

How Do Households Respond to Expected Inflation?

An Investigation of Transmission Mechanisms

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Introduction

Motivation: Theory

- How do inflation expectations affect household spending?
- In theory, various channels:
 - Eg 1: Intertemporal substitution (Fisher $r = i - E(\pi)$ & Euler equation)
→ higher inflation expectations induce **higher** spending [standard channel]
 - Eg 2: Rigid income does not catch up with inflation
→ higher inflation expectations induce **lower** spending
- How do people perceive the relationship between inflation expectations and their spending behavior?

Motivation: Empirical

Existing empirical evidence on relationship between inflation expectations and spending shows **mixed results, and does not distinguish between different channels**

- “But the inconsistent evidence across studies and across types of goods indicates that the **literature has not yet fully grasped the mechanisms** and models households use when relating inflation expectations to consumption decisions”
–Weber, D’Acunto, Gorodnichenko and Coibion, JEP 2022
- “Households can interpret information treatments in many ways, leading to different channels through which expectations affect spending responses. One channel is the standard intertemporal Euler equation intuition... But treatments can work through other channels as well... [W]e **cannot distinguish between these different channels**. Our approach therefore estimates the combined effect of all the channels through which a change in inflation expectations may affect spending.”
–Coibion, Georgarakos, Gorodnichenko and Rooij, AEJ Macro 2023

Contribution and Overview of Results

We conduct a survey to study **how** and **why** inflation expectations affect current household spending

We find that, following an increase in inflation expectations:

- **Most households (73%) keep current spending the same**
 - fixed budget
 - do not consider inflation expectations for current spending decisions
- **Minority of households (22%) reduce current spending**
 - saver's wealth effects
 - nominal income rigidity
 - Inflation hedging
- **Very small minority of households (5%) increase current spending**
 - intertemporal substitution
 - stockpiling

Most households would not increase spending when expected inflation rises

Survey-based research on spending response to changes in inflation expectations

- *Positive relationship*: Duca-Radu et al. 2021, Vellekoop&Wiederholt 2019, D'Acunto et al. 2021, Burke&Ozdagli 2020, D'Acunto et al. 2023b, Coibion et al. 2022, Dräger et al. 2023
- *Insignificant or negative relationship*: Bachmann et al. 2015, Galashin et al. 2020, Coibion et al. 2022, Coibion et al. 2023, Andrade et al. 2023, Burke&Ozdagli 2020, Kostyshyna & Petersen 2024, Flaccadoro et al. 2025
- **Contribution**: provide unified framework, assess mechanisms, and document heterogeneity

Inflation narratives and subjective models of the economy:

- Consumers dislike inflation: Shiller 1996, Kamdar 2019, Hajdini et al. 2023, Stantcheva 2024
- Beliefs about inflation and unemployment are widely dispersed following hypothetical economic shocks: Andre et al. 2022
- **Contribution**: further understand how consumers link inflation and spending

Survey Design

- **Primary goal:** understand how and why higher inflation expectations may impact current spending decisions. Current spending: spending in next 3 months.
- **Treatment variables:**

Short Term (S) vs Long Term (L)

- Inflation expectations $\uparrow$ for *1-year period* after next 3 months by 3pp
- Average annual inflation expectations $\uparrow$ for *10-year period* after next 3 months by 3pp

Durable (D) vs Nondurable (N)

- Assess effect on *durable* goods consumption
- Assess effect on *nondurable* goods and services consumption

All Treatments

Treatment Label	Sample Size	Consumption Type	Change Duration	Expectations Change per Year	Horizon Separation
SD	504	Durable	1 year	+3	No
SN	504	Nondurable	1 year	+3	No
LD	497	Durable	10 year	+3	n/a
LN	498	Nondurable	10 year	+3	n/a
SD-SEPA	494	Durable	1 year	+3	Yes
SN-SEPA	500	Nondurable	1 year	+3	Yes
SD-10	2,005	Durable	1 year	+10	No
D-Gas	495	Durable	Endogenous response to 1 year +50% in gas		n/a
SD-SEPA-All	202	Durable	1 year	+3	Yes
SD-Decrease	202	Durable	1 year	-3	Yes

