12 months, many respondents said that their spending would increase in the next three months. However, according to open-text explanations, the increases were mostly mechanical. That is, respondents thought inflation would be higher in the next three months and so they would have to spend more in nominal terms. Using this approach, we would have had to infer whether the change in consumption represented a change in real spending. Instead, by separating current consumption (over the next three months) from the horizon under which inflation changes (after the next three months), we minimize mechanical increases and can clearly interpret the change in spending as a change in real spending.

households that will increase their spending, and households that will decrease their spending. The qualitative questions are then followed by a quantitative question, which asks for their estimated spending under the hypothetical scenario.

In asking for spending plans under a hypothetical scenario, we assume that the responses will be informative of actual behavior if the hypothetical were to occur in reality. While some have raised concerns about the plausibility of this assumption (Diamond and Hausman, 1994), there is growing, recent evidence that using stated choices and actual choices yield similar results. For instance, Fuster et al. (2021) suggest that when respondents face realistic and relevant hypothetical questions their responses are meaningful and informative. In addition, in the context of consumption decisions, Kreiner et al. (2013), Coibion et al. (2023), and D'Acunto et al. (2021) find that survey-based spending plans align with actual spending.

Channel Identification. We use three methods to understand the mechanisms that guide why respondents alter their consumption plans in response to changes in inflation expectations. First, on the page where we ask respondents how their household planned spending will change in response to the change in inflation expectations, we also ask respondents to write down considerations that played a role in their decision in an open-text box.

The open-ended question elicits respondents' thought process without priming them with information about any theoretical mechanisms. However, this approach has limitations. Respondents' answers may be incomplete due to unwillingness to exert effort or their inability to fully describe their thought process. This leaves the interpretation and categorization of the responses to researchers' subjective judgment (Andre et al., 2022). Furthermore, even when respondents can describe parts of the underlying mechanism(s) that drove their decisions, the descriptions are often insufficiently detailed to fully understand their views on all mechanisms. That is, we do not know whether and to what extent each mechanism plays a role.

To address these concerns, we complement the first method with a more structured approach. Respondents are shown individual channels sequentially —channels consistent with their previous responses—and asked whether each channel was a consideration in their thought process. Participants are shown all mechanisms that are consistent with their qualitative changes in consumption and their posterior expectations of other economic variables.[10] For instance, respondents who state they would increase spending in

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[10]It is possible that channels counteracting the direction of consumption changes may also exert influence but are dominated by the principal channels. We focus solely on mechanisms aligned with the direction of a household's stated spending change for two reasons. First, in our pilot study, less than 10% of individuals report having counteracting considerations, and even fewer regarded these factors as significant in their decision-making. Second, assessing channels in both directions would impose large cognitive demands on respondents.

the hypothetical scenario will exclusively see the channels that are consistent with an increase in current spending. With regard to posterior beliefs, again considering respondents with increased spending, they would be presented with the flexible income channel only if their income growth rate increased by more than the rise in inflation or the nominal illusion channel only if their posterior income growth rose but less than the rise in inflation. This methodology mitigates the cognitive demands on respondents to evaluate all channels while preserving consistency within their survey responses.

Finally, for the channels that played a role in a respondent's thought process, we ask the respondent to allocate 100 points across the selected mechanisms, to capture the extent to which each channel influenced their decision-making. To avoid order effects, the order of the channels is randomized. We include, "Other reasons, as I mentioned in the previous open-text question," at the bottom of the list, in case we omitted a mechanism that a respondent feels is important.

Demographics Module. Finally, we ask standard demographic and financial condition questions, as well as three cognitive reflection test questions (Frederick, 2005).

3.2 Robustness Surveys

In addition to our main treatments, we conducted four additional survey treatments to further validate our findings. The first treatment introduces a larger increase (10 percentage points instead of three) in short-term inflation expectations for durable goods. We refer to this treatment as the "SD-10" treatment.

The second and third treatments modify the formulation of the change in short-term inflation expectations and assess the impacts on durable and nondurable spending. Recall that in our main short-term treatments, the hypothetical scenario increases inflation expectations in the first year after the next three months while keeping the average inflation in the 10 years after the next three months constant. This implies that the cumulative expected inflation in years 2 to 10 will be lower, potentially mitigating the intertemporal substitution effects prompted by higher inflation expectations in the first year. One may be concerned that this could contribute to the large fraction of nonpositive spending reactions observed in our main short-term treatments. To address this, we shield the long-term horizon from changes so that the hypothetical scenario involves only an increase in inflation over the upcoming year after the next 3 months, while the inflation rate for the following years—2 through 10—remains unchanged. Given the separation in horizons, we refer to the treatment eliciting durable consumption as "SD-Separate" and non-durable consumption as "SN-Separate".

Finally, we conduct a treatment to induce an increase in inflation expectations in a more relatable way and similar to the vignettes in Andre et al. (2022). We ask the re-

spondents to imagine a scenario where future gas prices would increase and they endogenously adjust their inflation expectation and in turn spending. This design is closer to RCT studies with information treatments, in that respondents endogenously update their inflation expectations. The hypothetical scenario states: "*Now, imagine that you have received some information about the future price of gas from a reliable source that you trust. Suppose that in the 12-month period from Mar. 2025 to Mar. 2026, the Middle East will experience an issue with its oil production technology. This will cause the price of a gallon of gas to rise by 50% in the same period. This could also lead to higher prices for other goods and services in the same period, as gas is an important input in their production. However, the oil production problem will not affect prices in the next three months (Dec. 2024 to Mar. 2025).*" We refer to this treatment as the "D-Gas" treatment.

3.3 Survey Implementation

We recruited respondents for the main survey and the SD-10 treatments through Dynata, an online sampling company. We recruited respondents for the SD/SN-Separate and D-Gas treatments through Prolific.[11]

The median completion time was 19 minutes. After data collection, we applied the same data-cleaning procedure to all treatments (see Appendix B.1), resulting in over 5,500 observations. Except for the SD-10 treatment—which had more than 2,000 respondents— the other treatments (SD, SN, LD, LN, SD-Separate, SN-Separate, and D-Gas) each had roughly 500 respondents.

Appendix Table B1 presents the demographic and financial characteristics of our survey respondents and compares them with their U.S. adult population counterparts. Various characteristics of the sample and the population are aligned. Female respondents constitute 54% of our sample and 51% of the population. The fraction of households within different income brackets and regional distributions are also similar to their nationally representative counterparts.

Nevertheless, there are some demographic differences between our sample and the U.S. adult population. Households in our sample are more likely to have a college degree, be married, and in the Dynata surveys, be older and White. To control for these differences, we present weighted statistics. The weights applied in our analysis are designed to align the sample with the 2021 American Community Survey across multiple dimensions, including race, age, gender, marital status, region, household income, and education.[12]

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[11]The main surveys were conducted in late February and March 2023, the SD-10 treatment in early December 2023, the SD/SN-Separate treatment in late March 2024, and the D-Gas treatment in late December 2024.

[12]In our analysis, we employ the numerical iterative method known as raking to compute the weights. The weights vary from 0.11 and 8.00, a range that is reasonable within this context.

4 Main Survey Results

This section presents our main survey findings. We begin by examining respondents' prior expectations regarding price changes, outline their planned spending on durable and non-durable goods for the following three months, and further explore their expectations concerning various economic variables. Subsequently, we investigate how households update their economic expectations and planned consumption, in response to a hypothetical increase in expected inflation. We then assess which mechanisms are empirically important. Furthermore, the analysis delves into the relationship between individual characteristics and spending decisions. Finally, we investigate the treatment effects on belief updating, spending behavior, and the choice of underlying mechanisms.

4.1 Prior Expectations

Inflation Expectations. Table 3 provides summary statistics for respondents' prior expectations. In our survey, respondents provided their inflation expectations over three distinct horizons: (i) the coming three months, (ii) the year following the next three months, and (iii) the average, annual inflation rate in the 10 years following the next three months. The median expectation for these three periods was 2.5%, 4%, and 2%, respectively. For reference, in March 2023 (when our survey was conducted), the University of Michigan Survey of Consumers reported similar median inflation expectations for comparable time intervals: 3.6% for the next year and 2.9% for the next five years. Respondents expressed notable confidence in their short-term inflation expectations for the immediate three-month period, with 72% of participants being "sure" (57%) or "very sure" (15%) about their forecasts. Confidence levels were also high for price expectations over the year following the next three months, as 69% of respondents felt "sure" (54%) or "very sure" (14%) about their forecasts. However, for the ten-year forecast, confidence declined to 26% of respondents being "sure" or "very sure".

We find significant cross-sectional dispersion in inflation expectations. The 90th percentile exceeds 20% for all three horizons (see Appendix Figure C1 for the density distribution of the three inflation expectations forecasts). Due to outliers, which are common in survey-based inflation expectations, we also compute Huber-robust means which are resilient to extreme observations.[13] The Huber-robust means, 3.38%, 4.76%, and 2.46%, are overall comparable to the median values.

Other Economic Expectations. In the pre-hypothetical scenario module, respondents were asked to forecast their average monthly expenditure over the next three-

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[13]In our computation of the Huber robust mean, we incorporate demographic weights consistent with our approach for other summary statistics and analyses. Drawing from the standard Huber-robust method (as detailed in Hamilton 1992), demographic weights are integrated at two critical junctures.

months on either durable or non-durable goods, depending on the treatment. The average values for the expected monthly expenditures on durable and non-durable goods were $536 and $858, respectively (see Table 3 for more details). The observed cross-sectional spending differences are substantial, with a right-skewed distribution (see Appendix Figure C2 for the distribution of planned spending). Approximately 10% of respondents anticipated their monthly expenditure to exceed $2,000 in the subsequent three months, and a handful of respondents reported expected monthly consumption to exceed $5,000. The Huber-robust means for durable and non-durable goods were $320 and $763, respectively. The median values were $160 for durable goods and $500 for non-durables. In addition, participants were asked about their confidence in their expenditure projections. A substantial fraction—72% for durable goods and 79% for non-durable goods—articulated strong certainty, qualifying their forecasts as either "sure" or "very sure."

Next, let us consider respondents' expected income growth. We find that in the long run, respondents, on average, align their anticipated income growth trajectory closely with prevailing inflation expectations (e.g., the Huber means are 2.48% and 2.46% for income growth and inflation expectations, respectively). However, in the short run, both the Huber-robust mean and median for projected income growth are lower than concurrent inflation expectations (e.g., the Huber means are 3.15% and 4.76% for income growth and inflation expectations, respectively). This suggests households believe income-rigidity is stronger in the short term than over the long term.

Regarding the federal funds rate, most respondents expect it to remain elevated over both short- and long-term horizons. The median projection for the average federal funds rate over the decade following the immediate three months is 5%. Finally, in regard to financial predictability, a dominant share of the respondents perceive their future financial stability as either moderately or highly unpredictable.

4.2   Effects on Expectations of Other Variables

Next, we explore the impact of increased inflation expectations on other economic expectations: household income growth, household financial predictability, the federal funds rate, and the broader economic outlook. Table 4 summarizes these posterior beliefs.

First, notice that about two thirds (65%) respondents anticipate their income growth to lag behind the change in inflation: 47% expect their income would not change in the hypothetical scenario, about 11% would increase their income growth expectations by less than the rise in inflation expectations, and 7% anticipate their income to fall below their initial expectation. Among the rest, 19% expect their income to keep up with inflation and 16% expect their income to even exceed the rise in inflation expectations.

With respect to the federal funds rate, 55% of respondents believe it will remain

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Table 3: Descriptive Statics for Prior Expectations

Expectations for:	N	Mean	St. Dev.	Huber Mean	Huber St. Dev.	Median
(A) *Price Change (%)*						
over the next 3 months	2,003	6.41	13.08	3.38	5.36	2.50
over the 12 months following the next 3 months	2,003	7.83	15.77	4.76	7.64	4.00
over the 10 years following the next 3 months	2,003	6.41	17.63	2.46	5.39	2.00
(B) *Household Spending ($)*						
durable goods per month over the next 3 months	1,001	535.86	1725.25	320.26	465.89	160.00
nondurable goods per month over the next 3 months	1,002	857.59	1117.45	762.50	776.42	500.00
(C) *FFR (%)*						
over the 12 months following the next 3 months	1,008	8.02	16.94	5.46	3.55	5.00
over the 10 years following the next 3 months	995	8.90	19.36	5.63	4.78	5.00
(D) *Income Growth Rate (%)*						
over the 12 months following the next 3 months	1,005	7.58	17.40	3.15	6.79	3.00
over the 10 years following the next 3 months	995	6.79	15.93	2.48	5.32	2.00
(E) *Household Financial Uncertainty*						
over the 12 months following the next 3 months	1,008	0.75	0.44			
over the 10 years following the next 3 months	995	0.88	0.32			

Notes: This table presents moments of various expectations observed prior to the hypothetical scenario module. For "household financial uncertainty," responses indicating perceptions of "very difficult" or "moderately difficult" to predict are classified as one. Regarding expected household income growth rate over the 12 months following a three-month period, we exclude three observations exceeding a value of 5,000 due to their extreme nature. For continuous variables, Huber-robust means are reported to account for potential outliers.

unchanged post-scenario. A substantial share of households (39%) expect it to rise, consistent with the Taylor rule. Only a few households (6%) anticipate the federal funds rate to fall.

We find that 24% of respondents associate increased future inflation expectations with amplified financial unpredictability for the corresponding period. Yet, for the majority, an increase in future inflation expectations does not affect their perceptions of their own financial stability.

Lastly, in terms of the general economic outlook of respondents under the hypothetical scenario, about 40% of the respondents have a stagflationary view of the economy. That is, many respondents correlate heightened inflation expectations with a deteriorating economic environment. The next largest group (36%) expects no change in the economic environment, and a minority (24%) anticipates an improvement in the economy.

4.3 Effects on Spending

Next, we analyze how the hypothetical scenario affects planned spending, analyzing both the extensive margin (qualitative changes) and the average quantitative effect. Figure 2 summarizes the results. Notably, pooling all treatments, the majority (74%) expressed that an increase in expected inflation would not affect their dollar spending over the upcoming three months. Approximately 20% would decrease spending, while a mere 6% would increase spending.

Table 4: Posteriors of Economic Beliefs, by Treatment and Overall

	(1) SD	(2) SN	(3) LD	(4) LN	(5) All
(A) *Household Income Growth*					
Adjust downwards	4.9	10.3	6.7	5.4	6.6
No change	49.0	50.9	39.9	50.4	47.4
Adjust upwards by less than 3	12.0	12.1	10.9	10.7	11.4
Adjust upwards by 3	18.0	17.4	22.2	18.0	18.9
Adjust upwards by more than 3	16.1	9.2	20.4	15.5	15.6
(B) *Federal Funds Rate*					
Adjust upwards	34.9	39.8	43.0	40.2	39.4
No change	61.3	55.3	50.4	52.6	55.0
Adjust downwards	3.8	4.8	6.6	7.2	5.6
(C) *Financial Predictability*					
More difficult	19.4	25.3	23.6	28.6	24.1
As difficult as before	65.6	65.9	65.9	63.7	65.3
Less difficult	15.0	8.8	10.6	7.6	10.6
(D) *General Economic Outlook*					
Improve	25.3	20.7	25.9	22.6	23.7
No change	40.0	33.3	33.2	34.9	35.5
Worsen	34.8	46.0	40.9	42.6	40.8
N	504	504	497	498	2,003

Notes: Following the hypothetical scenario, respondents were asked how their expectations would change for their household income growth rate, the federal funds rate, their household's financial predictability, and the general economic situation in the year following the next quarter (short-term treatments) or on average over the 10 years following the next quarter (long-term treatments). This table reports the percentage of respondents within a treatment that gave each possible response. The last row indicates the number of respondents in each treatment.

