

# Inflation Preferences

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# Motivation: Central Banks' View on Inflation

## Apparent tension in inflation preferences

- ▶ Many **central banks** retain a mandate in terms of **price stability**:

*The Board of Governors of the Federal Reserve System and the Federal Open Market Committee shall [...] promote effectively the goals of maximum employment, **stable prices**, and moderate long-term interest rates.*

— Federal Reserve Act of 1977

*Currency and monetary control shall be aimed at, through the pursuit of **price stability**, contributing to the sound development of the national economy.*

— Article 2, Bank of Japan Act 1998

*The primary objective of the European System of Central Banks (ESCB) shall be to maintain **price stability**.*

— Article 127 (1), TFEU 1992

*The primary function of the Bank, in relation to monetary policy, is to achieve and maintain stability in the **general level of prices**.*

— Section 8, Reserve Bank of New Zealand Act 1989

*The Swiss National Bank shall pursue a monetary policy serving the interests of the country as a whole. It shall ensure **price stability**. In so doing, it shall take due account of the development of the economy.*

— Article 5, National Bank Act 2004

# Motivation: Central Banks' View on Inflation

Yet, definition of *stable prices* is operationalized differently, often at discretion of central banks

- ▶ Commonly, implemented in terms of an *inflation* target:

Federal Reserve sets long-run inflation target to 2% (FOMC, 2012)

ECB interprets price stability as annual inflation rate close to, but below, 2% over the medium term (1999, 2003, 2023)

BOJ interprets price stability as an inflation target of 2% (BOJ, 2013)

RBNZ aims for a range of the annual inflation rate of 1% to 3%, with a focus on the 2% midpoint over the medium term

SNB aims for an annual inflation rate of less than 2%.

- ▶ These (heterogeneous) preference implementations are rooted in models which suggest some inflation can be beneficial
  - ▶ Higher inflation provides room to ELB (Coibion et al., 2012)
  - ▶ Inflation greases the wheels of the labor market (Tobin, 1972)
  - ▶ Inflation adjusts for productivity growth (Adam and Weber, 2019)
  - . . . but also Svensson (1999):  
price level targeting optimal for loss-function minimizing central bank

# Motivation: Consumers' View on Inflation

Survey evidence suggests that **US consumers strongly dislike inflation** (Shiller, 1997)

- ▶ Inflation reduces purchasing power, as wages do not catch up in proportion; consumers associate inflation with bad economic outcomes
- ▶ Stantcheva (2024): consumers blame businesses and government for inflation
- ▶ Inflation imposes a labor market search/conflict cost on consumers (Guerreiro et al. 2024, Afrouzi et al. 2024)

Additional evidence suggests higher inflation correlates with lower life satisfaction

- ▶ Frey (2008), Huebner and Klemm (2015), Di Tella et al. (2001)

Consumers have a different perception of inflation than economists (Shiller, 1997)

- ▶ Few consumers see positive impacts of inflation on the economy (Stantcheva, 2024)

Firms: Recognize a preference of consumers for stable prices – “do not change prices so as not to antagonize consumers” (Blinder, 1994)

# This Paper

The interpretation of this apparent tension is complex.

- ▶ Do consumers simply not understand the theories of optimal inflation?
- ▶ Do central bankers have a commitment issue and hence an inflationary bias? (Barro Gordon 1983)

**This paper:** Measure consumer inflation preferences, starting point.

# This Paper - Measurement

1. New representative survey on inflation preferences
  - ▶ Quantify long-run inflation preferences of US consumers
  - ▶ Elicit economic narratives about inflation consumers have in mind
  - ▶ Randomized Control Trial (RCT) to establish a causal link between narratives and preferences
2. Simple conceptual framework to understand the effect of communication on the relationship between narratives and preferences

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- ▶ Can communication shape inflation preferences? Yes: RCT provides *causal* evidence on the role of economic narratives
  - ▶ Communication about several narratives alters inflation preferences

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  - ▶ Communication about several narratives alters inflation preferences
  - ▶ Information on inflation reducing real wages, as well as nominal assets losing their real value reduces inflation preferences
  - ▶ Communication may work through shifting the set of economic narratives considered

# Inflation Preferences

Inflation preference corresponds to  $\pi^*$  in central bank loss function (i.e., Svensson, 2014)

$$\min W_t = (\pi_t - \pi^*)^2 + \lambda(y_t - y^*)^2$$

Should consumer inflation preferences enter the loss function?