Survey Flow

Pre-intervention Module

- Inflation expectations (next 3 months, 1 year, 10 years)
- 'Prior' expectations on income growth, fed funds, financial situation predictability
- 'Prior' average monthly spending in next 3 months

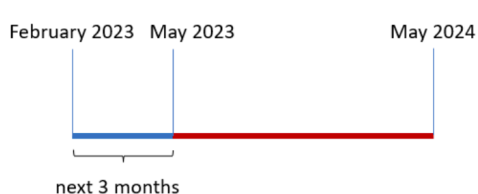
Intervention Module

- Hypothetical $\uparrow$ in inflation expectations (for 1 year or 10 years after next 3 months)

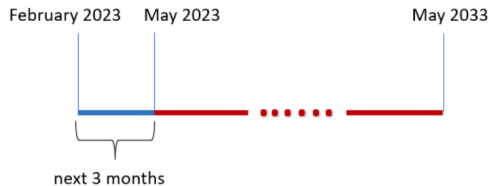
Post-Intervention Module

- 'Posterior' expectations on income growth, fed funds, financial situation predictability, change in economic outlook (dual purpose)
- 'Posterior' average monthly spending in next 3 months
- Mechanism solicitation: (1) open text (2) structured (3) ranking

Timing Visual (Short-Term vs. Long-Term)



1 year



10 year

- Use timelines and colors throughout survey for clarity
- Blue font refers to the next 3 months and red font indicates the 1-year period (or 10-year period), starting 3 months from now
- Elicit spending over the next 3 months, before increase in inflation
- Intervention, priors, and posteriors are elicited over the 1- or 10-year horizon

Hypothetical Intervention to Inflation Expectations: Short-Term Wording

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 March 2024 to June 2024, 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 June 2024 to June 2025, you expect the percentage change in prices to be (B+3)% (this is **3% higher** than your initial expectation).*
- (3) Over the 9-year period from June 2025 to June 2034, you expect the percentage change in prices per year on average to be C% (this is the **same** as your initial expectation).*

Hypothetical Intervention to Inflation Expectations: Short-Term Table

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

Expectations on changes in future prices	Over the next 3 months March 2024 to June 2024	Over the 12-month period June 2024 to June 2025	Over the 9-year period June 2025 to June 2034
Initial	A	B	C
Updated	A	B+3	C

Note: (1) Expected inflation over next 3 months was fixed to the household's prior to avoid mechanical increases in spending. (2) Control question for updated expectations.

'Posterior' Current Consumption Plans

A series of questions to solicit change in consumption plans in the next three months:

- In response to the change in your expectations, do you still plan to buy the same type and amount of goods over the next three months?
- If not, would you plan to change the dollar amount?
- If so, would you increase or decrease dollar amount?

This results in four possibilities:

- Unchanged spending and bundle
- Unchanged spending, but different bundle
- Increase spending
- Decrease spending

If increase/decrease, also ask for dollar amount

Mechanism Elicitation: Three Approaches

1. **Unstructured**: Open-ended box
2. **Structured list**: Show mechanisms and respondents check whether each applies
 - Note: Only show mechanisms consistent with previous responses
3. **Structured weight**: Allocate 100 points to applicable mechanisms to indicate the importance of each

Structured List: Proposed Mechanisms for No Change

Dominant mechanisms

- **Fixed Budget:** “I have a fixed budget plan and stick with it.”
 - **Not a Consideration:** “When I plan my spending decisions over the next 3 months, price changes after the next 3 months do not matter.”
-
- **Liquidity Constraints:** “I don’t have money and cannot borrow to increase my spending over the next 3 months.”
 - **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.”
 - Only shown if beliefs about income rise by 3pp following intervention

Structured List: Proposed Mechanisms for a Decrease in Spending 1/2

Dominant mechanisms

- **Saver's Wealth Effect:**

“As prices will rise even more **after the next 3 months**, my existing savings over this period won't be worth as much. So, I will buy less durable goods **over the next 3 months**.”

- **Rigid Income:**

“As prices will rise even more **after the next 3 months**, 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**.”

- Only shown if beliefs about income rise by less than 3pp following intervention

- **Inflation Hedge:**

“As prices will rise even more **after the next 3 months**, 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**.”