In terms of the average quantitative effect, there is a small and insignificant average increase in the expenditure on durable goods in response to increased short-term inflation expectations (SD treatment). In all the other treatments, average spending declines. In terms of statistical significance, only the reduction in spending under the LD treatment is different from zero. The average effects are mostly insignificant because the majority of respondents do not change their spending, and for those who do, there is dispersion in spending responses. The few households that increase spending, increase it by a lot, with an average change of 50% (see Appendix Table B3). In contrast, a larger share of households decreases consumption, but on average decrease spending by 28%. The main takeaway is that the average quantitative effect is generally negative or insignificant (see also Figure 5b which includes results from the robustness treatments).

Discussion. One may be concerned that the prevalence of 'no change' consumption responses is due to respondents' fatigue or low effort in completing the survey. Analysis of various measures—such as the proportion of respondents consistently choosing 'no change' across different questions, changes in this proportion over the duration of the

| (a) Extensive Margin (Percentage) | (b) Quantitative Effect (Dollar Change) |
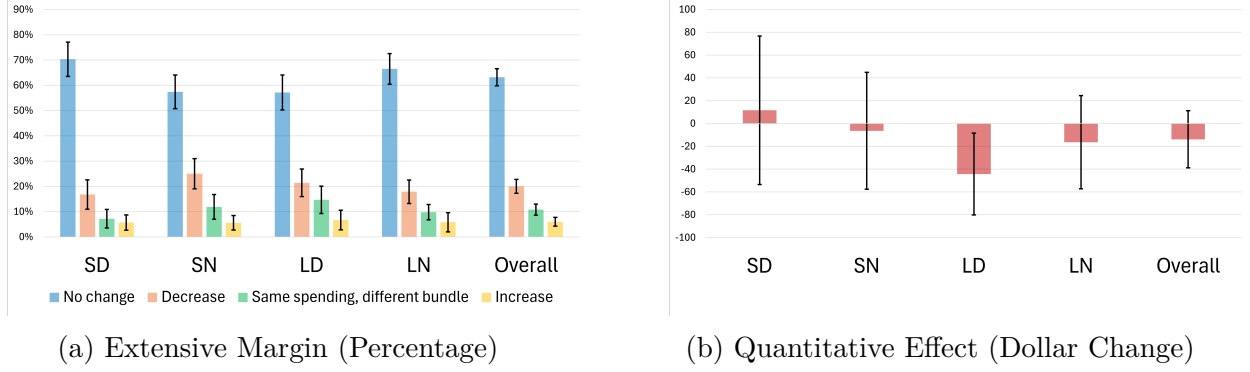
Figure 2: Spending Response

Notes: Panel (a) plots the proportion of participants from each treatment group that reported each qualitative response (extensive margin). Panel (b) plots the average quantitative change in dollar spending for each treatment group. The bars indicate 95% confidence intervals.

survey, completion times, and word counts in open-ended responses—suggests that these factors do not substantially influence the findings (see Appendix D for details). Moreover, we conducted an additional small survey with 203 participants to assess if our approach for asking updated spending biased respondents to select 'no change' in consumption (see Appendix B.4 for details). We split the sample so that half of the respondents saw our original approach, while the others responded to a new method that directly asked respondents to enter a value for what they would spend in the hypothetical scenario. With both approaches, the majority of respondents do not change their spending. Furthermore, the results indicate that our main approach reduces mechanical increases in spending and more accurately captures *real* spending than the alternative method.

While the 'no change' consumption response is prevalent across our representative sample, there may be differences across subgroups. For example, accurate forecasters (Bachmann et al., 2015b; D'Acunto et al., 2021), individuals with high IQ (D'Acunto et al., 2023b), and different age groups may change consumption differentially. We conducted subgroup analyses across these categories (see Appendix B.3). Overall, the findings are consistent with our main conclusions.

4.4 Underlying Channels

Next, we explore the underlying channels through which inflation expectations affect spending decisions. We separately discuss the four possible consumption responses: no change, same dollar spending but different bundle, decrease, and increase. For each spending response, we discuss insights from all three channel elicitation methods.

To analyze the open-text entries (first mechanism elicitation approach), we read each response and categorized it into a channel. Some responses can be readily mapped to the mechanisms in Tables 1 and 2. Other explanations cannot be classified into any

proposed mechanism and are labeled as "other." Entries that do not clearly explain why their spending responds to higher inflation or contain self-contradictory messages are categorized as "uninformative". We discuss the results of the classification below, but relegate the details to the appendix. We also present word clouds illustrating the most commonly used words in the open-text boxes in Figure 3. These visualizations offer a complementary and objective perspective on the key considerations mentioned by respondents.

Figure 4 presents the fraction of respondents that select each proposed mechanism as a percent of respondents in each spending response category (second mechanism elicitation approach). Relative to the open-text responses, mechanisms tend to be selected more often. This is natural as the open-text entry requires more effort, and subjects may not want or be able to explain their rationale. Identifying whether or not a proposed mechanism played a role in one's thinking is an easier task. Finally, we report the results of the weights applied to each applicable mechanism (third mechanism elicitation approach).[14] We summarize the average weights assigned to each mechanism below, with detailed results provided in the appendix.

Channels for 'No Change' Responses. Table 2 lists four potential mechanisms for why a respondent may not make any change to their current consumption. All of these mechanisms appeared in some open-text responses (see Appendix Table B12). For example, one respondent wrote, "I have a very good income and buy what I want when I want and inflation does not really effect those decisions," which corresponds to our "not a consideration" channel. Another response read, "Having a budget and sticking to that budget," which is consistent with the "fixed budget" channel. One subject explained, "With the general rise in percentage of my salary and my wife's salary, I don't think we would have much trouble keeping up with the rising costs," and this is close to the "real income unchanged" channel. Among the identified mechanisms in the open-text boxes, the most common explanation is "not a consideration" followed by "fixed budget." Among the responses that we were unable to classify into our mechanisms, some say they choose not to change anything as a way to deal with uncertainty or their purchases are out of necessity, so there is little room to change. About a third of responses were classified as uninformative, underscoring the importance of using several approaches to elicit mechanisms.

Figure 3a presents a word cloud of the most commonly used words in the open-text box

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[14]Recall, the last option was "other"; i.e., other reasons they mentioned in the previous open-text question. As we analyzed the open-text input, we tried to match the reasons to our proposed mechanisms. In most situations, we identify only one single listed mechanism; in which case we think it is reasonable to move the weight assigned to "other" to that identified mechanism. Sometimes we identify two listed mechanisms, in which case we split the weights assigned to "other" to the two identified mechanisms equally.

by respondents who made no spending changes. "Change" appears often but is typically linked to negation, with 62% of cases having a negation within three words. "Need" is frequently used and typically describes how the respondent has to make purchases to meet their current needs regardless of future inflation. Words such as "plan", "fixed", "budget", and "habit" are prevalent, indicating that many respondents were already thinking about a "fixed budget," even before seeing our mechanisms.

(a) No Change

(b) Same Spend, Different Bundle

(c) Increase

(d) Decrease
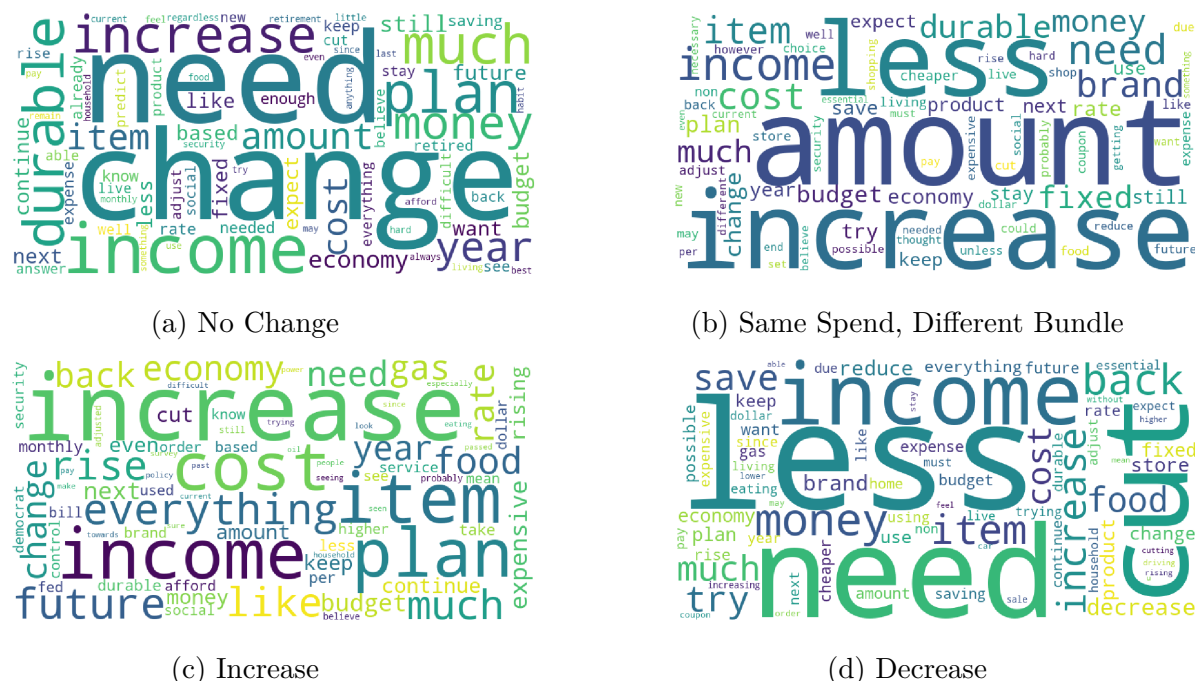
Figure 3: Word Clouds

Notes: Word clouds of the most commonly used words in the open-text responses of respondents by qualitative change in consumption. Responses are pooled across main treatments. In the text analysis, punctuation was removed, all letters were made lowercase, and all words were lemmatized. Words associated with the hypothetical scenario were dropped such as "price", "inflation", "buy", as well as 179 common stop words.

Figure 4a shows results from the second elicitation approach, and they are broadly consistent with the open-text responses. For example, "not a consideration" and "fixed budget" are the most identified reasons according to the open-text entries and the selection of proposed mechanisms.

Finally, the weights put on applicable mechanisms are largely in line with the results in the first two steps (see Appendix Table B13). "Not a consideration" is the most important reason, with an average weight ranging from 35% to 39% across treatments, followed by "fixed budget," with an average weight ranging from 30% to 36%. "Liquidity constraint" is assigned an average weight between 9% and 16%. "Real income unchanged" received an average weight ranging from 4% to 9%. Finally, 8% to 14% of the weight is assigned to "other" mechanisms.

In summary, the reasons most predominately given for not changing consumption

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(a) No Change (b) Same Spend, Different Bundle

(c) Increase (d) Decrease

■ SD ■ SN ■ LD ■ LN ■ Overall
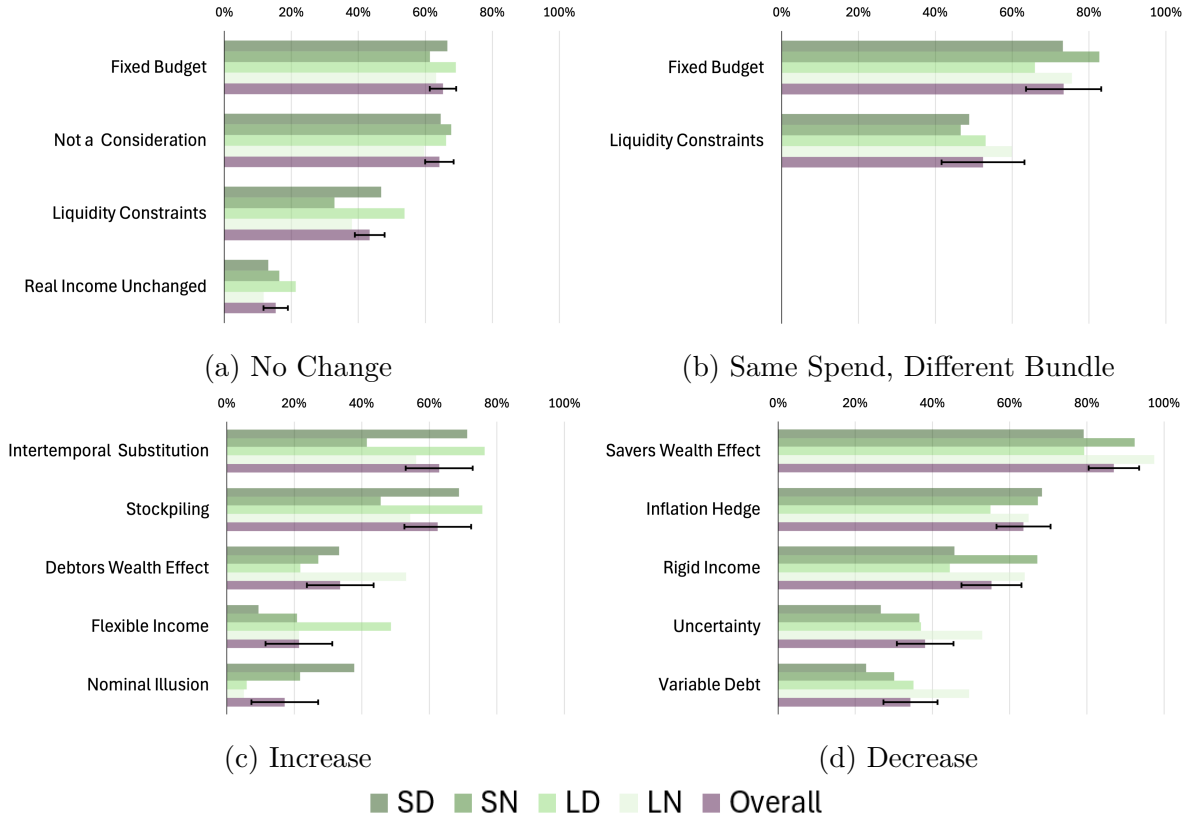
Figure 4: Fraction of Households that Select Each Mechanism Conditional on Spending Change Category

Note: This figure reports the percent of households in each treatment that selected that a given channel applies to them. Note that respondents could select more than one channel so the columns could add to above 100%. "Reverse" channels (those that are in contrast to economic theory) were very rarely selected and are thus omitted. The overall bar combines all four treatments and includes a 95% confidence interval.

were: future inflation is "not a consideration" and having a "fixed budget" plan. This was the case in all mechanism-elicitation approaches. Some households also select "liquidity constraint" from the list of mechanisms, but infrequently mention it in the open-text box and put little weight on it in terms of importance. Households rarely indicate "real income unchanged" as a consideration.

Channels for 'Same Spending, Different Bundle' Responses. Table 2 lists two possible mechanisms for this consumption response category: "fixed budget" and "liquidity constraint." Appendix Table B14 shows our classification of open text entries, and the most mentioned channel is "fixed budget". As an example of this, one subject wrote, "I would plan on spending the same amount, BUT would be much more choosey about what I spend on, buying generic vs brand products to offset." The percent of open-text explanations that we identified to be consistent with "fixed budget" reasoning ranges from 30% (in treatment SD) to 66% (in treatment LN). Very few households, under 5% in all treatments, discussed "liquidity constraint" considerations. Figure 3b presents the word cloud. Consistent with our reading of the open-text boxes, respondents were

thinking about their spending plan and using words such as "amount", "budget", and "fixed" often. The prevalence of the word "increase" is due to respondents discussing the hypothetical increase in expected inflation.

Figure 4b presents the results of the second mechanism elicitation approach. "Fixed budget" is the most selected mechanism (selected by 66% to 83% respondents). Also, a large fraction (ranging from 47% in treatment SN to 60% in treatment LN) marked "liquidity constraint", even if only a very small fraction of open text explanations can be interpreted as that channel.