- ▶ Derivation from consumer's utility function
- ▶ Consumer preferences, encapsulated by political representatives, may affect monetary policy, e.g. through choice of policymakers (Rogoff, 1985) or political pressure (Drechsel, 2024).

# Literature

## 1. Survey evidence on inflation aversion

- ▶ Shiller (1997), Scheve (2004), Stantcheva (2024) provide ample evidence on inflation aversion

## 2. Inflation and life satisfaction

- ▶ Frey (2008), Huebner and Klemm (2015), Ruprah and Luengas (2011), Di Tella et al. (2001) provide cross-country evidence on the link between inflation and life satisfaction

## 3. Economic narratives

- ▶ Narratives about the economy shape perception of macroeconomic outcomes (Andre et al., 2022, 2024)
- ▶ Hajdini et al. (2022) and Jain et al. (2024) study economic narratives in relation to labor market outcomes and inflation
- ▶ Guerreiro et al. (2024), Afrouzi et al. (2024) show specific labor market conflict costs
- ▶ Consumers understand inflation through supply-side narratives (Candia et al., 2020)

# Data

Online survey (Qualtrics) on U.S. consumer inflation preferences

- ▶  $N = 3,520$  respondents asked in February and March, 2024
- ▶ Representative according to several dimensions (age, gender, income, education, region)
- ▶ Survey weights to adjust for sampling inaccuracy

## Sample Demographics

Survey design – measurement of preferences, embedded in five-step experimental design:

1. Inflation preference (“prior”)
2. Treatment (RCT) and demographic characteristics
3. Inflation preference (“posterior”)
4. Consideration of economic narratives
5. Questions on economic situation, policy perceptions, and additional vignettes (do consumers understand inflation in the first place)

# 1) Inflation Preference (Prior)

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

- ☐ *positive*
- ☐ *zero*
- ☐ *negative*

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

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

## 2) Economic Narratives - Treatments

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

- ▶ Friedman (1969): determine optimal inflation via the (opportunity) cost of producing currency, which is (approximately) zero; hence deflation optimal in the long run



## 2) Economic Narratives - Treatments

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

- ▶ Andrade et al. (2019); Coibion et al. (2012): effective lower bound (ELB) on nominal interest rates makes it difficult to stabilize inflation with conventional tools
- ▶ Positive trend inflation is optimal to mitigate the risk of policy becoming constrained by ELB

## 2) Economic Narratives - Treatments

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

- ▶ Tobin (1972): “inflation ‘greases the wheels of the labor market’ ”

## 2) Economic Narratives - Treatments

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

- ▶ As wages are sticky, inflation erodes the purchasing power of workers

## 2) Economic Narratives - Treatments

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

- ▶ Fama and Schwert (1977): value of real assets might not immediately adjust to changes in the price level

### 3) Inflation Preference (Posterior)

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

- ☐ *positive*
- ☐ *zero*
- ☐ *negative*

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

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

## 4) Which Economic Narratives Did Consumers Think About?

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

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

*[Inflation Narrative (T1-T5)]*

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

## 5) Additional Questions

Among others:

- ▶ Fed's perceived inflation target
- ▶ Sources of income: e.g. wages, investment, pension
- ▶ Homeownership status; mortgage holder
- ▶ Political affiliation
- ▶ Vignettes (Andre et al., 2022):
  - ▶ Do consumers understand inflation?
  - ▶ Measure perceived effect of inflation on e.g. wage growth, cash holding, labor market behavior