Structured List: Proposed Mechanisms for a Decrease in Spending 2/2

- **Variable Debt:** “As prices will rise even more **after the next 3 months**, 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.”
 - Only shown if beliefs about the fed funds rate rose following intervention
- **Uncertainty:** “As prices will rise even more **after the next 3 months**, my household will face higher financial uncertainty over this period. So, I will buy less durable goods **over the next 3 months**.”
 - Only shown if beliefs about financial predictability fell following intervention

Structured List: Proposed Mechanisms for an Increase in Spending 1/2

Dominant mechanisms

- **Intertemporal Substitution:**

“As prices will rise even more **after the next 3 months**, 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**.”

- **Stockpiling:**

“As prices will rise even more **after the next 3 months**, I will buy more durable goods **over the next 3 months** before prices go up even more.”

- **Debtors Wealth Effect:**

“As prices will rise even more **after the next 3 months**, given that my debt payments are fixed and my income will increase 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**.” (only shown if beliefs about income rose following intervention)

Structured List: Mechanisms for an Increase in Spending 2/2

- **Higher Real Income:** “As prices will rise even more **after the next 3 months**, my household income will rise faster than price increases over this period. So, I will buy more durable goods **over the next 3 months**.”
 - Only shown if beliefs about income rise by more than 3pp following intervention
- **Nominal Illusion:** “As prices will rise even more **after the next 3 months**, my household income will increase over this period. So, I will buy more durable goods **over the next 3 months**.”
 - Only shown if beliefs about income rise by 3pp or less following intervention

Survey Implementation

- SD, SN, LD, LN: Dynata late February to March 2023; SD/SN-SEPA: Prolific late March 2024; robust treatments on Prolific late 2023-Aug 2025
- Online survey, age 18 and over
- Households in our sample are more likely to have a college degree, to be married, and, in the Dynata surveys, to be older and White
- For aggregate statistics, we use demographic weighting to match the US population (2021 American Community Survey)
- Median completion time of 19 minutes
- After some cleaning, about 500 for each main treatment

Results

Results: Change in Expectations of Other Variables

How Do Individuals Adjust Beliefs about Other Economic Variables?

Following an increase in inflation expectations,

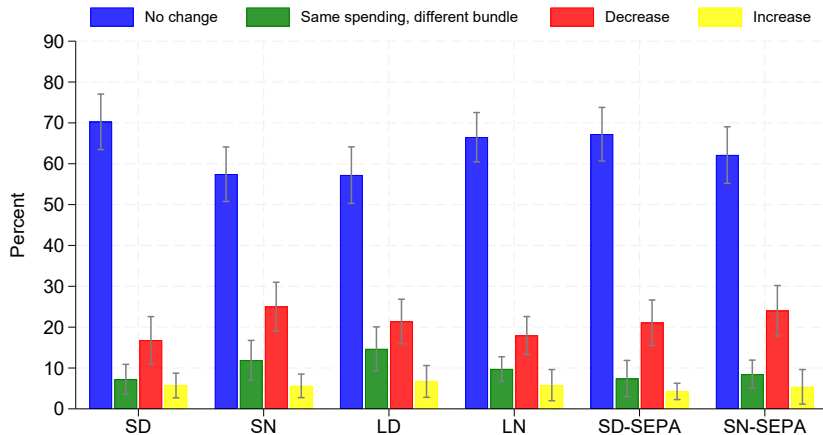
- **Income**
majority (58-79%) do not expect income to keep up
- **FFR**
50-61% expect FFR to stay the same;
35-43% expect FFR to rise; 4-14% expect FFR to fall
- **Financial predictability**
majority (64-73%) expect financial predictability to stay the same;
17-29% expect more difficult to predict financial situation; 8-15% less difficult
- **Economic outlook**
35-59% expect a worsening economy;
23-40% expect no change; 16-26% expect an improvement