Appendix Table B15 shows the average weights allocated to each mechanism by 'same spending, different bundle' households. The weights confirm that "fixed budget" reasoning is the predominant consideration, with an average weight ranging between 37% for SD and 71% for LN. While many respondents did choose "liquidity constraint" as a consideration, they only attach a small average weight (ranging from 15% for SD and 20% for LN) to it. This is consistent with the open-box explanations which rarely mentioned liquidity constraints.

In summary, households who do not change their spending but would change their consumption basket are mostly driven by the fact they use a "fixed budget". We find this across all mechanism-elicitation approaches. While respondents do select that the "liquidity constraint" channel applies to them, they rarely mention it in the open-text box and put little weight on it in terms of importance.

Channels for 'Decrease' Responses. Table 1 lists six mechanisms for why households may decrease spending. In the open-text entries, we found evidence for all but the "debtor's wealth effect (reverse)" channel (see Appendix Table B16). The most identifiable channel is "rigid income", consistent with 7-20% of text entries. An example of this is, "Since the price of goods is increasing at a higher rate than I anticipated & my income will not keep pace with that increase in must decrease what I am spending." A small percent allude to "uncertainty" with comments like, "To cut back on my spending in order to save up for future preference and plan ahead in case of economic situation." The majority of the entries cannot be clearly classified into the proposed mechanisms. Among the "other" mechanisms, the most significant explanation is what we call the "general wealth effect": subjects feel they are poorer and they must spend less or find cheaper options in response to the higher prices. For example, one subject explained, "i will have to buy less products. try to buy cheaper items. use more coupons and shop at dollar stores more." Appendix Table B16 shows that the "general wealth effect" accounts for 36% to 70% of open-text comments. The word cloud in Figure 3d confirms these considerations; words such as "income" and "money" are used frequently.

As shown in Figure 4d, nearly all respondents select "saver's wealth effect" as applica-

ble to them in the second elicitation approach. "Rigid income" and "inflation hedge" are also selected by a large fraction of respondents. "Variable debt" and "uncertainty" are chosen by many respondents, ranging from a quarter to a half of respondents depending on the treatment. Few respondents choose the "debtors wealth effect (reverse)" channel.

For the average weights allocated to each of the proposed mechanisms (see Appendix Table B17), the most important considerations are "rigid income" and "saver's wealth effect." "Inflation hedge" and "uncertainty" also play a role. Only small weights are allocated to "variable debt" and "debtor's wealth effect (reverse)."

In summary, households that would decrease their consumption in response to higher expected inflation appear to be motivated by a decrease in their expected real wealth. The decrease in their wealth may be the result of the deterioration of their savings ("savers wealth effect") or concerns about their future income keeping pace with inflation ("rigid income"). While almost never mentioned in the open-text, households did select "inflation hedge" motives from the mechanism list but then put low weight on this channel.

Channels for 'Increase' Responses. Table 1 lists seven mechanisms that would lead to increasing spending in response to higher inflation expectations. From the text entries, we identify only two such mechanisms, "stockpiling" and "nominal illusion" (see Appendix Table B18). One respondent wrote, "If prices will go up it makes more sense to buy long-lasting items sooner than later," which can be interpreted as stockpiling. A large fraction (50%) of subjects did not provide an informative explanation about their decision-making process. Relatedly, Figure 3c shows limited consensus in terms of words used in the open box. Among "other" mechanisms, a substantial fraction is what we labeled as a "mechanical increase." We asked subjects about their plans for spending in the next three months and emphasized that the prices in the next three months are as initially expected; however, some subjects still said something like, "Things will cost more so I will have to spend more for the same goods."

Figure 4c shows the results from step two of the mechanism elicitation procedure for households that 'increase' spending. Most select "intertemporal substitution" or "stockpiling." Many also selected "debtor's wealth effect." Across treatments, there is a clear difference in the selection of "nominal illusion" and "flexible income". The former is selected in the short-term treatments, while the latter is chosen more often in the long-term treatments. This difference is significant as we will discuss in Section 4.6.

In terms of average importance of the proposed mechanisms (see Appendix Table B19), "stockpiling" stands out as the most important reason, followed by "intertemporal substitution." "Debtor's wealth effect" and "nominal illusion" play a small role, whereas "flexible income," "uncertainty (reverse)" and "variable debt (reverse)" are barely considered. Note that a large weight is put on "other" mechanisms as explained in the open

text, of which most subjects did not provide a clear reasoning.

In summary, only 6% of respondents indicated they would increase current consumption in response to higher expected inflation. The open-text boxes suggest some of these respondents were confused about the timing of the hypothetical and were mechanically increasing their current spending. When presented with options of potential channels respondents mostly noted "stockpiling" and "intertemporal substitution".

4.5   Effects of Individual Characteristics

As we have now shown, the majority of respondents keep their spending the same in light of higher expected inflation, about 20% of households would reduce spending and about 6% of households would increase spending. Next, we investigate whether individual characteristics can account for this heterogeneity. We conduct a logit regression that incorporates various demographic variables and changes in economic beliefs to assess characteristics of the respondents who decrease consumption (the sample size for those who increase consumption is too small for meaningful investigation). The regression results are shown in Table 5.

Table 5: Decrease in Consumption

Education, Race, Sex			*Political Stance*			*Age*		
Var. Name	Coef.	SE	Var. Name	Coef.	SE	Var. Name	Coef.	SE
Cognitive Avg	-0.023	(0.042)	Democrat	-0.038	(0.034)	30 to 55	0.074*	(0.044)
College	-0.017	(0.029)	Prefer not to say	-0.074	(0.055)	55 to 65	0.103**	(0.051)
Female	0.054**	(0.026)	Republican	-0.015	(0.033)	Above 65	0.041	(0.047)
White	-0.033	(0.035)						
Liquid Savings			*Income*			*FFR Change*		
Var. Name	Coef.	SE	Var. Name	Coef.	SE	Var. Name	Coef.	SE
1k to 5k	-0.044	(0.037)	50k to 100k	0.073**	(0.031)	Adjust upwards	0.003	(0.030)
5k to 20k	-0.038	(0.039)	100k to 150k	0.076*	(0.046)	Adjust downwards	0.032	(0.063)
20k to 100k	-0.069	(0.042)	150k to 200k	0.069	(0.058)			
Above 100k	-0.098**	(0.046)	Above 200k	0.079	(0.063)			
Financial Predictability			*Income Growth*			*Economic Outlook*		
Var. Name	Coef.	SE	Var. Name	Coef.	SE	Var. Name	Coef.	SE
More difficult	0.082**	(0.033)	Adjust downwards	0.229***	(0.075)	Improve	-0.014	(0.030)
Less difficult	-0.060*	(0.036)	Adjust upwards <3	0.038	(0.044)	Worsen	0.145***	(0.035)
			Adjust upwards by 3	0.050	(0.041)			
			Adjust upwards >3	0.075*	(0.041)			

Notes: The table reports the marginal effects of a single logit regression, which regresses an indicator for 'decrease' consumption on selected demographic variables, liquid savings, income, and posterior beliefs. The marginal effects are relative to the omitted group (e.g., under 30 in age, less than 1k in liquid savings, under 50k in income, or no change for the economic posteriors). Standard errors are in parenthesis. ***, **, * denotes statistical significance at 1, 5, and 10 percent levels, respectively. The number of observations is 1,998 because some respondents dropped out before completing the questions on liquid savings and income.

Among the demographic variables, we find that two factors, being female and being middle aged, significantly increase the likelihood of decreasing spending in response to higher inflation expectations. Other factors associated with a higher probability to decrease consumption such as lower CRT scores, not having a college degree, and being non-white; however, the coefficients of these variables are not statistically significant.

For the financial variables, we find that higher liquid savings are associated with a lower likelihood of decreasing spending. Intuitively, households with more liquid savings could tap into savings to cope with higher future inflation and therefore may not need to cut current spending. Regarding income, households with middle incomes are more likely to reduce spending in response to higher inflation expectations relative to households with lower incomes. A possible reason is that low income households are more likely to be only purchasing necessities and are therefore less able to change spending. For high income households, inflation may be irrelevant for their spending decision: as suggested by the open-box comments, they have enough income to buy what they need or want.

Finally, we find that the likelihood of decreasing consumption is strongly associated with changes in economic beliefs. Specifically, individuals tend to decrease consumption if they expect the economy to worsen, their own financial predictability to worsen, or their income to decrease; the coefficients on these three belief terms are large and significant. Also, individuals who expect the general economic outlook to worsen are 15 percentage points more likely to decrease consumption relative to those who expect the economic outlook to stay the same. Overall, these results show that individuals who hold a stagflationary view of the economy are the most likely to reduce consumption in light of higher expected inflation. Note that the change in federal funds rate expectations does not have a significant effect on the likelihood of reducing spending. This may be due to the differential effect of higher interest rates on households that are savers versus debtors.

4.6 Treatment Effects

In this subsection, we examine treatment effects on spending decisions, posterior economic beliefs, and mechanism selection. In particular, we test the treatment effect hypotheses discussed in Section 2. We conduct logit regressions for binary outcomes and ordinary least squares regressions for continuous outcomes on dummy variables for being in the durable treatments and long treatments. We summarize the results below, and more details can be found in Appendix B.6.

Spending. As shown in Appendix Table B20, the effects of the two treatment variables on spending changes along the extensive margin are negligible; this is consistent with Figure 2, which shows the proportion of households that increase, decrease, or maintain their dollar spending is similar across all four treatments. In terms of the quantitative effect, the difference in spending changes between durable and non-durable goods treatments is minor and lacks statistical significance. The reduction in household spending is more pronounced in long-term treatments compared to short-term ones, although the difference misses the conventional threshold for statistical significance ($p = 0.179$). The combined effects of the two treatment variables lead to the result that the decline in

spending in the LD treatment is significantly different from zero as shown in Figure 2.

Posterior Beliefs. Appendix Table B21 shows how the duration of the increase in inflation expectations affects the change in beliefs of other variables. We omit the durable dummy because the type of consumption should not affect these economic posteriors. Households in long-term treatments, relative to short-term treatments, are significantly more likely to expect their income to keep up or outpace inflation and the federal funds rate to rise. They also expect higher financial uncertainty and a worse economy, but the difference is not statistically significant.

Channels. Next, we summarize how the treatments affect the selection of channels. We separate the analysis by consumption response categories (pooling 'no change' and 'same spending, different bundle' because they share some common channels). We run selected logit regressions, pooling all households who chose each response category. Our decision on which channels to focus on and which treatment variable(s) to include in the regression depends on whether there is a clear economic prediction about the effect of the treatment variable on the likelihood of that channel being applicable (more details are in Appendix B.6). For example, for the "saver's wealth effect," it is reasonable to conjecture that more persistent inflation more significantly erodes the purchasing power of savings, leading to a stronger reduction in spending. It is unclear, however, whether the effect is stronger for durable or non-durable goods; therefore, we include only the dummy variable "long treatment" in the regression for this channel.

For the pooled 'no change' and 'same spending, different bundle' responses, we find that being in the durable treatment increases the likelihood of selecting the "liquidity constraint" channel by 1.7 percentage points, relative to the non-durable treatment, although the effect is insignificant.

For the 'decrease' responses (see Appendix Table B22), we find that comparing the short- and long-term treatments, households are more likely to select "saver's wealth effect", "variable debt", "uncertainty", and less likely to select "rigid income" in the long-term treatment. Comparing the durable and non-durable treatments, households are less likely to select "inflation hedge" in the durable treatment. However, the treatment effects are statistically insignificant except for the effect of the long-term treatment on the channel "variable debt."

For the 'increase' responses (see Appendix Table B23), we find that respondents in the durable treatments are more likely (relative to those in non-durable treatments) to say "intertemporal substitution" or "stockpiling" played a role in their reasoning for increasing consumption. The effect is significant for "intertemporal substitution" (for "stockpiling" the p-value is 0.11). Being in the long-treatment is associated with a higher probability of choosing "intertemporal substitution" or "stockpiling," but the effect is

not statistically significant. For the three indirect channels, the coefficients on the long-term treatment variable have expected signs, and are statistically significant at the 5% level for "flexible income" and at the 1% level for "nominal illusion." The coefficient on "debtor's wealth effect" is not significant at the 10% level.

5   Robustness Survey Results

In this section, we discuss the results from the robustness survey treatments. Overall, larger or longer lasting changes to inflation expectations are more likely to decrease current planned durable consumption. Furthermore, specifying the underlying shock results in similar changes in spending and similar direct mechanisms are selected as in the main treatments, but tends to alter the indirect mechanisms that households select as important to their decision making.

Figure 5 reports the spending changes for all treatments, including those from the main survey. Figure 6 shows the mechanisms that individuals selected as applying to them in each robustness treatment. For brevity, we focus on the two most common responses: 'no change' and 'decrease.' A more comprehensive discussion of these results is provided in Appendix B.7.

(a) Extensive Margin (Percentage)   (b) Quantitative Effect (Dollar Change)
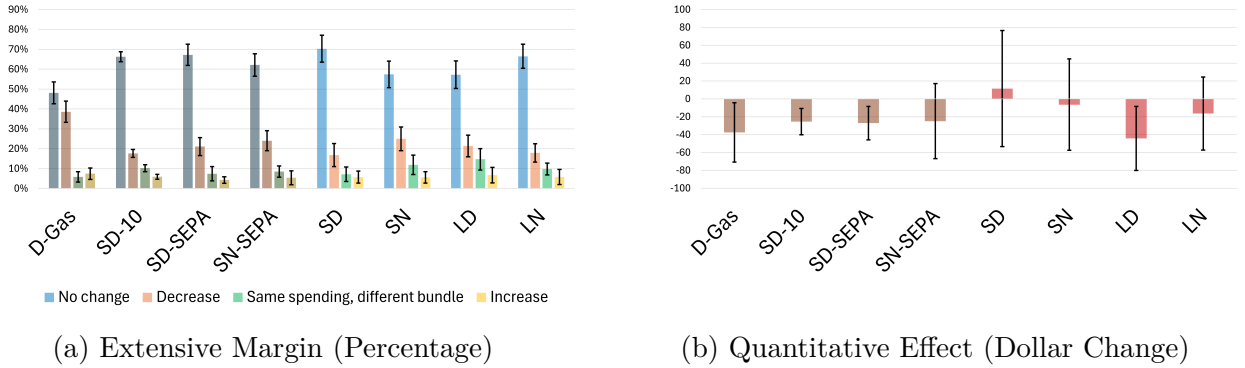
Figure 5: Spending Response with Robustness Treatments

Notes: Panel (a) plots the proportion of participants from each treatment group that reported each qualitative response (extensive margin). Panel (b) plots the average quantitative change in dollar spending for each treatment group. The bars indicate 95% confidence intervals.