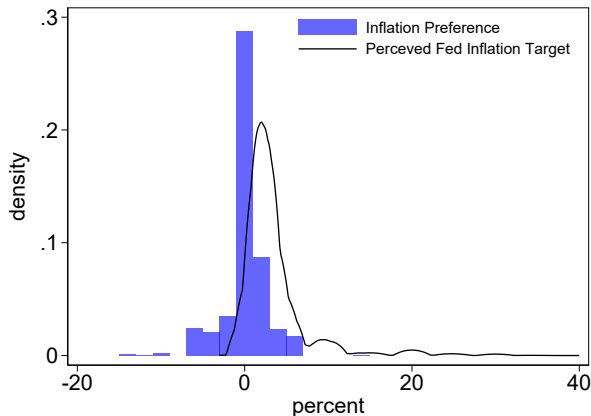
# Results

## **Main findings:**

**Inflation preferences, related factors and economic narratives**

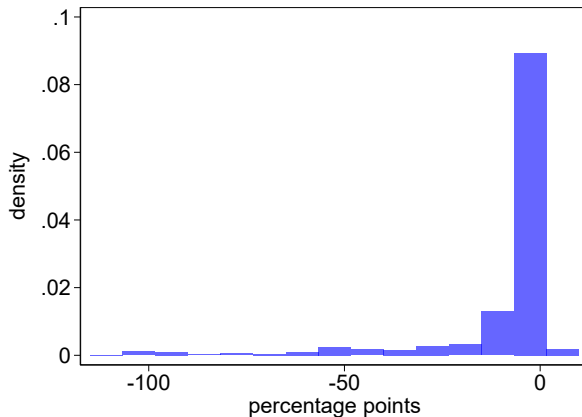


## U.S. Consumers Prefer *Prices To Be Stable* ...



- ▶ Consumers prefer 0.20% inflation on average (median 0%): **stable prices**
- ▶ Consumers perceive Fed targeting on average 3.38% (median 2%): **stable prices?**

## ... and Inflation To Be Below Current Targets



- Compute individual-level difference of preferred rate and perceived target:
  - 88.50% of consumers prefer less inflation than what they perceive the target to be
  - 83.47% of consumers prefer less than 2% inflation

# Demographic Factors

	$\pi_i^*$ (Prior)
Female	-0.0653 (-0.83)
35 to 55 years	-0.281*** (-2.66)
over 55 years	-0.951*** (-8.35)
College degree or above	-0.0298 (-0.28)
Economics major	0.906*** (8.58)
Hispanic	-0.0542 (-0.45)
Black	0.213* (1.73)
Asian	-0.283* (-1.76)
Republican	-0.258*** (-2.80)
Independent	-0.326*** (-3.59)
N=3520; $R^2 = 0.113$	

How do inflation preferences correlate with demographic characteristics?

$$\pi_i^* = \beta_0 + \delta D_i + \zeta E_i + \epsilon_i$$

- ▶  $\pi_i^*$  : prior inflation preferences  
 $D_i$  : demographic factors  
 $E_i$  : socio-economnic factors
- ▶ Older respondents prefer significantly less inflation
- ▶ Formal economic education correlates with higher preferences
- ▶ Democrats prefer more inflation than Republicans or Independent voters

# Socioeconomic Factors

	$\pi_i^*$ (Prior)
50k to 100k income	-0.321*** (-2.60)
over 100k income	-0.0757 (-0.53)
Labor income (share)	-0.00647*** (-5.17)
Pens./Trans. income (share)	0.00186 (1.26)
20K to 200k assets	0.309*** (3.07)
over 200k assets	0.867*** (6.76)
Investment assets (share)	-0.344 (-1.60)
Retirement assets (share)	-0.225 (-1.25)
Home Owner	-0.263** (-2.28)
Home Mortgage	0.391*** (4.06)
N=3520; $R^2 = 0.113$	

How do inflation preferences correlate with economic characteristics?

$$\pi_i^* = \beta_0 + \delta D_i + \zeta E_i + \epsilon_i$$

- ▶ Middle income households prefer less inflation
- ▶ Higher labor income share on total income correlates with lower inflation preferences
- ▶ Asset poor households prefer lower inflation (e.g., Easterly and Fisher, 2001)
- ▶ Home mortgage: more inflation considered optimal

# Psychographic Characteristics

► Are we really capturing preferences?