Table

Households do not perceive higher expected inflation as a clean real-rate change

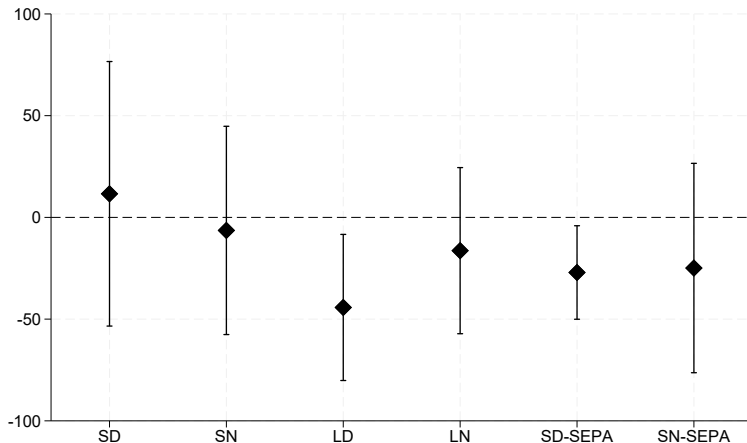
Results: Spending Responses

How Do Individuals Adjust Spending? Extensive Margin (percentage)



Most households would not increase spending

How Do Individuals Adjust Spending? Quantitative effect (dollar change)



There is no robust positive average spending response

How Do Individuals Adjust Spending?

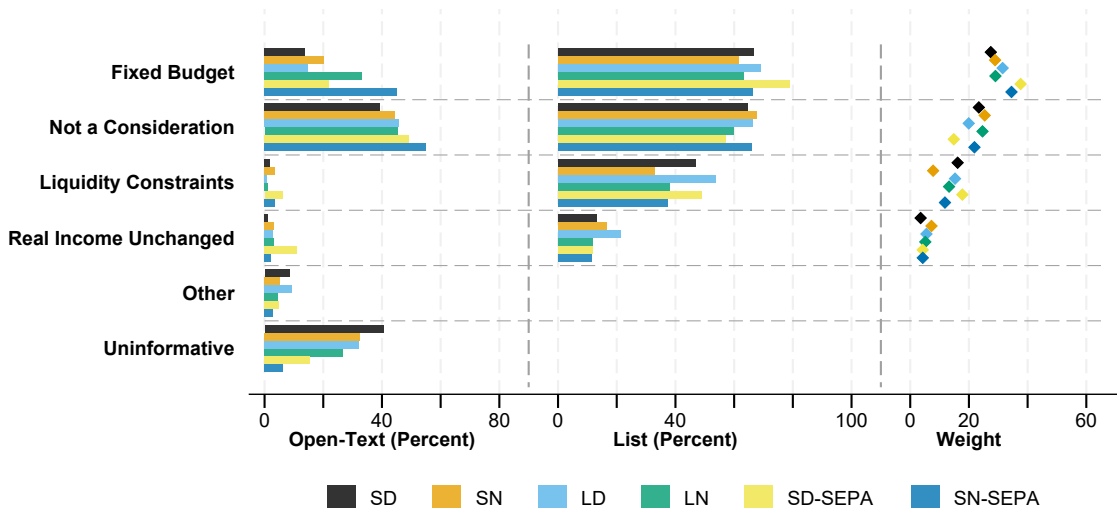
- Extensive margin
 - About 64% of respondents stated that an increase in expected inflation would not affect their spending at all in the next three months.
 - About 9% reported 'same spending, different bundle'.
 - About 22% would decrease spending,
 - About 5% would increase spending.
- Average change in dollar spending
 - Small insignificant increase in the SD treatment
 - Decreases in all the other treatments
 - Statistically significant only for durable goods, LD (8.2%) and SD-SEPA (3.8%)

Results: Mechanisms

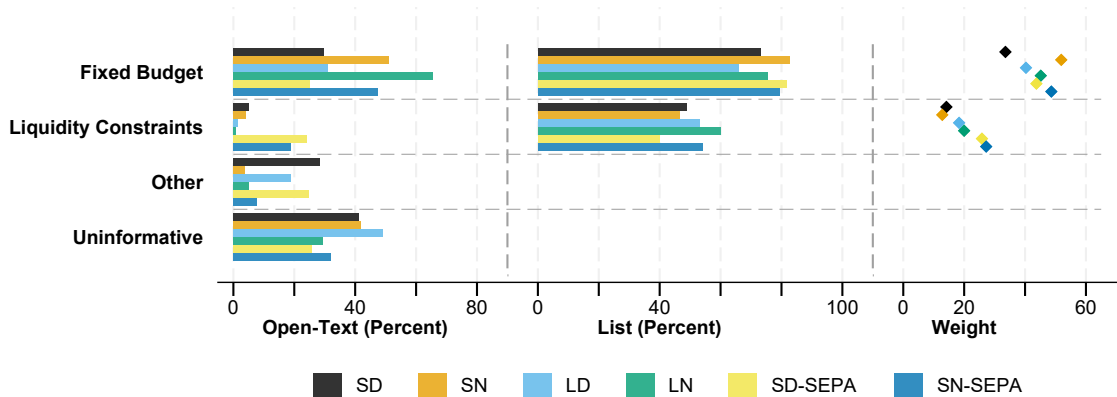
Open Text Examples and Mapping to Structured List