Larger Increase in Expected Inflation: SD-10. When we increase short-term expectations by 10 percentage points (rather than by three), we see similar extensive margin adjustments in consumption to the main treatments. That is, 76% do not change spending, 18% decrease, and 6% increase, which is most comparable to the SD treatment with 77%, 17%, and 6%, respectively. However, in the SD-10 treatment, more households worry about their income not keeping up with inflation, and those who decrease consumption tend to decrease it by a larger amount and are more likely to cite wage

| | 0% | 20% | 40% | 60% | 80% | 100% | | 0% | 20% | 40% | 60% | 80% | 100% |

(a) No Change   (b) Decrease

■ D-Gas   ■ SD-10   ■ SD-SEPA   ■ SN-SEPA
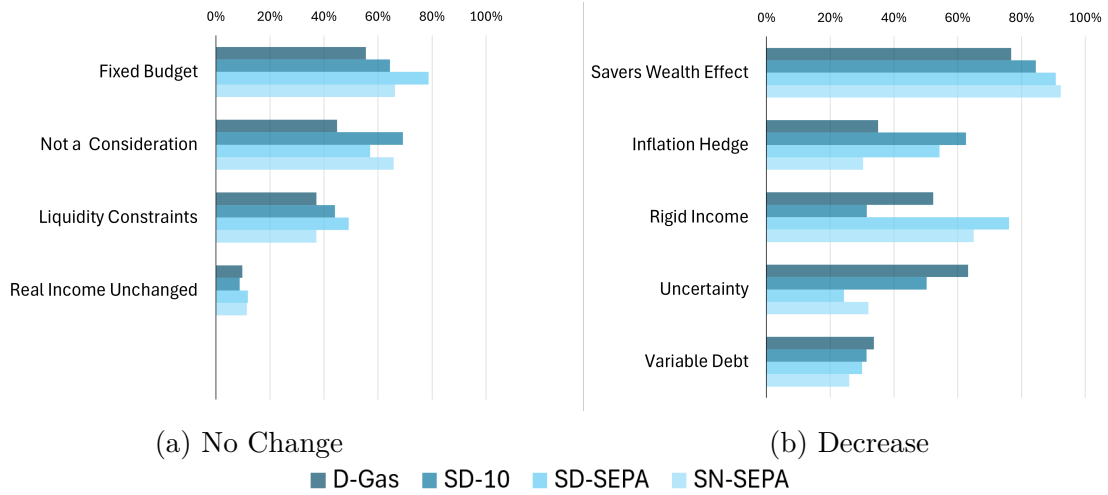
Figure 6: Fraction of Households that Select Each Mechanism in Robustness Treatments

Note: This figure reports the percent of households in robustness treatments that selected that a given channel applies to them. Note that respondents could select more than one channel so the columns could add to above 100%. "Reverse" channels (those that are in contrast to economic theory) were very rarely selected and are thus omitted.

rigidity concerns. Overall, a 10 percentage point increase in inflation expectations results in a statistically significant reduction of 3.73% in average durable spending ($p < 0.01$) whereas the change is insignificant in the main SD treatment.

Modified Timing of Short-Term Hypothetical: SD/SN-Separate. In the SD/SN-Separate treatments, the hypothetical scenario features an increase in inflation over the upcoming year after the next 3 months, while the inflation rate for the following years—2 through 10—remains unchanged. Compared to our main short-term treatments, this approach results in a larger total change in inflation expectations. We find the extensive margin adjustments are similar to the main SD and SN treatments. Average spending falls in the new formulations, and significantly so for durables. Overall, these results suggest that higher inflation expectations tend to dampen spending, specifically that of durables.

Supply Shock: D-Gas. In this treatment, we examine how inflation expectations respond to an increase in gas price, and in turn affect durable spending. We find that in response to a hypothetical oil production problem that will result in a 50% increase in gas prices in the one year following the next three months, most households increase their inflation expectations. Eighty-five percent of respondents adjusted their one-year-ahead expectations (beyond the next three months), with a median increase of 4 percentage points, and 80% reported higher inflation expectations even after one year, with a median increase of 2 percentage points. Interestingly, the D-Gas treatment raised hypothetical inflation expectations by a similar amount to our main LD treatment. As such, the LD treatment is a good comparison group to assess the effects of specifying the un-

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derlying shock and allowing respondents to endogenously update their inflation expectations. Note that because our primary interest lies in how increased inflation expectations affect spending, the following analysis focuses on respondents who raised their one-year-ahead expectations, unless otherwise noted.

Similar to the main treatments, the most common qualitative response is no change in durable spending, followed by decrease. Although the frequency of decreased spending is significantly higher in the gas treatment than the LD treatment, the average quantitative change in spending is similar in the two treatments. This suggests that being agnostic about the cause of inflation or specifying that it originates from an oil production problem results in a similar aggregate effect on durable spending (conditional on the change in inflation expectations being similar).

Regarding mechanisms, among those who did not adjust their spending, the primary reasons were "fixed budget," "not a consideration," and "liquidity constraints." For respondents who reduced their spending, "savers' wealth effect" and "rigid income" remain important considerations as in the main treatments. A difference is that "uncertainty" becomes an important concern (selected by 63% respondents in the D-Gas treatment versus 37% in the LD treatment).

In summary, the D-Gas treatment reinforces the message that increasing inflation expectations is unlikely to boost consumption. Furthermore, it suggests that the 'no change' behavior, driven by direct mechanisms, remains important even when specifying the cause of rising inflation expectations, at least in the case of a supply-driven disruption.

6 Theoretical and Policy Implications

The findings suggest that standard macroeconomic models, such as the canonical New Keynesian model, which feature large intertemporal substitution effects, mischaracterize household decision-making. That is, there are important cognitive, behavioral, and financial frictions that are typically omitted. Ignoring these frictions may lead to overestimating how consumption changes in response to monetary policy, specifically forward guidance or using inflation expectations as a policy tool (the latter has been discussed, albeit untried). In this section, we discuss several theoretical frictions that would help macro models more closely align with our survey results and examine the implications of our findings for monetary policy.

Theoretical Frictions. Our results show that in response to higher inflation expectations most households do not change their current spending due to three primary reasons: (i) following a fixed budget, (ii) future inflation does not impact current spending decisions, and (iii) liquidity or borrowing constraints. How can we incorporate these em-

pirically important mechanisms into macro models?

Let us discuss the three aforementioned channels in turn. First, fixed budget plans could be the result of mental accounting or budgeting (Kőszegi and Matějka, 2020; Thaler, 1999). Second, future inflation may not influence current decision making due to behavioral frictions such as myopia or present-bias, where consumers heavily discount future consumption (Hajdini, 2023; O'Donoghue and Rabin, 2015); or habit-based spending, where past consumption affects current consumption choices (Campbell and Cochrane, 1999). Cognitive constraints such as rational inattention could also lead to the irrelevance of expected inflation; as long as inflation is low, paying costly attention to inflation may not be optimal (Weber et al., 2023; Pfäuti, 2023; Bracha and Tang, 2024). Third, many respondents stated that they did not have enough money and could not borrow to increase their spending. Models featuring illiquid assets (housing) as in Kaplan et al. (2018) or borrowing constraints could capture these financial frictions. Incorporating any of these frictions into macro models, will bring households' decisions closer to reality, and in particular mitigate the response of consumption to expected changes in inflation.

Given 20% of respondents decrease spending in our survey, it is also important to incorporate channels that would lead to a decrease in spending. The mechanisms most frequently selected by these individuals were savers wealth effects, rigid income, inflation hedging, and uncertainty. While savers wealth effects are often incorporated into macro models, the other mechanisms are not. Most of our survey respondents do not think their income will keep up with inflation, which induces a negative wealth effect and reduces current consumption.[15] It could be useful to incorporate upward nominal income rigidity into theory. One recent attempt is Guerreiro et al. (2024), who construct a model to explain that while facing higher inflation workers may not fight for higher wages to avoid conflicts with employers. Another channel is that households associate inflation with higher financial uncertainty and reduce consumption to prepare for that. HANK models like Kaplan et al. (2018), which feature uninsurable income risk and incomplete markets, give rise to precautionary savings. Finally, it could also be useful to model the investment decision to hedge against inflation.

Policy Implications. In response to recent recessions, central banks constrained by the zero-lower bound have increasingly turned to forward guidance. Forward guidance involves communicating the future path of monetary policy with the intention of influencing current expectations and therefore behavior. The efficacy of this policy thus relies on agents, including households, to change their current choices in response to changes in economic expectations. However, as our survey results show, the large majority of respondents either do not change or decrease spending in response to higher expected in-

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[15]Besides surveys, there is empirical evidence that nominal wage growth lags inflation at higher rates of inflation; see for example Sanchez and Wilkinson (2022).

flation and lower future real interest rates. This provides a possible solution to the forward guidance puzzle whereby there is less empirical reaction to forward guidance than what the New Keynesian model would suggest.

Our results also shed light on the discussed, albeit untried, approach of manipulating inflation expectations as a policy tool. The idea, discussed in Coibion et al. (2020), is that a monetary authority who is constrained by the zero lower bound, could manage inflation expectations to boost spending. Specifically, the central bank could communicate to individuals that inflation will be higher in the future, lowering real interest rate expectations (assuming the nominal rate will not change), and boosting current household spending. Some policymakers have been skeptical of this approach. For example, Minneapolis Federal Reserve President Narayana Kocherlakota said in his 2012 "Planning for Liftoff" speech: "I am doubtful about the efficacy of the inflation-based approach. I suspect that many households would believe that their wage increases would not keep up with the higher anticipated inflation rates. Those households would save more and spend less—exactly the opposite of the policy's aim." Our survey results, along with other studies indicating that people perceive inflation negatively, support this conjecture and suggest this policy would be ineffective at best or counterproductive, by reducing current spending, at worst.

7   Conclusion

This paper studies how inflation expectations affect spending plans and investigates the empirical importance of different channels. Using a new survey instrument that features hypothetical scenarios and mechanism-elicitation questions, we provide evidence that a majority of households (about 74%) do not alter their current spending following an increase in expected inflation. Respondents say this is due to following a fixed budget plan or that future inflation simply does not affect their current decisions. A minority of households (about 20%) say they would decrease their spending in response to higher expected inflation, commonly due to saver's wealth effects or nominal income rigidity. Very few households (about 6%) would increase their spending plans, typically citing intertemporal substitution or stockpiling. The average effect of an increase in expected inflation is either insignificant or a significant decrease in spending (depending on the treatment). These results remain consistent across a battery of surveys designed to test their robustness.

We find that the heterogeneity in consumption responses can, in part, be explained by demographic and financial status variables; however, changes in beliefs about other expectations are very important. Respondents who decrease their expectations about their income growth, financial predictability, and the overall economic outlook following

higher inflation expectations tend to reduce their spending. Put simply, those who have a stagflationary view of the economy are more likely to cut spending in response to higher expected inflation.

Our empirical results have a variety of implications for policies and for developing richer and more realistic theoretical models. The finding that households tend to keep spending the same or decrease suggests that using inflation expectations as a policy tool to encourage consumer spending could be ineffective or even backfire. In terms of theory, our results suggest that it could be important to incorporate modeling ingredients such as myopia, habit formation, or rational inattention to capture the observation that a majority of households do not change their spending because they either stick to a fixed budget or do not consider inflation expectations in their current spending decisions. Given that a non-negligible fraction of respondents cut spending citing reasons such as rigid income, inflation hedging and financial uncertainty, it could be also worthwhile to model these considerations. Finally, the heterogeneity in belief and consumption responses implies that modeling heterogeneity is important.

Our novel survey methodology can be extended to study related questions. Our surveys were conducted post-Covid under high inflation and rising interest rates; it could be useful to repeat our study in alternative economic environments such as with low inflation or low interest rate settings. While we studied the effect of an increase in expected inflation, it would be instructive to assess alternative settings regarding sources and the direction of the changes in expectations.[16] Furthermore, we focus on the effects of changes in inflation expectations; our framework can be adapted to study interest rate policies. For instance, it would be instructive to assess how households respond to changes in nominal interest rates and inflation expectations that induce the same change in the real interest rate (Jain and Kostyshyna, 2023; D'Acunto et al., 2023a). Finally, we study household decisions; it would be informative to conduct a similar study on firms to identify the different channels through which inflation expectations and nominal interest rates affect firm choices.

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[16]We studied the effect of higher inflation expectations resulting from a negative supply shock in the D-Gas treatment; we defer the analysis of demand-driven sources to future research.

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Appendices for Online Publication

A A Model of Spending and Expectations

In this Appendix, we outline a simple three-period model to illustrate how changes in short-term and long-term inflation expectations affect spending.

There are three dates, $t = 1, 2, 3$ with changes from period 1 to 2 representing the short term and changes from period 2 to 3 representing the long term. The household has time separable utility in consumption. Let y_t be the nominal income, c_t be the real consumption, p_t be the price level, s_t be the nominal saving, and i_1 and i_2 be the net nominal interest rate from period 1 to 2, and from period 2 to 3, respectively. The household's choice problem is:

$$\max_{c_1,c_2,c_3,s_1,s_2} U(c_1, c_2, c_3) = u(c_1) + \beta u(c_2) + \beta^2 u(c_3)$$

subject to:

$$p_1 c_1 + s_1 = y_1$$
$$p_2 c_2 + s_2 = y_2 + (1 + i_1)s_1$$
$$p_3 c_3 = y_3 + (1 + i_2)s_2$$

We can combine the three budget constraints:

$$(1 + i_1)(1 + i_2)p_1 c_1 + (1 + i_2)p_2 c_2 + p_3 c_3 = (1 + i_1)(1 + i_2)y_1 + (1 + i_2)y_2 + y_3$$

Define $R_1 = (1 + i_1)\frac{p_1}{p_2}$ and $R_2 = (1 + i_2)\frac{p_2}{p_3}$. We can rewrite the intertemporal budget constraint in real terms,

$$c_1 + \frac{c_2}{R_1} + \frac{c_3}{R_1 R_2} = \frac{y_1}{p_1} + \frac{y_2}{p_2 R_1} + \frac{y_3}{p_3 R_1 R_2} \tag{1}$$

The Euler equations are

$$\frac{u'(c_1)}{\beta u'(c_2)} = (1 + i_1)\frac{p_1}{p_2} = R_1 \tag{2}$$

$$\frac{u'(c_1)}{\beta^2 u'(c_3)} = (1 + i_1)(1 + i_2)\frac{p_1}{p_3} = (1 + i_1)(1 + i_2)\frac{p_1}{p_2}\frac{p_2}{p_3} = R_1 R_2 \tag{3}$$

The Euler equations capture the intertemporal substitution of time dated consumption. Fixing the nominal interest rate, c_1 is higher relative to c_2 and c_3 if expected inflation $\pi_1 = \frac{p_2}{p_1}$ and/or $\pi_2 = \frac{p_3}{p_2}$ are higher.

Assume $u(c)$ is CRRA; i.e., $u(c) = c^\sigma/\sigma$ with $\sigma < 1$. Then $u'(c) = c^{\sigma-1}$, and

$$c_2 = [\beta(1 + i_1)(p_1/p_2)]^{\frac{1}{1-\sigma}} c_1 = (\beta R_1)^{\frac{1}{1-\sigma}} c_1$$
$$c_3 = [\beta^2(1 + i_1)(1 + i_2)(p_1/p_3)]^{\frac{1}{1-\sigma}} c_1 = (\beta^2 R_1 R_2)^{\frac{1}{1-\sigma}} c_1$$

We can solve c_1 by plugging c_2 and c_3 to the intertemporal budget constraint (1).

We can represent our treatments in table A1, and we have the following results.

- Fixing the real returns R_1 and R_2, the intertemporal substitution effect (SE) is shut

Appendix Table A1: Price Trajectories in Treatments

Initial Price	Price in Hypothetical Scenario		
	Main short-term SD, SN, SD-10	Modified short-term timing SD-separate and SN-separate	Long-term LD and LN
P_1	P_1	P_1	P_1
P_2	γP_2	γP_2	γP_2
P_3	P_3	γP_3	$\gamma^2 P_3$

Note: $\gamma = 1.03$ in all treatments except for SD-10, where $\gamma = 1.1$.

down, so we only have the wealth effect (WE). With fixed nominal income y_2 and y_3, current consumption c_1 decreases with P_2 and P_3.

- Fixing the nominal interest rate i_1 and i_2, there are both substitution and wealth effects related to changes in P_2 and P_3.

  - If $u(c) = ln(c)$ or $\sigma = 0$, then the two effects offset each other, and c_1 does not change in response to changes in P_2 and P_3.

  - If $\sigma > 0$, then SE>WE, and c_1 increases with P_2 and P_3.

  - If $\sigma < 0$, then SE<WE, and c_1 decreases with P_2 and P_3.

- If the net effect is non-zero, then the strength of the effect among the treatments is ranked as: long run > robustness short run > original short run.