2<sup>nd</sup> survey wave: elicit a set of psychographic characteristics  $P_i$  (Stango and Zinman (2023), Bradford et al. (2018)) and estimate  $\pi_i^* = \beta_0 + \delta D_i + \zeta E_i + \theta P_i + \epsilon_i$

	$\pi_i^*$ (Prior)	$\pi_i^*$ (Prior)	$\pi_i^*$ (Prior)	$\pi_i^*$ (Prior)	$\pi_i^*$ (Prior)
Numerical Ability (0 to 1)	-1.061*** (-6.53)				-0.799*** (-3.45)
Financial Literacy (0 to 1)	-1.301*** (-9.06)				-0.501*** (-2.78)
Constant Relative Risk Aversion		-0.882*** (-5.33)			-0.762*** (-4.21)
Loss Aversion (1 to 4)			-0.185*** (-6.37)		-0.0499 (-1.41)
Risk Aversion (financial, 0 to 100)				-0.0157*** (-9.96)	-0.00883*** (-4.66)
Risk Aversion (large stakes, 1 to 6)				0.120*** (4.10)	0.0395 (1.09)
Constant	1.293*** (8.86)	0.168 (1.12)	0.417*** (3.53)	0.0405 (0.22)	1.262*** (4.23)
N	4122	2447	4122	4122	2458
r2	0.0914	0.0313	0.0449	0.0612	0.0588

# Psychographic Characteristics

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Measured inflation preferences correlate with deep preference parameters

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# Maybe Preferences, But Underlying Understanding?

## **Do consumers simply not understand theories of optimal inflation?**

- ▶ Evidence from demographic and socio-economic factor correlations suggestive of *implicit* understanding of economic narratives (e.g. high share of nominal income  $\Rightarrow$  lower inflation)



# Do Consumers Have Economic Narratives in Mind? Which?

Motivation: Gauge understanding, and scope for central bank communication

Which of our five narratives about inflation and the economy resonate with consumers?

- ▶ Create  $\mathbb{I}(m_k) \in \{0, 1\}$  if survey respondent  $i$  considered narrative  $m_k$
- ▶ Consider only respondents in the control group: not affected by treatments
- ▶ Compute  $p(m_k)$ , the relative *mental weight* placed on narrative  $m_k$  assuming equal weighting between all models considered:

$$p_i(m_k) = \frac{\mathbb{I}_i(m_k)}{\sum_{j=1}^5 \mathbb{I}_i(m_j)}$$

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

- ▶ Consumers most likely to consider “**real wage erosion**” narrative; positive effects of inflation play relatively minor role, e.g. greasing the wheels of the labor market

# Economic Narratives and Inflation Preferences

	$\pi_i^*$ (Prior)
$\mathbb{I}_i(\text{Friedman})$	0.139 (0.78)
$\mathbb{I}_i(\text{ELB})$	0.533*** (3.16)
$\mathbb{I}_i(\text{Labor market})$	0.0429 (0.26)
$\mathbb{I}_i(\text{Real wage erosion})$	-0.734*** (-3.71)
$\mathbb{I}_i(\text{Asset inflation})$	-0.190 (-0.92)
N	1002
$R^2$	0.145

How do inflation preferences correlate with economic narratives – in line with the narrative predictions?

Estimate:

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

- ▶ Considering **ELB** correlates with higher inflation preferences
- ▶ Considering inflation **eroding the purchasing power of wages** correlates with lower inflation preferences

# Economic Narratives and Inflation Preferences

## Randomized Control Trial

Inflation preferences *correlate* with the consideration of economic narratives

- ▶ Consumers may simply justify preferences ex post

Implement RCT to estimate *causal* link between preferences and economic narratives

- ▶ Survey respondents are randomly assigned to one of six groups – a control group or one of five information treatments

Advantage of RCT for policy use, relative to establishing correlations:

- ▶ Delineate potential avenues for policy communication.
- ▶ D'Acunto et al. (2020) finds that communication about *policy targets* more effective with hard-to-reach socio-demographic groups

# Economic Narratives and Inflation Preferences

## Randomized Control Trial

	$\pi_i^*$ (Posterior)
Inflation Preference (Prior)	0.657*** (39.40)
$\mathbb{T}_i(\textit{Friedman})$	-0.187** (-2.33)
$\mathbb{T}_i(\textit{ELB})$	0.0344 (0.41)
$\mathbb{T}_i(\textit{Labor market})$	0.0446 (0.56)
$\mathbb{T}_i(\textit{Real wage erosion})$	-0.146* (-1.88)
$\mathbb{T}_i(\textit{Asset inflation})$	-0.0249 (-0.31)
Constant	0.283*** (6.33)
N	3518
r2	0.523

Estimate treatment effects:

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

- ▶  $\pi_{i,Posterior}^*$  : posterior inflation preference  
 $\pi_{i,Prior}^*$  : prior inflation preference  
 $\mathbb{T}_i(m_k)$  : treatment with model  $m_k$
- ▶ Treatments on “*Friedman*” and “*Real wage erosion*” narratives reduce inflation preferences
- ▶ “Real wage erosion” has consistent effect

# A Model of Inflation Preferences and Economic Narratives

**Simple model of the structure of beliefs to further understand role of narratives, communication and inflation preferences**

# A Model of Inflation Preferences and Economic Narratives

- ▶ Consumers (of type  $\theta$ ) form preferences  $\pi^*(\theta)$  over a set of economic narratives  $m \in M$  that each imply a conditional preference  $\pi^*(\theta|m)$

$$\pi^*(\theta) = \mathbb{E}^m[\pi^*(\theta|m)] = \sum_{m \in M} p(m|\theta) \pi^*(\theta|m) \quad (1)$$

- ▶  $p(m_k|\theta)$  describes the relative weight placed on economic narrative  $m_k$  Empirical weights
- ▶ Posited transmission channel:  
Communication about model  $m_0$  may shift the probability assigned to economic narratives

Is this the case?

# Treatments Change Likelihood of Narratives Considered

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

	$p_i(\text{Friedman})$	$p_i(\text{ELB})$	$p_i(\text{Labor})$	$p_i(\text{Wage})$	$p_i(\text{Asset})$
<b>All Respondents</b>					
Treatment	0.0379*** (5.12)	0.0296*** (3.53)	0.0154** (1.99)	0.0152** (2.09)	0.00951 (1.37)
<b>I) Age</b>					
Treatment $\times$ below 35	0.0328** (2.15)	0.00842 (0.54)	0.00164 (0.11)	-0.0114 (-0.89)	0.0140 (1.04)
Treatment $\times$ 35 to 55	0.0303** (2.55)	0.0182 (1.40)	0.0251* (1.94)	0.0194 (1.58)	-0.00891 (-0.78)
Treatment $\times$ over 55	0.0487*** (4.10)	0.0549*** (3.79)	0.0185 (1.48)	0.0343*** (2.69)	0.0199* (1.77)
<b>II) Gender</b>					
Treatment $\times$ Male	0.0303*** (3.22)	0.0211* (1.92)	0.0241** (2.23)	0.0164* (1.65)	-0.00111 (-0.12)
Treatment $\times$ Female	0.0454*** (3.97)	0.0380*** (3.02)	0.00695 (0.63)	0.0141 (1.34)	0.0193* (1.90)

- Treatments increase the probability of theories considered
- Effects are heterogeneous among socio-demographic groups

# Treatments Change Likelihood of Narratives Considered

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

	$p_i(\text{Friedman})$	$p_i(\text{ELB})$	$p_i(\text{Labor})$	$p_i(\text{Wage})$	$p_i(\text{Asset})$
<b>III) Economic Education</b>					
Treatment $\times$ No econ. major	0.0364*** (4.27)	0.0365*** (3.87)	0.0222** (2.50)	0.0179** (2.16)	0.0153* (1.88)
Treatment $\times$ Econ. major	0.0433*** (2.99)	0.0000897 (0.01)	-0.0155 (-1.06)	0.00523 (0.35)	-0.0120 (-0.95)
<b>IV) Political Affiliation</b>					
Treatment $\times$ Democrat	0.0342*** (3.15)	0.0362*** (2.89)	0.0187 (1.63)	0.0263** (2.33)	0.00617 (0.56)
Treatment $\times$ Republican	0.0445*** (3.25)	0.0267* (1.76)	0.0334** (2.51)	-0.000636 (-0.05)	0.00553 (0.48)
Treatment $\times$ Independent	0.0364** (2.44)	0.0225 (1.36)	-0.0134 (-0.82)	0.0157 (1.08)	0.0187 (1.34)

- Respondents **without a major in economics** more likely to adjust their consideration of economic narratives: scope for communication/education



# The Effect of Communication

- So far: Treatments affect preferences, model probabilities
- Suggests channel through model probability  $T_k \rightarrow p(m_k|\theta, m_k) \rightarrow \pi^*(\theta|T_k)$
- Structural model: Do shifts in the probability of models – due to communication of economic narratives – change inflation preferences?