- “I have a very good income and buy what I want when I want and inflation does not really effect those decisions” **[No Change: Not a consideration]**
- “Having a budget and sticking to that budget” **[No Change: Fixed budget]**
- “I would plan on spending the same amount, BUT would be much more choosy about what I spend on, buying generic vs brand products to offset.” **[Same Spending/Different Bundle: Fixed budget]**
- “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.” **[Decrease: Rigid income]**
- “i will have to buy less products. try to buy cheaper items. use more coupons and shop at dollar stores more.” **[Decrease: Other-General wealth effect]**
- “If prices will go up it makes more sense to buy long-lasting items sooner than later” **[Increase: Stockpiling]**

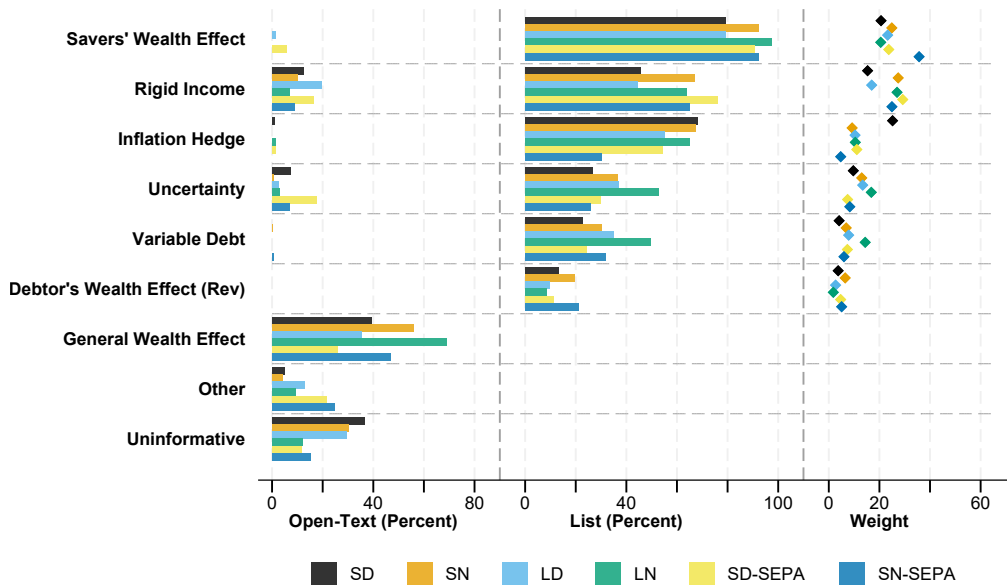
Mechanisms: No Change-Fixed Budget and Not a Consideration Dominate