B   Additional Tables

B.1   Demographics

Data Cleaning. We removed all incomplete responses and responses with identical IP addresses. Then, we checked for straight-lining, whereby respondents consistently selected the first or last option; we found no evidence of this behavior. Next, we excluded respondents who did not provide relevant reasoning in the open-text box. Each open-box response was reviewed independently by two co-authors and designated as low, medium, or high quality. Low-quality responses were answers such as "4", "very nice", or "searyha<rg." We removed responses if any co-author labeled them as low quality. Finally, two observations with extremely high prior monthly spending ($100,000 and $250,000) in the main experiment were discarded as outliers. We also removed three observations with negative posterior spending in the main experiment.

Tables B1 and B2 present the demographic and financial characteristics of respondents and compares them with their adult population counterparts for our main and robustness treatments, respectively. We conducted pairwise comparisons of the demographics across different treatments within our main experiments. Out of 72 comparative analyses, 16 exhibited significant differences at the 10% significance level, which are nine more instances than would be statistically anticipated by random variation; hence, our analyses use demographics-weighted data.

Appendix Table B1: Survey Participants and the U.S. Adult Population

	[1] SD	[2] SN	[3] LD	[4] LN	[5] All	[6] U.S. Pop.
Demographics						
Age	60.97	61.37	58.41	59.85	60.15	47.96
White	0.85	0.92	0.89	0.90	0.89	0.64
Female	0.51	0.55	0.56	0.53	0.54	0.51
Has at Least a 4-Year College Degree	0.52	0.53	0.49	0.49	0.51	0.33
Married	0.65	0.63	0.61	0.63	0.63	0.53
Northeast	0.21	0.26	0.21	0.21	0.22	0.18
Midwest	0.18	0.21	0.22	0.26	0.22	0.21
South	0.40	0.38	0.41	0.39	0.39	0.38
West	0.21	0.15	0.15	0.14	0.16	0.23
Financial Characteristics						
Household Income 50k	0.35	0.40	0.43	0.37	0.39	0.39
Household Income 50k–100k	0.36	0.33	0.33	0.31	0.33	0.30
Household Income 100k+	0.29	0.27	0.24	0.31	0.28	0.31
N	504	504	497	498	2003	

Notes: This table compares the characteristics of the survey participants with the average characteristics of the U.S. adult population. For demographics and financial characteristics, comparisons are with the 2021 American Community Survey.

Appendix Table B2: Survey Participants and the U.S. Adult Population

	Main treatments	SD-10	SD/SN-separate	Gas	U.S. Pop.
Demographics					
Age	60.15	60.29	38.14	46.10	47.96
White	0.89	0.84	0.66	0.66	0.64
Female	0.54	0.54	0.49	0.53	0.51
Has at Least a 4-Year College Degree	0.51	0.52	0.58	0.57	0.33
Married	0.63	0.57	0.48	0.55	0.53
Northeast	0.22	0.20	0.16	0.17	0.18
Midwest	0.22	0.22	0.19	0.16	0.21
South	0.39	0.38	0.39	0.43	0.38
West	0.16	0.21	0.24	0.22	0.23
Financial Characteristics					
Household Income $\leq$ 50k	0.39	0.41	0.36	0.37	0.39
Household Income 50k-100k	0.33	0.33	0.34	0.33	0.30
Household Income 100k+	0.28	0.25	0.30	0.30	0.31
N	2003	2005	994	495	

Notes: This table compares the characteristics of the survey participants with the average characteristics of the U.S. adult population. For demographics and financial characteristics, comparisons are with the 2021 American Community Survey.

B.2 Conditional Spending Response

Appendix Table B3: Conditional Spending Response

Dollar Spending	(1) SD	(2) SN	(3) LD	(4) LN	(5) All
Unconditional					
Prior Spending	533.10	888.46	538.75	831.72	687.39
ΔC	11.59	-6.40	-44.27**	-16.35	-13.86
N	504	504	497	498	2,003
Conditional on $\Delta C > 0$					
Prior Spending	1716.13	1073.16	640.60	713.77	1024.94
ΔC	765.89	734.52*	168.41***	445.79	506.67***
N	28	30	30	23	111
Conditional on $\Delta C < 0$					
Prior Spending	577.17	928.45	637.33	1019.18	789.42
ΔC	-192.01***	-190.76***	-259.88***	-235.17***	-220.28***
N	81	117	105	91	394

Notes: The table shows the initial dollar spending, changes in dollar spending, and the number of respondents in each treatment. The top panel reports unconditional values, the middle panel reports these values conditional on respondents increasing consumption, and the bottom panel conditions on a decrease in consumption. Note the row "ΔC" also indicates whether the change in consumption is significantly different from zero. ***, **, * denotes statistical significance at 1, 5, and 10 percent levels, respectively.

B.3 Subgroup Analysis

Spending Responses for Reasonable Inflation Forecasters. Next, we explore the spending behavior of individuals identified as "reasonable" inflation forecasters. To define this group, we focus on a series of criteria: (i) individuals whose absolute error in perceiving inflation for the past year, specifically for March 2023, is below the median of our sample; (ii) those whose absolute forecast error for price changes between March 2023 and May 2023 falls below the sample's median forecast error; (iii) forecasters whose inflation expectations for the year following the next three months are lower than the sample's median; and (iv) those whose inflation expectations for the decade following the next three months also sit below the sample's median. We find most reasonable forecasters maintained their initial spending levels, as in the entire sample. Moreover, we find no significant positive changes in any spending categories. However, it is worth noting that the magnitude of the increase in spending for the SD treatment is larger than in the whole sample, albeit still insignificant.

Appendix Table B4: Spending Response for Respondents with Absolute Error in Perceiving Inflation Below the Median

	(1) SD	(2) SN	(3) LD	(4) LN
Extensive Margin (Percentage)				
No Change	72.5	60.7	65.6	60.2
Same Spending Different Bundle	4.3	7.7	6.7	9.9
Increase	4.2	2.0	5.7	2.9
Decrease	19.1	29.7	21.9	27.0
Quantitative Effect (Dollar Spending)				
Prior Spending	550.67	995.32	530.47	938.68
Spending Change	46.42	-17.36	-17.97	-49.00***
Percentage Change	8.43%	-1.74%	-3.39%	-5.22%
N	177	238	244	229

Notes: This table only uses respondents with a below median absolute error in inflation perceptions of the past year.

Appendix Table B5: Spending Response for Respondents with Absolute Forecast Error for Price Changes over the Next 3 Months Below the Median

	(1) SD	(2) SN	(3) LD	(4) LN
Extensive Margin (Percentage)				
No Change	78.1	63.4	64.9	66.6
Same Spending Different Bundle	5.3	12.1	13.1	9.7
Increase	4.6	3.0	4.5	5.9
Decrease	12.0	21.5	17.6	17.8
Quantitative Effect (Dollar Spending)				
Prior Spending	517.02	855.01	467.74	959.29
Spending Change	41.90	-25.88***	-21.48*	-38.31**
Percentage Change	8.43%	-1.74%	-3.39%	-5.22%
N	294	299	305	285

Notes: This table only uses respondents with a below median absolute forecast error for the next three months percent change in prices.

Spending Responses for Different Age Groups. Next, we investigate whether there is heterogeneity across age groups. For instance, older survey participants might respond to higher inflation differently from younger respondents as their

Appendix Table B6: Spending Response for Respondents with Short-Term Inflation Expectations Below the Median

	(1) SD	(2) SN	(3) LD	(4) LN
Extensive Margin (Percentage)				
No Change	76.1	66.0	62.3	66.1
Same Spending Different Bundle	4.2	11.7	16.5	9.1
Decrease	12.2	20.0	15.9	16.5
Increase	7.5	2.3	5.2	8.4
Quantitative Effect (Dollar Spending)				
Prior Spending	536.55	859.00	529.90	779.12
Spending Change	59.08	-11.42	-39.03*	-1.71
Percentage Change	11.01%	-1.32%	-7.37%	-0.22%
N	250	286	275	268

Notes: This table only uses respondents with a below median forecast for the one year inflation rate, three months ahead.

Appendix Table B7: Spending Response for Respondents with Long-Term Inflation Expectations Below the Median

	(1) SD	(2) SN	(3) LD	(4) LN
Extensive Margin (Percentage)				
No Change	75.8	60.6	64.2	69.4
Same Spending Different Bundle	6.7	12.9	15.4	11.7
Increase	6.3	2.0	3.1	5.3
Decrease	11.2	24.5	17.3	13.6
Quantitative Effect (Dollar Spending)				
Prior Spending	459.70	834.32	346.38	710.85
Spending Change	36.99	-43.16**	-21.27***	-0.98
Percentage Change	8.04%	-5.17%	-6.14%	-0.14%
N	250	286	275	268

Notes: This table only uses respondents with a below median forecast for the ten year inflation rate, three months ahead.

needs and planning horizons may differ. We compare the spending responses across two age groups: respondents younger than 55 and respondents 55 and over. The results are consistent with our main observations. For instance, 76% of participants aged 55 and older chose not to modify their spending levels, compared to 70% of those younger than 55.

Appendix Table B8: Spending Response of Respondents Age 55 and Over

	(1) SD	(2) SN	(3) LD	(4) LN
Extensive Margin (Percentage)				
No Change	73.2	60.2	70.7	62.7
Same Spending Different Bundle	6.0	7.9	9.7	11.2
Increase	3.4	4.5	5.0	3.3
Decrease	17.5	27.4	14.7	22.8
Quantitative Effect (Dollar Spending)				
Prior Spending	585.84	910.69	486.33	1005.71
Spending Change	-37.62**	-15.79	-31.72	-47.83*
Percentage Change	-6.42%	-1.73%	-6.52%	-4.76%
N	385	404	358	373

Notes: This table only uses respondents age 55 and older.

Appendix Table B9: Spending Response of Respondents Less than Age 55

	(1) SD	(2) SN	(3) LD	(4) LN
Extensive Margin (Percentage)				
No Change	67.9	53.4	45.2	70.4
Same Spending Different Bundle	8.3	17.7	19.1	8.3
Increase	7.6	7.3	8.3	8.3
Decrease	16.2	21.6	27.4	12.9
Quantitative Effect (Dollar Spending)				
Prior Spending	490.78	855.84	585.46	653.41
Spending Change	51.08	7.36	-55.45**	15.90
Percentage Change	10.41%	0.86%	-9.47%	2.43%
N	119	100	139	125

Notes: This table only uses respondents younger than the age of 55.

Spending Responses for Different CRT Score Groups. D'Acunto et al. (2023b) suggests that individuals with lower IQ scores, who tend to have less precise quantitative expectations about inflation, are generally less inclined to modify their purchasing plans in light of changes in inflation. To investigate this, we utilized cognitive reflection test scores to proxy IQ and categorized the participants into two groups: high CRT score individuals (those who correctly answered two or three questions) and low CRT score individuals (those who correctly answered at most one question). Most of the high-CRT group chose not to adjust their spending, consistent with the sample as a whole. However, we do observe a significant reduction in spending for high CRT respondents across all four treatments.

Appendix Table B10: Spending Response of High CRT Score Respondents

	(1) SD	(2) SN	(3) LD	(4) LN
Extensive Margin (Percentage)				
No Change	76.2	72.4	69.6	76.3
Same Spending Different Bundle	1.5	6.2	6.4	5.8
Increase	3.2	2.4	3.9	5.3
Decrease	19.1	19.1	20.1	12.5
Quantitative Effect (Dollar Spending)				
Prior Spending	405.67	1217.80	509.62	1159.03
Spending Change	-28.33**	-43.83***	-29.18*	-12.81*
Percentage Change	-6.98%	-3.60%	-5.73%	-1.11%
N	55	131	112	136

Notes: This table only uses respondents who answered two or three CRT questions correctly.

Appendix Table B11: Spending Response of Low CRT Score Respondents

	(1) SD	(2) SN	(3) LD	(4) LN
Extensive Margin (Percentage)				
No Change	68.5	53.0	54.8	63.8
Same Spending Different Bundle	8.9	13.6	16.3	10.8
Increase	6.4	6.6	7.3	5.9
Decrease	16.1	26.8	21.6	19.4
Quantitative Effect (Dollar Spending)				
Prior Spending	570.26	790.49	544.40	741.84
Spending Change	23.23	4.73	-47.20**	-17.32
Percentage Change	4.07%	0.60%	-8.67%	-2.33%
N	349	373	385	362

Notes: This table only uses respondents who answered at most one CRT question correctly.

B.4 Additional Survey to Test "Stay the Same" Bias

Survey Design and Implementation. We conducted two abbreviated SD treatments to test the "stay the same" bias. The survey adhered to the original design until the section where respondents were prompted for their spending plan in the hypothetical scenario. At this point, respondents were randomized into two versions. In one survey, we retained our original approach; in the other, we immediately ask for revised spending (*"Earlier, we asked you about your spending plan on durable goods over the next 3 months. You told us that you plan to spend $X on average per month. In response to the change in your expectations about future prices after the next 3 months (see table below for a recap), how much do you now plan to spend on average per month on durable goods over the next 3 months? You may change your plan or keep it the same."*). We then asked open-ended questions regarding their reasoning and the standard demographic questions. We recruited about 100 respondents for each approach via Prolific in February 2024.

Results. Without demographic adjustments, the original method resulted in 75% of participants opting to make 'no change', 8% choosing 'the same spending, different bun-

dle', 6% indicating an 'increase', and 12% a 'decrease'. In contrast, using the alternative approach, 67% of respondents maintained their spending level, 22% increased their spending, and 11% reduced their spending. Notice that the majority of respondents kept their spending constant across both methodologies. While the incidence of spending increases was higher with the new approach, half of the 'increase' responses could be attributed to respondents mechanically adjusting their spending, as inferred from open-ended responses. In terms of the average quantitative effect on spending, we found that with the new method average spending increased by $2, compared to a $4 increase observed with the original method.

B.5 Channels

This section provides the supplementary tables for the channel analysis. Discussion of these tables can be found in Section 4.4.

Appendix Table B12: Households Whose Open-Text Is Consistent with Each Listed Mechanism as a Percent of 'No Change' Households

	(1) SD	(2) SN	(3) LD	(4) LN	(5) All
Fixed Budget	13.9	20.2	14.9	33.1	20.5
Not a Consideration	39.4	44.3	45.8	45.3	43.4
Liquidity Constraint	1.9	3.4	0.9	1.1	1.7
Real Income Unchanged	1.2	3.3	2.8	3.1	2.5
Other	8.5	5.3	9.3	4.5	7.0
Uninformative	40.5	32.6	32.1	26.8	33.3
N	364	305	310	319	1,298

Notes: The table reports the percent of households whose open-text explanation is consistent with each channel. An explanation may fall into multiple channels, causing column totals to exceed 100%.

Appendix Table B13: Weights on Proposed Mechanisms: Average of 'No Change' Households

	(1) SD	(2) SN	(3) LD	(4) LN	(5) All
Fixed Budget	29.5	33.4	35.9	36.2	33.6
Not a Consideration	36.1	38.9	34.6	36.2	36.3
Liquidity Constraint	16.4	8.5	15.3	13.3	13.8
Real Income Unchanged	4.0	9.2	6.1	6.7	6.2
Other	13.9	10.0	8.0	7.6	10.1
N	364	305	310	319	1,298

Notes: The table reports the weights (in %) put on proposed mechanisms averaged across households. If the respondent selects "Other reasons as explained in the open text" and if the open text is identified to be consistent with a proposed mechanism, then we transfer the weight of that to the identified mechanism. Sometimes we identify two proposed mechanisms, in which case we split the weight equally between the two mechanisms. The numbers in each column add up to 100%.