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

- (1)  $p(m_0|\theta, m_0) - p(m_0|\theta)$  :  
change in relative probability weight of model  $m_0$  due to treatment
- (2)  $\pi^*(\theta|m_0) - \pi^*(\theta|\neg m_0)$  :  
inflation preference given  $m_0$ , relative to all other narratives

# Estimation of Structural Model

Estimate structural model, using two-step approach

1. Predict average weight on each economic narrative conditional on observables, based on control group:

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

Compute  $\Delta p_i(m_k|\theta)$ , the difference between the weight placed on theory  $m_k$  and the average weight placed on  $m_k$  conditional on not receiving a treatment (both not available)

$$\Delta p_i(m_k|\theta) = p_i(m_k|\theta) - \hat{p}_i(m_k|\theta)$$

2. Regress posterior inflation preference on  $\Delta p_i(m_k|\theta)$

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

- Interaction term indicates the change in inflation preferences, due to a change in the weight on models, once treated with the respective economic narrative

# Estimation of Structural Model

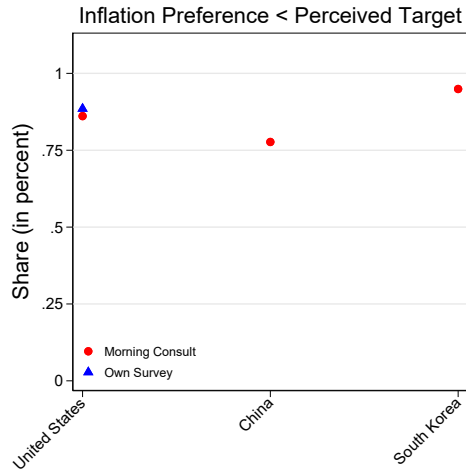
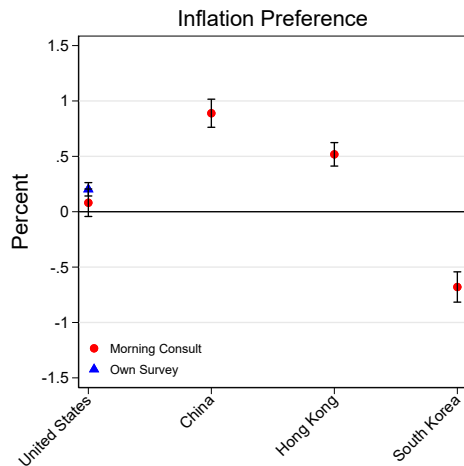
	$\pi_i^*$ (Posterior)
Inflation Preference (Prior)	0.642*** (37.32)
$\Delta p_i(\text{Friedman})$	-0.166 (-0.95)
$\Delta p_i(\text{ELB})$	0.431** (2.23)
$\Delta p_i(\text{Labor market})$	0.103 (0.52)
$\Delta p_i(\text{Real wage erosion})$	0.00638 (0.03)
$\Delta p_i(\text{Asset inflation})$	0.0477 (0.27)
$\mathbb{T}_i(\text{Friedman}) \times \Delta p(\text{Friedman})$	-0.0110 (-0.03)
$\mathbb{T}_i(\text{ELB}) \times \Delta p(\text{ELB})$	0.717 (1.49)
$\mathbb{T}_i(\text{Labor market}) \times \Delta p(\text{Labor market})$	0.0303 (0.07)
$\mathbb{T}_i(\text{Real wage erosion}) \times \Delta p(\text{Real wage erosion})$	-1.015** (-2.06)
$\mathbb{T}_i(\text{Asset inflation}) \times \Delta p(\text{Asset inflation})$	0.471 (0.89)
N	3518
r2	0.505

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

- Communication works through shift in model probabilities:

Shift in the probability of the “Real wage erosion” narrative changes inflation preferences due to communication, implying –1.015 lower inflation preference.

# International Evidence



- Evidence on preferences, and gap with perceived targets, aligns across US surveys and internationally.