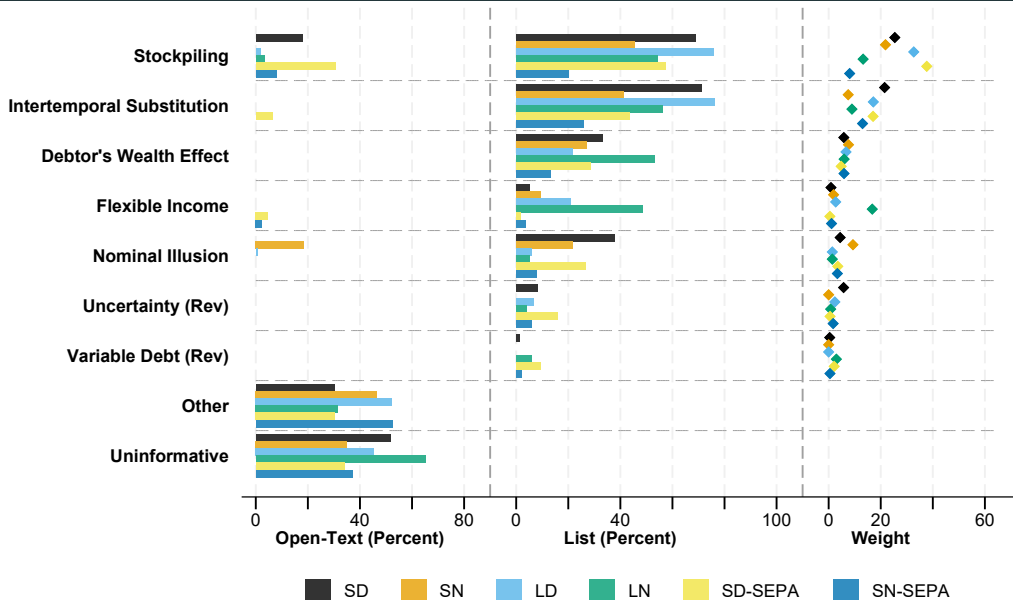
Mechanisms: Same Spending, Different Bundle–Fixed Budget Dominate



Mechanisms: Decrease-Savers' Wealth Effect and Rigid Income Dominate



Mechanisms: Increase-Stockpiling and Intertemporal Substitution Dominate



Consumption Responses and Main Mechanisms: Summary

- No change (64%)
 - Fixed budget
 - Not a consideration
 - Liquidity constraints
- Same spending, different bundle (9%)
 - Fixed budget
 - Liquidity constraints
- Decrease (22%)
 - Saver's wealth effect
 - Rigid income
 - Inflation hedge
- Increase (5%)
 - Stockpiling
 - Intertemporal substitution

Robustness treatments

Robustness Treatments

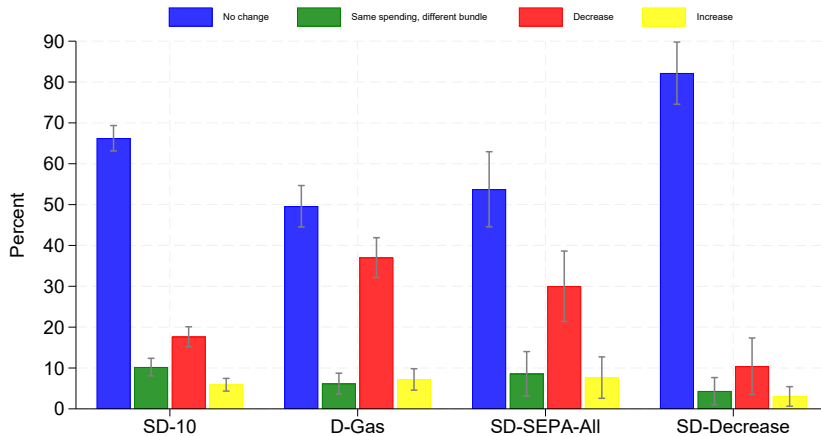
- **SD-10:** Larger increase in expected inflation for SD: 10 pp (versus 3 pp for main treatment)
- **D-Gas:** Hypothetical scenario where oil production problem will result in a 50% increase in prices of a gallon of gas in the one year following the next three months (endogenous updated expectations)
- **SD-Decrease:** A 3pp decrease in expected inflation
- **SD-SEPA-All:** Show top mechanisms for all categories