Appendix Table B14: Households Whose Open-Text Is Consistent with Each Proposed Mechanism as a Percent of 'Same Spending, Different Bundle'

	(1) SD	(2) SN	(3) LD	(4) LN	(5) All
Fixed Budget	29.8	50.9	31.0	65.6	43.5
Liquidity Constraint	5.0	4.1	1.4	0.9	2.6
Other	28.4	3.8	18.9	5.0	13.9
Uninformative	41.3	42.0	49.2	29.4	41.5
N	31	52	52	65	200

Notes: The table reports the percent of households whose open-text explanation is consistent with each channel. An explanation may fall into multiple channels, causing column totals to exceed 100%.

Appendix Table B15: Weights on Proposed Mechanisms: Average of 'Same Spending, Different Bundle'

	(1) SD	(2) SN	(3) LD	(4) LN	(5) All
Fixed Budget	36.7	65.4	55.3	70.5	57.8
Liquidity Constraint	14.7	15.9	18.9	20.1	17.7
Other	48.7	18.6	25.8	9.4	24.5
N	31	52	52	65	200

Notes: The table reports the weights (in %) put on proposed mechanisms averaged across households. If the respondent selects "Other reasons as explained in the open text" and if the open text is identified to be consistent with a proposed mechanism, then we transfer the weight of that to the identified mechanism. Sometimes we identify two proposed mechanisms, in which case we split the weight equally between the two mechanisms. The numbers in each column add up to 100%.

Appendix Table B16: Households Whose Open-Text Is Consistent with Each Proposed Mechanism as a Percent of 'Decrease'

	(1) SD	(2) SN	(3) LD	(4) LN	(5) All
Savers Wealth Effect	0.0	0.0	1.4	0.0	0.4
Rigid Income	12.5	10.1	19.6	7.1	12.6
Variable Debt	0.0	0.3	0.0	0.0	0.1
Inflation Hedge	0.9	0.0	0.0	1.3	0.5
Uncertainty	7.1	0.8	2.4	2.8	3.1
Debtor's Wealth Effect(Reverse)	0.0	0.0	0.0	0.0	0.0
Other	42.9	58.7	47.3	76.8	56.1
Uninformative	36.6	30.1	29.3	12.1	27.2
Other(General Wealth Effect)	39.5	55.8	35.5	69.1	49.6
N	81	117	105	91	394

Notes: The table reports the percent of households whose open-text explanation is consistent with each channel. An explanation may fall into multiple channels, causing column totals to exceed 100%.

Appendix Table B17: Weights on Proposed Mechanisms: Average of 'Decrease' Households

	(1) SD	(2) SN	(3) LD	(4) LN	(5) All
Savers Wealth Effect	20.6	24.9	23.3	20.5	22.5
Rigid Income	16.7	28.8	18.1	27.2	22.7
Variable Debt	4.1	6.9	7.9	14.4	8.3
Inflation Hedge	25.2	9.2	10.4	10.6	13.5
Uncertainty	10.8	13.2	13.9	16.8	13.7
Debtors Wealth Effect (reverse)	3.7	6.5	2.7	1.8	3.7
Other	18.8	10.4	23.8	8.7	15.6
N	81	117	105	91	394

Notes: The table reports the weights (in %) put on proposed mechanisms averaged across households. If the respondent selects "Other reasons as explained in the open text" and if the open text is identified to be consistent with a proposed mechanism, then we transfer the weight of that to the identified mechanism. Sometimes we identify two proposed mechanisms, in which case we split the weight equally between the two mechanisms. The numbers in each column add up to 100%.

Appendix Table B18: Households Whose Open-Text Is Consistent with Each Listed Mechanism as a Percent of 'Increase' Households

	(1) SD	(2) SN	(3) LD	(4) LN	(5) All
Intertemporal Substitution	0.0	0.0	0.0	0.0	0.0
Stockpiling	18.0	0.0	1.8	3.3	6.0
Debtors Wealth Effect	0.0	0.0	0.0	0.0	0.0
Flexible Income	0.0	0.0	0.0	0.0	0.0
Nominal Illusion	0.0	18.5	0.6	0.0	3.9
Uncertainty (reverse)	0.0	0.0	0.0	0.0	0.0
Variable Debt (reverse)	0.0	0.0	0.0	0.0	0.0
Other	30.3	46.5	52.2	31.6	40.3
Uninformative	51.7	35.0	45.3	65.2	49.8
N	28	30	30	23	111

Notes: The table reports the percent of households whose open-text explanation is consistent with each channel. An explanation may fall into multiple channels, causing column totals to exceed 100%.

Appendix Table B19: Weights on Proposed Mechanisms: Average of 'Increase' Households

	(1) SD	(2) SN	(3) LD	(4) LN	(5) All
Intertemporal Substitution	21.5	7.5	17.2	8.9	14.3
Stockpiling	25.4	21.8	32.9	14.6	24.1
Debtors Wealth Effect	5.8	7.6	6.7	5.9	6.5
Flexible Income	0.9	1.9	2.7	16.7	5.6
Nominal Illusion	4.4	27.8	1.5	1.4	7.5
Uncertainty (reverse)	5.7	0.0	2.4	0.8	2.4
Variable Debt (reverse)	0.4	0.0	0.0	3.0	0.8
Other	35.8	33.3	36.8	48.7	38.8
N	28	30	30	23	111

Notes: The table reports the weights (in %) put on proposed mechanisms averaged across households. If the respondent selects "Other reasons as explained in the open text" and if the open text is identified to be consistent with a proposed mechanism, then we transfer the weight of that to the identified mechanism. Sometimes we identify two proposed mechanisms, in which case we split the weight equally between the two mechanisms. The numbers in each column add up to 100%.

B.6 Treatment Effect

In this section, we provide details for the treatment effect analysis to supplement the summary in Section 4.6.

Appendix Table B20: Consumption Change: Treatment Effects

	(1) Decrease	(2) Increase	(3) Dollar Change
Durable Treatment	-0.022	0.005	-5.774
	(0.028)	(0.018)	(24.935)
Long Treatment	-0.009	0.006	-34.319
	(0.028)	(0.018)	(25.517)
N	2,003	2,003	2,003

Notes: The table reports treatment effects, captured by the two dummy treatment variables "durable treatment" and "long treatment," on consumption responses. The first two columns report the marginal effects of logit regressions where the regressands are the indicators of a decrease in spending and an increase in spending, respectively. The last column reports the result from an OLS regression with the dollar change in consumption as the regressand. Robust standard errors are in parenthesis. ***, **, * denotes statistical significance at 1, 5, and 10 percent levels, respectively.

Appendix Table B21: Posterior Economic Beliefs: Treatment Effects

	(1) Income Keep Up	(2) FFR Increase	(3) Higher Uncertainty	(4) Worse Economy
Long Treatment	0.072**	0.026*	0.041	0.020
	(0.036)	(0.014)	(0.030)	(0.034)
N	2,003	2,003	2,003	2,003

Notes: The table reports the marginal effects of a logit regression which regresses the indicators of posterior beliefs on a constant and a dummy variable for "long treatment." The dependent variable of the first regression, "income keep up" is equal to 1 if the household expects their income will keep up with inflation, i.e., the growth rate is equal to or higher than 3 percentage points following the hypothetical scenario. Robust standard errors are in parenthesis. ***, **, * denotes statistical significance at 1, 5 and 10 percent levels, respectively.

Spending. Next, we examine the differences in spending behavior across treatments along the extensive margin. The first two columns of Table B20 show how the likelihood of decreasing or increasing spending depends on the two treatment variables. We observe a negligible difference in spending changes when contrasting durable versus non-durable goods and comparing long-term with short-term treatments. The results are consistent with Figure 2, which shows the proportion of households that increase, decrease, or maintain their dollar spending is similar across all four treatments.

Next, we explore the differential impact of treatments on spending, with findings presented in the final column of Table B20. The difference in spending changes between durable and non-durable goods treatments is minor and lacks statistical significance. The reduction in household spending is more pronounced in long-term treatments compared to short-term ones, although the difference is insignificant ($p = 0.179$). Recall that Figure 2 demonstrates that the long-term, durable treatment did have a decline in consumption spending that was significant; however, the other treatments did not see a significant change in spending.

Posterior beliefs. Table B21 shows how the duration of the increase in inflation expectations affects the probability that respondents expect their income growth to keep up with or exceed inflation, the federal funds rate to increase, their financial uncertainty to increase, and the economy to worsen. Households in long-term treatments, relative to short-term treatments, are significantly more likely to expect their income to keep up or outpace inflation and significantly more likely to expect the federal funds rate to rise. Households in the long-term treatments also expect higher financial uncertainty and a worse economy, but the difference is not statistically significant at the 10% level. We do not investigate the differences in posteriors across surveys in which we ask about durable vs non-durable consumption, as this should not affect individuals' economic posteriors.

Channels for 'no change' and 'same spending, different bundle' responses. The channels proposed for 'no change' and 'same spending, different bundle' responses are "liquidity constraint", "fixed budget", "not a consideration", and "real income unchanged." Only for the "liquidity constraint" channel is there a clear way in which the channel's importance may vary across treatments. Namely, liquidity constraints are likely more important for durables, which tend to be big-ticket items, than for non-durables. We run a logit regression where the dependent variable is the indicator of households selecting "liquidity constraints," pooling the households who chose 'no change' and 'same spending, different bundle' responses. Being in the durable treatment increases the likelihood of selecting this channel by 1.7 percentage points, relative to the non-durable treatment, although the effect is insignificant.

Channels for 'decrease' responses. Next, we run logit regressions to analyze

Appendix Table B22: Channels for 'Decrease' Responses: Treatment Effects

	(1) Saver's Wealth	(2) Rigid Income	(3) Variable Debt	(4) Inflation Hedge	(5) Uncertainty
Long Treatment	0.013	-0.041	0.150**		0.123
	(0.067)	(0.080)	(0.071)		(0.075)
Durable Treatment				-0.052	
				(0.071)	
N	394	394	394	394	394

Notes: The table reports the marginal effects of logit regressions which regress the indicators of households selecting each of the five channels for decreasing consumption response on the dummy variables "durable treatment" and "long treatment." Robust standard errors are in parenthesis. ***, **, * denotes statistical significance at 1, 5 and 10 percent levels, respectively.

how the probability of choosing each channel for decrease responses is affected by the treatment variables.[17] For each channel, we include either the long-term treatment or the durable treatment as a regressor, depending on whether there is a plausible economic prediction about the effect of the treatment variable on the likelihood of that channel being applicable.

The importance of the three indirect channels, "rigid income," "variable debt" and "uncertainty," may vary based on the duration of higher inflation so we include a dummy variable for the long-term treatment. However, the type of good is unlikely to affect the applicability of these channels so we omit the durable good dummy. "Saver's wealth" is a direct channel. It may be the case that more persistent inflation more significantly erodes the purchasing power of savings, leading to a stronger reduction in spending. It is unclear, however, whether the effect is stronger for durable or non-durable goods; therefore, we include only the dummy variable "long treatment" in the regression for this channel. Finally, the "inflation hedge" is a direct channel and it depends clearly on the type of spending: one expects a stronger decrease response for non-durable goods because they provide a weaker hedge against inflation relative to durable goods. In contrast, it is not clear how the persistence of higher inflation expectations affects the strength of the "inflation hedge" channel. On the one hand, one would want to invest in assets such as real estate to hedge more persistent inflation. On the other hand, the mortgage rate and financial uncertainty may be higher, which tends to reduce the probability of investing in real estate. The overall effect of the long-term treatment on the strength of the inflation hedge channel is therefore not clear. For this reason, in the regression analysis of this channel, we include only the dummy variable for the durable treatment.

We collect the results in Table B22. Comparing the short and long-term treatments, households are more likely to select "saver's wealth effect", "variable debt", "uncertainty", and less likely to select "rigid income" in the long-term treatment. Comparing the durable and non-durable treatments, households are less likely to select "inflation hedge" in the durable treatment. However, the treatment effects are statistically insignificant except for the effect of the long-term treatment on the channel "variable debt."

Channels for 'increase' responses. Next, we test treatment effects on the probability that a household indicating an increase in spending selects a channel as being applicable. There are two direct channels, "intertemporal substitution" and "stockpiling." Economic models suggest that these channels may be stronger for durable goods relative

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[17]We omit the "debtor's wealth effect (reverse)" because this channel was selected very rarely.

to non-durable goods, and for long duration of the increase in expected inflation relative to short duration (see Appendix A). There are three indirect channels functioning through the induced changes in expectations in other economic variables.[18] Intuitively, the "debtor's wealth effect" may be stronger in the long-term treatment as persistent inflation results in a lower real value of fixed nominal debts. The "flexible income" channel may be stronger in the long-term treatment because income is more likely to account for inflation if it is more persistent. Related to this, the "nominal illusion" channel should be weaker in the long-term treatment (this channel only applies if the increase in income falls short of the increase in inflation). To test these conjectures, we run separate logit regressions to see how the probability of choosing each channel depends on two dummy variables to indicate whether the respondent (i) was asked about durable or non-durable goods and (ii) was in the long or short-term treatment.

Appendix Table B23: Channels for 'Increase' Responses: Treatment Effects

	(1) Intertemporal	(2) Stockpiling	(3) Debtor's WE	(4) Flexible Income	(5) Illusion
Durable Treatment	0.250*	0.225			
	(0.137)	(0.139)			
Long Treatment	0.100	0.081	0.057	0.274**	-0.229***
	(0.133)	(0.135)	(0.151)	(0.136)	(0.082)
N	111	111	111	111	111

Notes: The table reports the marginal effects of logit regressions which regress the indicators of households selecting each of the five channels for increasing consumption response on the dummy variables "durable treatment" and "long treatment." Robust standard errors are in parenthesis. ***, **, * denotes statistical significance at 1, 5 and 10 percent levels, respectively.

The results are shown in Table B23. Consistent with these conjectures, respondents who are asked about spending on durable goods are more likely (relative to those asked about non-durable goods) to say "intertemporal substitution" or "stockpiling" played a role in their reasoning for increasing consumption. The effect is significant for "intertemporal substitution" (for "stockpiling" the p-value is 0.11). For the three indirect channels, the coefficients on the long-term treatment variable have expected signs, and are statistically significant at 5% level for "flexible income" and at the 1% level for "nominal illusion." The coefficient on "debtor's wealth effect" is not significant at the 10% level.

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[18]We omit "uncertainty (reverse)" and "variable debt (reverse)" as they were rarely selected.

B.7 Robustness: SD-10, SD/SN-Separate, and D-Gas

Appendix Table B24: Descriptive Statics for Prior Expectations in SD-10

Expectations for:	N	Mean	St. Dev.	Huber Mean	Huber St. Dev.	Median
(A) *Price Change (%)*						
over the next 3 months	2,003	5.20	12.24	2.19	4.62	1.50
over the 12 months following the next 3 months	2,004	6.44	14.41	3.23	6.50	3.00
over the 10 years following the next 3 months	2,002	5.29	12.32	2.48	4.54	2.00
(B) *Household Spending ($)*						
durable goods per month over the next 3 months	2,005	679.65	2174.68	259.40	490.51	167.00
(C) *FFR (%)*						
over the 12 months following the next 3 months	2,005	7.41	12.02	4.96	3.29	5.00
(D) *Income Growth Rate (%)*						
over the 12 months following the next 3 months	2,005	6.81	16.86	3.46	6.87	3.00
(E) *Household Financial Uncertainty*						
over the 12 months following the next 3 months	2,005	0.80	0.40			

Notes: This table presents moments of various expectations observed prior to the hypothetical scenario module. For "household financial uncertainty," responses indicating perceptions of "very difficult" or "moderately difficult" to predict are classified as one. Regarding price expectations, we exclude we omit two, one, and three subjects, respectively, for different horizons, whose expected price changes exceed 200%. For continuous variables, Huber-robust means are reported.