# Conclusion

U.S. consumers indicate more hawkish preferences compared to policymakers

- ▶ Consumers prefer 0.20% (median 0%) inflation p.a. on average

Significant heterogeneity in inflation preferences

- ▶ Both socio-demographics and consideration of narratives relevant

RCT provides causal evidence on the link between economic narratives and inflation preferences

- ▶ Potential angle for policy communication

Results warrant future research into the wedge between preferences and targets

- ▶ Can policy communication align public preferences with policy targets?

## Extra Slides

# Do Consumers Understand Inflation?

Survey elicits unconditional long-run inflation preferences

- ▶ Use *vignettes* to understand if respondents understand the economic consequences of inflation (Andre et al., 2022)
- ▶ Elicit planned behavioral responses and expected wage growth *under the hypothetical assumption* of a random inflation rate

# Personal Wage Growth

Vignette: randomize hypothetical inflation

- ▶ Each respondent assigned a random, hypothetical inflation rate  $X\% \in [-5, 5]$

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

- ☐ *increase*
- ☐ *stay the same*
- ☐ *decrease*

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

- ☐ *0% to 1%*
- ☐ *...*
- ☐ *more than 8%, please specify \_\_\_\_\_*



# Personal Wage Growth

	Wage growth <sub>i</sub>
Inflation level (random)	0.0408*** (3.92)
N	3520
r2	0.0925

$$Y_i = \alpha X_i + \delta D_i + \gamma E_i + \epsilon_i$$

- Inflation-wage pass-through positive, but below 1 (e.g., Hajdini et al, 2022)

# Behavioral Adjustments

Vignette: randomize hypothetical inflation rate change

- ▶ Each respondent assigned a random, hypothetical inflation rate change  $\Delta X_{pp} \in [-5, 5]$
- ▶ Elicit qualitative adjustment of *cash holdings, financial assets, real estate, wage negotiations and job search*

*Imagine that the future inflation rate in the US, in a typical year, is  $\Delta X$  percentage points **lower/higher** than currently expected. In this scenario, would you choose to hold more or less financial assets (such as retirement savings, stocks or bonds)?*

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

# Behavioral Adjustments

$$Pr(Y_i = 1|X = x) = \Phi(\alpha X_i + \delta D_i + \gamma E_i)$$

	(2)	(3)	(4)	(5)	(6)
	Pr(much more or more likely/often)				
	Cash holdings	Negotiate wages	Job search	Buy real estate	Asset Holdings
$\Delta$ long run inflation (random)	-0.00599 (-0.78)	0.0465*** (6.00)	0.0391*** (4.87)	-0.0780*** (-9.67)	-0.00752 (-0.97)
$D_i$ and $E_i$ Control	Yes	Yes	Yes	Yes	Yes
N	3520	3520	3520	3520	3520

	Pr(much less or less likely/often)				
	Cash holdings	Negotiate wages	Job Search	Buy Real Estate	Asset Holdings
$\Delta$ long run inflation (random)	0.0418*** (4.33)	-0.0321*** (-3.37)	-0.0227*** (-2.69)	0.116*** (13.59)	0.0371*** (3.89)
$D_i$ and $E_i$ Control	Yes	Yes	Yes	Yes	Yes
N	3520	3520	3520	3520	3520

Meaningful reactions to inflation in line with an understanding of economic consequences:

- Inflation increases the likelihood of having wage negotiations or searching for a new job
- Inflation reduces the likelihood to buy real estate, hold cash or financial assets

# Survey Respondent Characteristics

	Survey	US population		Survey	US population
<b>Age</b>			<b>Race</b>		
18-34	33.1%	29.8%	non-Hispanic white	72.7%	60.1%
35-55	33.8%	32.4%	non-Hispanic black	9.3%	12.5%
>55	33.1%	37.8%	Hispanic	10.1%	18.5%
			Asian or other	7.9%	8.9%
<b>Gender</b>			<b>Household Income</b>		
female	49.9%	50.8%	less than 50k\$	47.8%	37.8%
male	49.7%	49.2%	50k\$ - 100k\$	29.5%	28.6%
other	0.4%	-%	more than 100k\$	22.7%	33.6%
<b>Region</b>			<b>Education</b>		
Midwest	20.6%	20.7%	some college or less	50.6%	58.3%
Northeast	21.9%	17.3%	bachelor's degree or more	49.4%	41.7%
South	39.5%	38.3%			
West	18.0%	23.7%			
					N=3,520