Robustness: Results Survive Alternative Designs

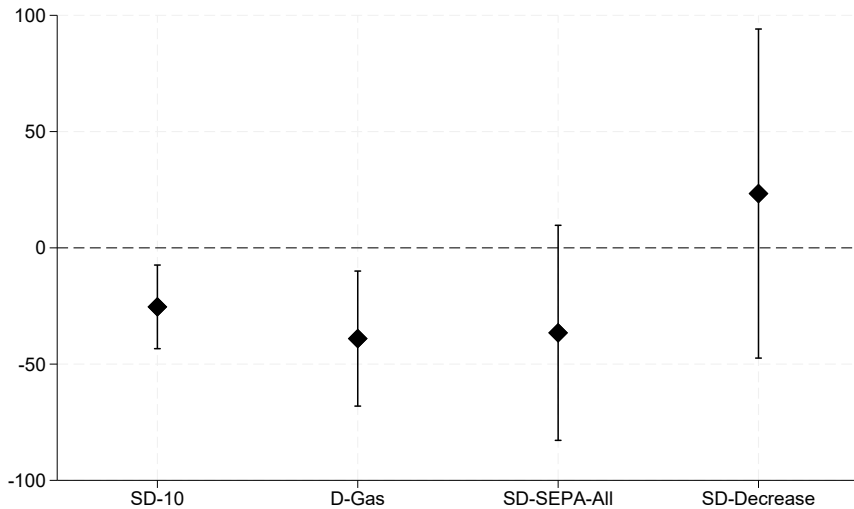
Treatment	Concern addressed	Main takeaway
SD-10	Is the baseline inflation expectations change too small?	Most households still do not increase spending. details
D-Gas	Does endogenous updating and source of inflation expectations change matter?	No-change in spending remains dominant; decreases become more prevalent. details
SD-Decrease	Are responses symmetric for lower expected inflation?	No-change in spending still dominant. Spending responses are not symmetric details
SD-SEPA-All	Does branching based on spending responses bias mechanism selection?	Respondents still select mechanisms aligned with their spending response. details

Results are robust across alternative designs

Robustness Treatments



Robustness Treatments



Conclusions

Policy and Modeling Implications

- **Policy implications**

- ↑ inflation expectations as a policy tool to stimulate economy may be ineffective
- Subjective models about macroeconomy are heterogeneous
- Many households associate higher expected inflation with lower real income, wealth, or higher uncertainty
- The effectiveness of expectations-based communication strategies may depend on which channels households perceive to be relevant for their spending decisions

- **Modeling implications**

- Many households' spending appears to be insensitive to expected inflation
- Fixed budget: mental accounting or narrow budgeting
- Not a consideration: present bias, habit-based consumption, rational or behavioral inattention, near rationality
- Wage rigidity

Treatment Effects

Treatment Effects: Posterior Beliefs and Spending Responses

Treatment variables: long-term; SEPA; large change; durable

Posterior beliefs

- Long-term treatment → more likely to expect
 - FFR to rise
 - Financial uncertainty to rise
 - Economy to worsen
- Large change in expectations → less likely to expect income to keep up with inflation

Spending responses

- Extensive margin: long-term treatment → more likely to decrease spending
- Intensive margin:
 - Effects of durable, large change, and long-term are negative and individually insignificant
 - Combined effects → consumption in LD, SD-10, D-Gas significantly different from 0

Treatment Effects: Mechanisms

- No change:
 - less likely to select “not a consideration” in durable and long-term treatments;
 - less likely to select “real income unchanged” in large change treatment;
 - “liquidity constraints” more relevant for durable
- Decrease: more likely to select “uncertainty” in long-term treatment
- Increase: more likely to select “stockpiling” in durable treatment

Predictors of Spending Response and Mechanisms

Predictors of Spending Response

- More likely to decrease spending if
 - Expect the economy to worsen
 - Expect their own financial uncertainty to rise
 - Expect their income to decrease
- Some financial variables have predictive power
 - Having debts more likely to decrease spending (v.s. keep spending same)
 - High income more likely to keep spending the same
- More uncertain about inflation expectations more likely to keep spending the same
- Higher CRT more likely to keep spending the same (versus decrease)
- Females more likely to decrease spending (versus keeping spending the same)

Predictors of Mechanism Weights

- Mechanism for ‘same spending’
 - Higher income give higher weights to “not a consideration”, less to “fixed budget”
 - Having savings: lower weight on “liquidity constraints”; higher weight on “fixed budget”
 - Mortgage and autoloans: higher weight on “fixed budget;” lower weight on “not a consideration”
 - Other debts: higher weight on liquidity constraint, and lower weight on “not a consideration”
 - Access to credit: higher weight on “not a consideration,” lower weight on “fixed budget” and “liquidity constraints”
- Mechanisms for spending decrease
 - Having loans or debt: lower weight on “inflation hedge”
 - Having debt: higher weight on “rigid income”
- Mechanisms for spending increase
 - High-income households assigned greater weight to “stockpiling.”