B.7.1 SD-10 Treatment

The SD-10 treatment modifies the main SD treatment by increasing inflation expectations by 10 percentage points instead of three. The goal is to assess if the main three percentage point change was perceived as small and thus driving inaction in spending changes. This treatment was conducted through Dynata in early December 2023 and has 2,005 observations after cleaning.

Prior Expectations. Table B24 reports prior expectations for the SD-10 treatment. Compared with our main survey conducted in March 2023, inflation expectations over the next three months and the year following the next three months are lower in SD-10 treatment, which was conducted in December 2023. This is unsurprising given realized inflation fell between the surveys.[19] We also find a decrease in the federal funds rate expectations in the SD-10 treatment relative to the main sessions, revealing that respondents expect lower interest rates. For durable goods spending, household income growth rate, and financial uncertainty, there are no significant differences between the samples.

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[19]The median expectation for the next three months, the year following the next three months, and the average annual inflation rate in the ten years following the next three months was 1.5%, 3%, and 2%, respectively. For reference, in December 2023, the University of Michigan Survey of Consumers reported similar inflation expectations for comparable time intervals: 3.1% for the next year and 2.8% on average for the next five years.

Appendix Table B25: Posteriors of Economic Beliefs, by Treatment

	(1) SD-10	(2) SD+SN
(A) *Household Income Growth*		
Adjust downwards	7.8	7.6
No change	53.3	50.0
Adjust upwards by less than 10 (3)	15.0	12.1
Adjust upwards by 10 (3)	13.4	17.7
Adjust upwards by more than 10 (3)	10.6	12.7
(B) *Federal Funds Rate*		
Adjust upwards	33.0	37.4
No change	57.2	58.3
Adjust downwards	9.9	4.3
(C) *Financial Predictability*		
More difficult	24.1	22.4
As difficult as before	65.8	65.8
Less difficult	10.2	11.9
(D) *General Economic Outlook*		
Improve	21.5	23.0
No change	39.1	36.7
Worsen	39.4	40.4
N	2,005	1,008

Notes: In the SD-10 treatment, the income growth rate comparisons are set against a 10 percentage point benchmark, in contrast to the 3 percentage point benchmark used in our main experiments. The table reports the percentage of respondents in each scenario that gave each possible response. The last row indicates the number of respondents in each treatment.

Effects of Inflation Expectations on Other Expectations. Table B25 reports posterior economic beliefs for the SD-10 treatment as well as the short-term treatments in our main experiment (SD and SN) for comparison.[20] Regarding income growth, a smaller fraction, 24.0%, of respondents expect their income growth to keep up or surpass the inflation rate in the SD-10 treatment, compared to 30.4% in the SD and SN treatments (at a significance level of $p = 0.022$). Regarding the federal funds rate, a larger share, 9.9%, of respondents expect the central bank to lower it in the SD-10 treatment, compared to 4.3% in the SD and SN treatments (at a significance level of $p < 0.01$). The effects on financial predictability and general economic outlook in the SD-10 treatment are similar to those in the SD and SN treatments.

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[20]For posterior economic expectations, we pool SD and SN as the comparison group because the type of goods is irrelevant for them.

Appendix Table B26: Spending Response

	(1) SD-10	(2) SD
Extensive Margin (Percentage)		
No Change	66.2	70.3
Same Spending Different Bundle	10.2	7.2
Increase	5.9	5.7
Decrease	17.6	16.8
Quantitative Effect (Dollar Spending)		
Prior Spending	679.64	533.10
Spending Change	-25.38***	11.59
Percentage Change	-3.73%	2.17%
N	2,005	504

Notes: The table shows the proportion of participants in each treatment group reporting each qualitative response (extensive margin). It also presents average initial spending plans, their changes, and aggregate percentage changes. The last row lists the number of respondents per treatment.

Appendix Table B27: Mechanism Selection as a % of 'No Change' Households

	(1) SD-10	(2) SD
Fixed Budget	64.4	66.6
Not a Consideration	69.2	64.6
Liquidity Constraint	44.1	46.8
Real Income Unchanged	8.8	13.1
N	1,413	364

Notes: The table reports the percent of households in each treatment that selected that a given channel applies to them. Respondents could select more than one channel, causing column totals to exceed 100%.

Effects of Inflation Expectations on Spending and Channels. Table B26 compares the effects of the hypothetical scenario on planned spending for the SD-10 treatment versus the SD treatment. The extensive margin results are similar. Namely, the fraction of subjects who keep the same spending, decrease, and increase are respectively 76%, 18%, and 6% in the SD-10 treatment versus 77%, 17%, and 6% in the SD treatment. Regarding the amount of dollar spending, a 10 percentage point increase in inflation expectations results in a statistically significant reduction of 3.73% in average durable spending ($p < 0.01$) whereas the change is insignificant in the SD treatment.

Appendix Table B28: Mechanism Selection as a % of 'Same Spending, Different Bundle' Households

	(1) SD-10	(2) SD
Fixed Budget	65.1	73.2
Liquidity Constraint	62.4	48.8
N	158	31

Notes: The table reports the percent of households in each treatment that selected that a given channel applies to them. Respondents could select more than one channel, causing column totals to exceed 100%.

Appendix Table B29: Mechanism Selection as a % of 'Decrease' Households

	(1) SD-10	(2) SD
Savers Wealth Effect	84.5	79.2
Rigid Income	62.6	45.7
Variable Debt	31.5	22.8
Inflation Hedge	50.3	68.4
Uncertainty	31.4	26.6
Debtors Wealth Effect (reverse)	11.6	13.3
N	331	81

Notes: The table reports the percent of households in each treatment that selected that a given channel applies to them. Respondents could select more than one channel, causing column totals to exceed 100%.

Tables B27 to B30 report the likelihood each mechanism is selected as relevant. For subjects in the SD-10 treatment who did not change their spending, considerations such as "fixed budget," "not a consideration," and "liquidity constraint" are chosen with a similar frequency as in the SD treatment. For respondents who indicated decreased spending, nearly all mechanisms, except for "inflation hedge" and "debtors wealth effect (reverse)," saw an increase in their selection from the SD to the SD-10 treatment. The largest increase was in the "rigid income" channel, from 45.7% to 62.6%. Amplified concerns about rigid income may explain the more pronounced drop in spending in the SD-10 treatment. For subjects who increased their spending, we observe similar selections for the "intertemporal substitution" and "stockpiling" channels between the SD and SD-10 treatments. There is a significant decrease in the likelihood of selecting the "nominal illusion" channel (from 37.8% in the SD treatment to 18.0% in the SD-10 treatment).

In summary, the results from treatment SD-10 reinforce our key findings from the main experiment. It is unlikely that current spending rises with higher inflation expectations. Furthermore, average spending is likely to decrease in response to a larger increase in inflation expectations because more respondents believe that their income will not keep pace with rising prices.

Appendix Table B30: Mechanism Selection as a % of 'Increase' Households

	(1) SD-10	(2) SD
Intertemporal Substitution	65.0	71.2
Stockpiling	74.4	68.8
Debtors Wealth Effect	36.7	33.3
Flexible Income	8.2	5.2
Nominal Illusion	18.0	37.8
Uncertainty (reverse)	2.4	8.4
Variable Debt (reverse)	8.1	1.4
N	103	28

Notes: The table reports the percent of households in each treatment that selected that a given channel applies to them. Respondents could select more than one channel, causing column totals to exceed 100%.

B.7.2 SD-Separate and SN-Separate Treatment

In the SD-Separate and SN-Separate treatments we shield the long-term horizon from changes. Participants were recruited via Prolific in late March 2024; resulting in 494 and 500 respondents, respectively.

Appendix Table B31: Descriptive Statics for Prior Expectations in SD-Separate and SN-Separate

Expectations for:	N	Mean	St. Dev.	Huber Mean	Huber St. Dev.	Median
(A) *Price Change (%)*						
over the next 3 months	994	2.64	5.44	1.34	1.82	1.00
over the 12 months following the next 3 months	994	4.24	7.69	2.92	3.37	3.00
over the 9 years following the next 15 months	994	3.46	7.01	2.12	2.12	2.22
(B) *Household Spending ($)*						
durable goods per month over the next 3 months	494	704.72	2855.39	237.68	636.66	200
nondurable goods per month over the next 3 months	500	1100.68	1174.9	833.31	741.98	750
(C) *FFR (%)*						
over the 12 months following the next 3 months	994	5.55	3.13	5.34	1.34	5.33
(D) *Income Growth Rate (%)*						
over the 12 months following the next 3 months	994	7.70	26.80	3.43	6.72	3.00
(E) *Household Financial Uncertainty*						
over the 12 months following the next 3 months	994	0.70	0.46			

Notes: This table presents moments of various expectations observed prior to the hypothetical scenario module. For "household financial uncertainty," responses indicating perceptions of "very difficult" or "moderately difficult" to predict are classified as one. For continuous variables, Huber-robust means are reported to account for potential outliers.

Prior Expectations. Table B31 presents prior expectations for the SD-Separate and SN-Separate treatments; they are consistent with our main short-term treatments conducted through Dynata in early 2023. The forecasts for aggregate variables like inflation and the federal funds rate exhibit less variability than those from earlier Dynata samples, which may be a result of decreasing realized inflation and less economic uncertainty.

Effects of Inflation Expectations on Other Expectations. Table B32 details the posterior economic beliefs for the modified and main short-term treatments. A larger proportion of respondents in the new treatments anticipate a reduction in the federal funds rate in the hypothetical scenario compared to the SD and SN treatments. Additionally, more participants in the modified treatments perceive that higher inflation is associated with a poorer economic outlook than the main treatments. The difference in the posterior beliefs is likely due to the survey implementation dates, between which disinflation occurred.

Effects of Inflation Expectations on Spending and Channels. Table B33 shows the changes in spending in the SD/SN-Separate treatments vs. the SD/SN treatments. Tables B34 through B37 show the likelihood of participants citing each mechanism. Extensive margin decisions are similar to the main treatments. Average spending change in the robustness treatments are negative, with significantly negative responses in SD-Separate. Channel results are comparable, though intertemporal substitution is less relevant in the modified setting.

Appendix Table B32: Posteriors of Economic Beliefs, by Treatment

	(1) SD-Separate	(2) SN-Separate	(3) SD	(4) SN
(A) *Household Income Growth*				
Adjust downwards	9.6	12.0	4.9	10.3
No change	59.1	51.3	49.0	50.9
Adjust upwards by less than 3	10.0	11.7	12.0	12.1
Adjust upwards by 3	14.6	16.0	18.0	17.4
Adjust upwards by more than 3	6.7	9.0	16.1	9.2
(B) *Federal Funds Rate*				
Adjust upwards	35.7	38.3	34.9	39.8
No change	50.8	52.5	61.3	55.3
Adjust downwards	13.5	9.3	3.8	4.8
(C) *Financial Predictability*				
More difficult	24.2	17.4	19.4	25.3
As difficult as before	63.5	72.8	65.6	65.9
Less difficult	12.3	9.8	15.0	8.8
(D) *General Economic Outlook*				
Improve	17.7	16.0	25.3	20.7
No change	23.2	28.4	40.0	33.3
Worsen	59.1	55.6	34.8	46.0
N	409	500	504	504

Notes: The table reports the percentage of respondents in each scenario that gave each possible response. The last row indicates the number of respondents in each treatment.

Appendix Table B33: Spending Response

	(1) SD-Separate	(2) SN-Separate	(3) SD	(4) SN
Extensive Margin (Percentage)				
No Change	67.2	62.1	70.3	57.4
Same Spending Different Bundle	7.4	8.5	7.2	11.9
Increase	4.3	5.4	5.7	5.6
Decrease	21.1	24.0	16.8	25.0
Quantitative Effect (Dollar Spending)				
Prior Spending	704.72	1100.68	533.10	888.46
Spending Change	-27.08**	-24.89	11.59	-6.40
Percentage Change	-3.84%	-2.25%	2.17%	-0.72%
N	494	500	504	504

Notes: The table shows the proportion of participants in each treatment group reporting each qualitative response (extensive margin). It also presents average initial spending plans, their changes, and aggregate percentage changes. The last row lists the number of respondents per treatment.

Appendix Table B34: Mechanism Selection as a % of 'No Change' Households

	(1) SD-Separate	(2) SN-Separate	(3) SD	(4) SN
Fixed Budget	78.7	66.3	66.6	61.4
Not a Consideration	57.1	65.8	64.6	67.7
Liquidity Constraint	49.1	37.2	46.8	32.9
Real Income Unchanged	11.8	11.5	13.1	16.4
N	326	317	364	305

Notes: The table reports the percent of households in each treatment that selected that a given channel applies to them. Respondents could select more than one channel, causing column totals to exceed 100%.

Appendix Table B35: Mechanism Selection as a % of 'Same Spending, Different Bundle' Households

	(1) SD-Separate	(2) SN-Separate	(3) SD	(4) SN
Fixed Budget	81.8	79.3	73.2	82.7
Liquidity Constraint	39.8	54.2	48.8	46.6
N	30	49	31	52

Notes: The table reports the percent of households in each treatment that selected that a given channel applies to them. Respondents could select more than one channel, causing column totals to exceed 100%.

Appendix Table B36: Mechanism Selection as a % of 'Decrease' Households

	(1) SD-Separate	(2) SN-Separate	(3) SD	(4) SN
Savers Wealth Effect	90.8	92.3	79.2	92.4
Rigid Income	76.1	65.0	45.7	67.2
Variable Debt	24.3	32.0	22.8	30.1
Inflation Hedge	54.3	30.3	68.4	67.3
Uncertainty	30.0	26.0	26.6	36.6
Debtors Wealth Effect (reverse)	11.5	21.3	13.3	19.8
N	111	111	81	117

Notes: The table reports the percent of households in each treatment that selected that a given channel applies to them. Respondents could select more than one channel, causing column totals to exceed 100%.

Appendix Table B37: Mechanism Selection as a % of 'Increase' Households

	(1) SD-Separate	(2) SN-Separate	(3) SD	(4) SN
Intertemporal Substitution	43.6	25.8	71.2	41.4
Stockpiling	57.4	20.3	68.8	45.6
Debtors Wealth Effect	28.6	13.4	33.3	27.1
Flexible Income	1.9	3.7	5.2	9.4
Nominal Illusion	26.7	7.7	37.8	21.7
Uncertainty (reverse)	15.8	5.8	8.4	0.0
Variable Debt (reverse)	9.3	2.0	1.4	0.0
N	27	23	28	30

Notes: The table reports the percent of households in each treatment that selected that a given channel applies to them. Respondents could select more than one channel, causing column totals to exceed 100%.

B.7.3 D-Gas Treatment

In the D-Gas treatment, we introduce a new scenario where gas prices rise by 50% in the year after the next three months. Respondents adjust their inflation expectations accordingly. This treatment was conducted via Prolific in December 2024 with a sample size of 495, following data-cleaning.

Prior Expectations. Table B38 reports prior expectations for the D-Gas treatment. Compared with all other treatments, respondents in the gas treatment have the lowest inflation and federal funds rate expectations, reflecting the Fed's recent rate cuts and the ongoing disinflation process. The durable spending figures are similar to other treatments.

Appendix Table B38: Prior Expectations in D-Gas Treatment

Expectations for:	N	Mean	St. Dev.	Huber Mean	Huber St. Dev.	Median
(A) *Price Change (%)*						
over the next 3 months	495	2.04	6.03	1.30	1.59	1.00
over the 12 months following the next 3 months	495	3.15	9.30	2.42	2.13	3.00
over the 9 years following the next 15 months	495	2.77	7.22	1.80	1.83	2.00
(B) *Household Spending ($)*						
durable goods per month over the next 3 months	495	675.66	3481.11	480.57	696.74	200.00
(C) *FFR (%)*						
over the 12 months following the next 3 months	495	4.82	3.24	4.59	1.51	4.60
(D) *Income Growth Rate (%)*						
over the 12 months following the next 3 months	495	7.02	20.16	3.82	7.04	3.00
(E) *Household Financial Uncertainty*						
over the 12 months following the next 3 months	495	0.74	0.44			

Notes: This table presents moments of various expectations observed prior to the hypothetical scenario module. For "household financial uncertainty," responses indicating perceptions of "very difficult" or "moderately difficult" to predict are classified as one. Regarding price expectations, we exclude we omit two, one, and three subjects, respectively, for different time periods, whose expected price changes exceed 200%. For continuous variables, Huber-robust means are reported to account for potential outliers.

Appendix Table B39: Changes in Inflation Expectations in D-Gas Treatment

A: Changes in Inflation Expectations (Extensive Margins)					
(A1) over 12 months after the next 3 months					
Adjust downwards	4.0				
No change	10.9				
Adjust upwards	85.1				
(A2) over the 9 year following the next 15 months					
Adjust downwards	3.4				
No change	16.1				
Adjust upwards	80.5				
B:Changes in Inflation Expectations (Quantitative Effect)	Mean	St. Dev.	Huber Mean	Huber St. Dev.	Median
over the 12 months following the next 3 months	10.08	15.13	5.78	8.48	4
over the 9 year following the next 15 months	7.25	12.87	2.81	5.26	2

Notes: After being presented with the hypothetical gas shock, respondents reported changes in their inflation expectations over two horizons. Panel (A) presents the proportion of participants that reported each qualitative response (extensive margin). Panel (B) shows the quantitative changes in these inflation expectations.

Effects of Gas Shock on Inflation Expectations and Other Beliefs. Table B39 shows that most respondents increase their inflation expectations for both one and

ten year horizons. Table B41 presents posterior economic beliefs for the D-Gas treatment alongside our other durable goods treatments. Fewer respondents in the D-Gas treatment believed their wage growth rate would remain unchanged compared to the short-run treatments (SD-Separate and SD-10), while their expectations were closer to those in the long-run LD treatment. This aligns with the fact that most respondents adjusted their long-run inflation expectations in the D-Gas treatment. Relative to other durable treatments, respondents in the D-Gas treatment were more likely to anticipate interest rate hikes, report greater uncertainty, and feel more pessimistic about the economy.

Appendix Table B40: Spending Response

	(1) SD-Separate	(2) SD-10	(3) LD	(4) D-Gas>0	(5) D-Gas=0
Extensive Margin (Percentage)					
No Change	67.2	66.2	57.2	48.1	66.0
Same Spending Different Bundle	7.4	10.2	14.7	5.8	7.1
Increase	4.3	5.9	6.7	7.4	5.4
Decrease	21.1	17.6	21.4	38.6	21.4
Quantitative Effect (Dollar Spending)					
Prior Spending	704.72	679.64	538.75	682.83	422.74
Spending Change	-27.08**	-25.38***	-44.27**	-37.56**	-17.81
Percentage Change	-3.84%	-3.73%	-8.22%	-5.50%	-4.21%
N	494	2005	497	426	53

Notes: The table shows the proportion of participants in each treatment group reporting each qualitative response (extensive margin). It also presents average initial spending plans, their changes, and aggregate percentage changes. The last row lists the number of respondents per treatment. Specifically, for the "Gas> 0", the data includes those respondents who projected an upward revision in inflation expectations over the subsequent 12 months following the next three months. For "Gas= 0", the data includes those respondents who projected no revision in inflation expectations over the subsequent 12 months following the next three months. ***, **, * denotes statistical significance at 1, 5, and 10 percent levels, respectively.

Effects of Inflation Expectations on Spending and Channels. Table B40 compares spending in the gas treatment with other durable treatments. Column 4 reports spending for those who raised their inflation expectations, while Column 5 does the same for those who did not adjust their expectations. Tables B42 through B45 examine the relevance of each mechanism in decision-making.

Over 50% of respondents in the gas treatment reported 'no change' in spending; often due to "fixed budget," "not a consideration," and "liquidity constraint." Meanwhile, 39% reduced spending. The primary reason was "saver wealth effect." Relative to the other treatments, a large share of respondents cited the indirect "uncertainty" channel. The average spending change is significantly negative among those who increased their inflation expectations. Overall, the gas treatment shows that even when including a specific shock, the stylized facts about spending adjustments remain robust.

Appendix Table B41: Posteriors of Economic Beliefs, by Treatment

	(1) SD-Separate	(2) SD-10	(3) LD	(4) D-Gas
(A) *Household Income Growth*				
Adjust downwards	9.6	7.8	6.7	12.0
No change	59.1	53.3	39.9	38.5
Adjust upwards by less than 3/10/updated value	10.0	15.0	10.9	13.2
Adjust upwards by 3/10/updated value	14.6	13.4	22.2	20.9
Adjust upwards by more than 3/10/updated value	6.7	10.6	20.4	15.5
(B) *Federal Funds Rate*				
Adjust upwards	35.7	33.0	43.0	54.9
No change	50.8	57.2	50.4	31.8
Adjust downwards	13.5	9.9	6.6	13.3
(C) *Financial Predictability*				
More difficult	24.2	24.1	23.6	59.2
As difficult as before	63.5	65.8	65.9	34.4
Less difficult	12.3	10.2	10.6	6.4
(D) *General Economic Outlook*				
Improve	17.7	21.5	25.9	9.2
No change	23.2	39.1	33.2	7.2
Worsen	59.1	39.4	40.9	83.6
N	409	2005	497	426

Notes: In the SD-10 treatment, the income growth rate comparisons are set against a 10 percentage point benchmark, in contrast to the 3 percentage point benchmark used in our SD-Separate and LD treatment. Conversely, in the gas treatment, income growth rate comparisons are adjusted in relation to the revised expectations for inflation. The table reports the percentage of respondents in each scenario that gave each possible response. The last row indicates the number of respondents in each treatment. For gas treatment, we only report respondents who think inflation will increase in response to the negative supply shock.

Appendix Table B42: Mechanism Selection as a % of 'No Change' Households

	(1) SD-Separate	(2) SD-10	(3) LD	(4) D-Gas
Fixed Budget	78.7	64.4	69.1	55.5
Not a Consideration	57.1	69.2	66.2	44.8
Liquidity Constraint	49.1	44.1	53.8	37.2
Real Income Unchanged	11.8	8.8	21.3	9.8
N	326	317	310	201

Notes: The table reports the percent of households in each treatment that selected that a given channel applies to them. Respondents could select more than one channel, causing column totals to exceed 100%. The last row indicates the number of respondents in each treatment that selected 'no change' in spending. For the gas treatment, results only include those who increased inflation expectations.

Appendix Table B43: Mechanism Selection as a % of 'Same Spending, Different Bundle' Households

	(1) SD-Separate	(2) SD-10	(3) LD	(4) D-Gas
Fixed Budget	81.8	65.1	65.9	60.8
Liquidity Constraint	39.8	62.4	53.1	58.4
N	30	158	52	24

Notes: The table reports the percent of households in each treatment that selected that a given channel applies to them. Respondents could select more than one channel, causing column totals to exceed 100%. The last row indicates the number of respondents in each treatment that selected 'same spending, different bundle' in spending. For the gas treatment, results only include those who increased inflation expectations.

Appendix Table B44: Mechanism Selection as a % of 'Decrease' Households

|	(1) SD-Separate	(2) SD-10	(3) LD	(4) D-Gas
Savers Wealth Effect	90.8	84.5	79.3	76.8
Rigid Income	76.1	62.6	44.5	52.3
Variable Debt	24.3	31.5	35.1	33.7
Inflation Hedge	54.3	50.3	55.0	35.0
Uncertainty	30.0	31.4	37.0	63.3
Debtors Wealth Effect (reverse)	11.5	9.5	13.3	10.4
N	111	331	105	169

Notes: The table reports the percent of households in each treatment that selected that a given channel applies to them. Respondents could select more than one channel, causing column totals to exceed 100%. The last row indicates the number of respondents in each treatment that selected 'decrease' in spending. For the gas treatment, results only include those who increased inflation expectations.

Appendix Table B45: Mechanism Selection as a % of 'Increase' Households

|	(1) SD-Separate	(2) SD-10	(3) LD	(4) D-Gas
Intertemporal Substitution	43.6	65.0	76.4	62.3
Stockpiling	57.4	74.4	75.7	76.3
Debtors Wealth Effect	28.6	36.7	21.8	22.6
Flexible Income	1.9	8.2	20.8	7.0
Nominal Illusion	26.7	18.0	5.9	15.4
Uncertainty (reverse)	15.8	2.4	6.8	11.6
Variable Debt (reverse)	9.3	8.1	0.0	0.0
N	27	103	30	32

Notes: The table reports the percent of households in each treatment that selected that a given channel applies to them. Respondents could select more than one channel, causing column totals to exceed 100%. The last row indicates the number of respondents in each treatment that selected 'increase' in spending. For the gas treatment, results only include those who increased inflation expectations.

C Additional Figures

<center>(a)</center>

<center>(b)</center>
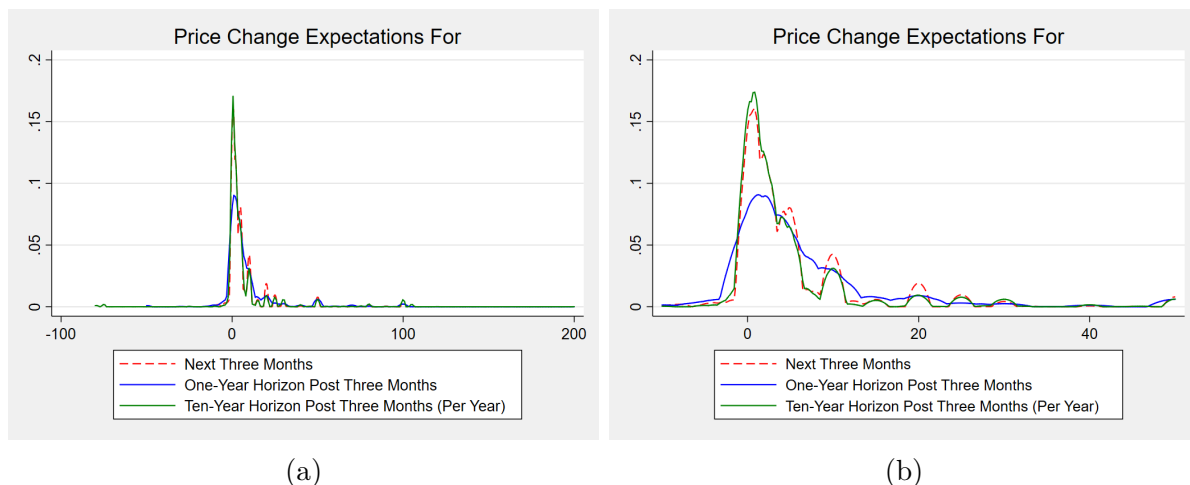
Appendix Figure C1: Distribution of Prior Price Change Expectations

Notes: Figure (a) plots the density distributions of expected price changes across three distinct time horizons: the next three months, one year after the next three months, and a ten-year annualized forecast following the initial three months. Figure (b) restricts the range to between -10% and 50%. For both plots, densities are computed using the Epanechnikov kernel.

<center>(a)</center>


<center>(b)</center>
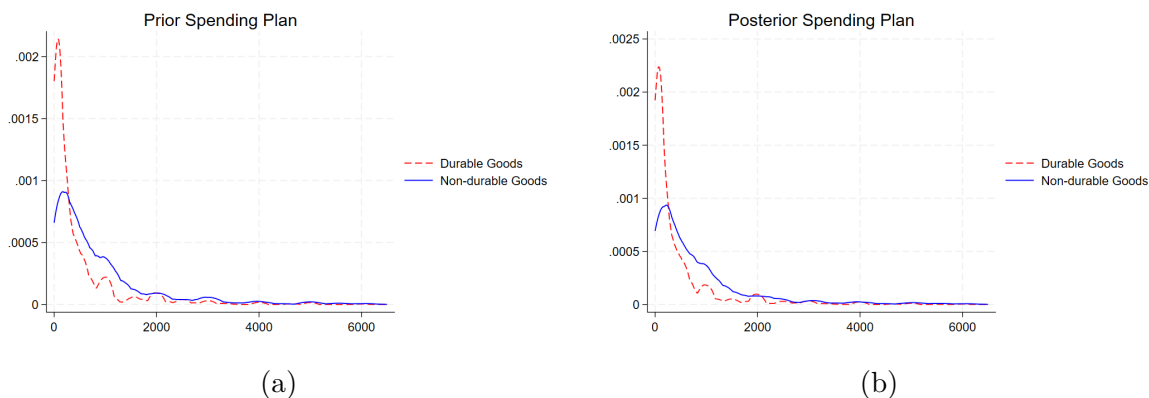
Appendix Figure C2: Distribution of Prior and Posterior Spending

Notes: Figure (a) plots the distributions of prior spending plans on durable and non-durable goods for the next three months. Figure (b) plots the distributions of posterior spending plans on durable and non-durable goods for the next three months. Both panels restrict the data range between 0 and 6500, which corresponds to the 99th percentile. For both plots, densities are computed using the Epanechnikov kernel.
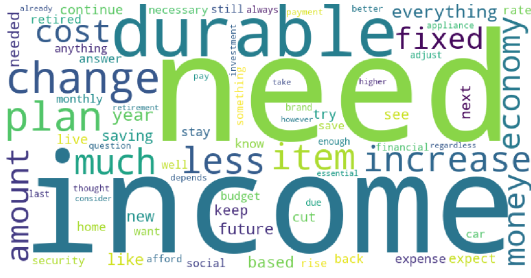
(a) SD
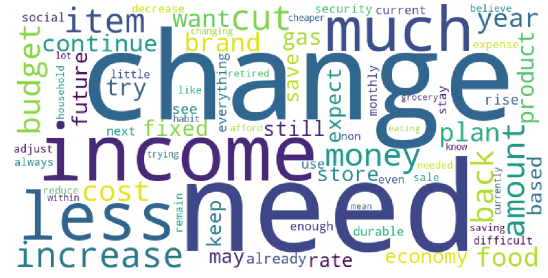
(b) SN
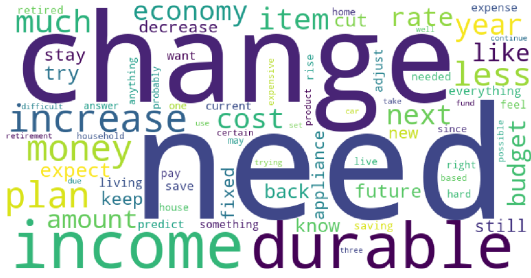
(c) LD

(d) LN

Appendix Figure C3: Word Clouds by Treatments

Notes: For each treatment, word clouds of the most commonly used words in the open-text responses are reported. In the text analysis, punctuation was removed, all letters were made lowercase, and all words were lemmatized. Words associated with the hypothetical scenario were dropped such as "price", "inflation", "buy", as well as 179 common stop words.

D Attention Check for No Change Responses

Respondents selecting 'no change' in spending do not rush the survey. First, the share selecting no change in their economic posteriors varies by question (eg, 35% do not change their economic outlook, yet 65% said household financial predictability would not change). Second, the share selecting no change to questions does not rise over the survey. Third, the duration is similar across groups. Respondents selecting 'no change' in consumption averaged 1,420 seconds, 119 seconds less than those making a change (an insignificant difference). This overestimates the effort difference because those whose spending rises or falls answer more questions. Comparing 'no change' and 'same spending different bundle' is more appropriate. The 'same spending, different bundle' duration is 1,415 seconds, nearly identical to the 'no change' group. Fourth, word counts in open boxes are similar, averaging 20.6 for those who make no change and 20.4 for those who make any change.