All Treatments

Treatment Label	Sample Size	Consumption Type	Change Duration	Expectations Change per Year	Horizon Separation
SD	504	Durable	1 year	+3	No
SN	504	Nondurable	1 year	+3	No
LD	497	Durable	10 year	+3	n/a
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SD-SEPA	494	Durable	1 year	+3	Yes
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SD-10	2,005	Durable	1 year	+10	No
D-Gas	495	Durable	Endogenous response to 1 year +50% in gas		n/a
SD-SEPA-All	202	Durable	1 year	+3	Yes
SD-Decrease	202	Durable	1 year	-3	Yes

Change in Expectations of Other Variables

[Back](#)

	SD	SN	LD	LN	SD-SEPA	SN-SEPA
<i>Household Income Growth</i>						
Adjust downwards	4.9	10.3	6.7	5.4	9.6	12.0
No change	49.0	50.9	39.9	50.4	59.1	51.3
Adjust upwards by less than 3	12.0	12.1	10.9	10.7	10.0	11.7
Adjust upwards by 3	18.0	17.4	22.2	18.0	14.6	16.0
Adjust upwards by more than 3	16.1	9.2	20.4	15.5	6.7	9.0
<i>Federal Funds Rate</i>						
Adjust upwards	34.9	39.8	43.0	40.2	35.7	38.3
No change	61.3	55.3	50.4	52.6	50.8	52.5
Adjust downwards	3.8	4.8	6.6	7.2	13.5	9.3
<i>Financial Predictability</i>						
More difficult	19.4	25.3	23.6	28.6	24.2	17.4
As difficult as before	65.6	65.9	65.9	63.7	63.5	72.8
Less difficult	15.0	8.8	10.6	7.6	12.3	9.8
<i>General Economic Outlook</i>						
Improve	25.3	20.7	25.9	22.6	17.7	16.0
No change	40.0	33.3	33.2	34.9	23.2	28.4
Worsen	34.8	46.0	40.9	42.6	59.1	55.6
Observations	504	504	497	498	494	500

Show **all mechanisms**, including those inconsistent with consumption response

- Consumption responses
 - Extensive margin: similar to SD-SEPA: most households did not change their spending, and a sizable fraction decreased spending.
 - Dollar spending: average change is negative and narrowly misses the 10% significance level
- Mechanisms
 - Most important mechanism is fixed budget
 - Mechanisms not aligned with respondents' spending choices are not predominant, with a combined weight of about 23%. [details](#)

Larger increase in expected inflation for SD: 10 pp (versus 3 pp for main treatment)

- Extensive margin: almost identical to SD
- Dollar spending: reduction in spending (3.7%) on durables becomes statistically significant
- Mechanisms: similar ranking to SD [details](#)

Robustness Treatment D-Gas

- Frame intervention as an expected increase in **gas price**:

“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).”

- Ask respondents to report changes in their inflation expectations due to the expected increase in gas price, instead of dictating them as part of the hypothetical scenario. [details](#)

Results of Robustness Treatment D-Gas

- Inflation expectations
 - 85% respondents adjusted upward short-run inflation expectations (median increase 4%)
 - 80% adjusted upward long-run inflation expectations (median increase 2%)
 - Change in inflation expectation similar to LD
- Spending response
 - 54% reported unchanged spending.
 - 37% adjusted spending downward
 - Average dollar spending -5.7% versus -8.2% in LD; decrease is statistically significant
- Channels
 - Main reasoning for unchanged spending: fixed budget, not a consideration, liquidity constraint.
 - Main reason for decreased spending saver wealth effect, rigid income, plus increased uncertainty

Robust treatment: SD-Decrease

- Consumption response
 - Most do not change spending
 - Asymmetric response to decrease versus increase in inflation expectation

	SD-Decrease		SD-SEPA	
Extensive margin	same dollars	87%	same dollars	75%
	increase	3%	decrease	21%
	decrease	10%	increase	4%
Ave dollar change/Ave prior spending	+3.4%($p > 0.5$)		−3.8%($p < 0.05$)	

- Mechanisms
 - Reasons for no change in spending are similar
 - Saver's wealth effect is less important
 - Intertemporal substitution is more important

[details](#)