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ΕΥΡΩΣΥΣΤΗΜΑ

Household Inflation Expectations: An Overview of Recent Research Insights for Monetary Policy

D'Acunto, F., Charalambakis, E., Georgarakos, D., Kenny, G., Meyer, J., and Weber, M.

CRETE 2026, 7-11 July

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Background and Motivation

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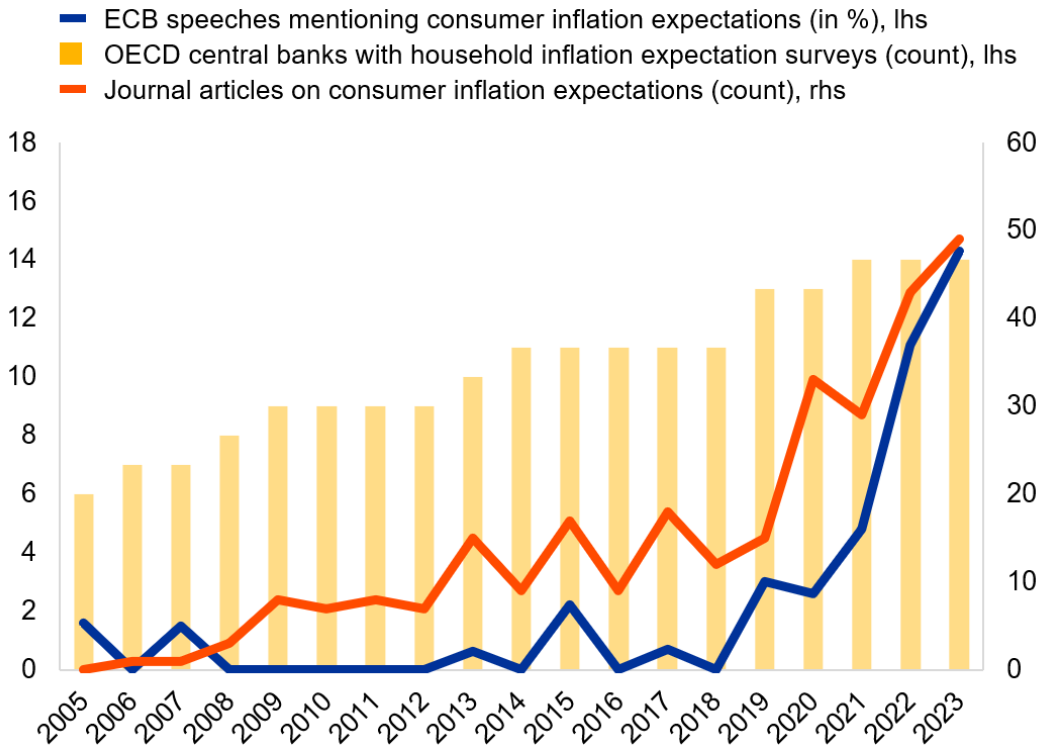
- Economists have always believed **consumer inflation expectations** matter for understanding economic outcomes, though they did not until more recently take their measurement very seriously
- Recent years has seen a very significant investment by central banks in the **direct measurement** of the subjective inflation expectations of households via surveys
- In parallel significant increase in **international scientific studies** on household inflation expectations, including across ESCB

Interest in consumer inflation expectations



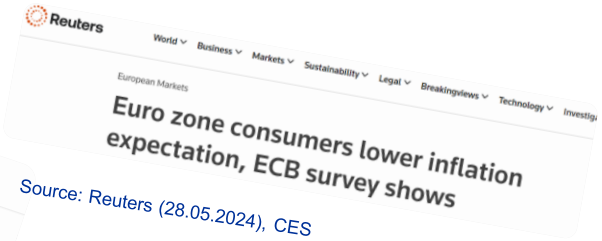
Source: ECB, Scopus, central bank webpages (keyword search) and authors calculation.
Latest observation: .

Increased Media Attention to consumers' inflation expectations

Source: FAZ (online, 04.11.2020), Bundesbank Online Panel – Households

Source: Financial Times (online, 16.01.2024), CES

Source: Financial times (online, 19.07.2024), CES



Source: Reuters (28.05.2024), CES

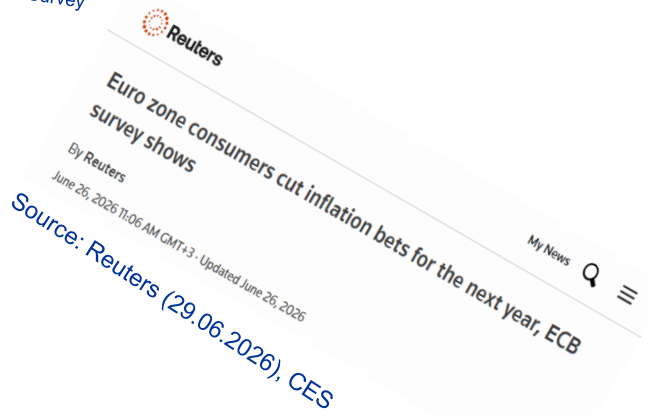
Source: Bloomberg (06.02.2024), CES

Source: Financial Times (online, 14.06.2024) Bank of England Inflation Attitudes Survey

Source: Bloomberg (16.05.2024), Norges Bank Expectations Survey

Source: Wallstreet Journal (online, 11.01.2024), NYFED Survey of Consumer Expectations

Source: Kathimerini (29.05.2026), CES



Source: Reuters (29.06.2026), CES

What have we learnt so far?

Focus on three broad questions:

1. Do household inflation expectations matter for **economic outcomes**?

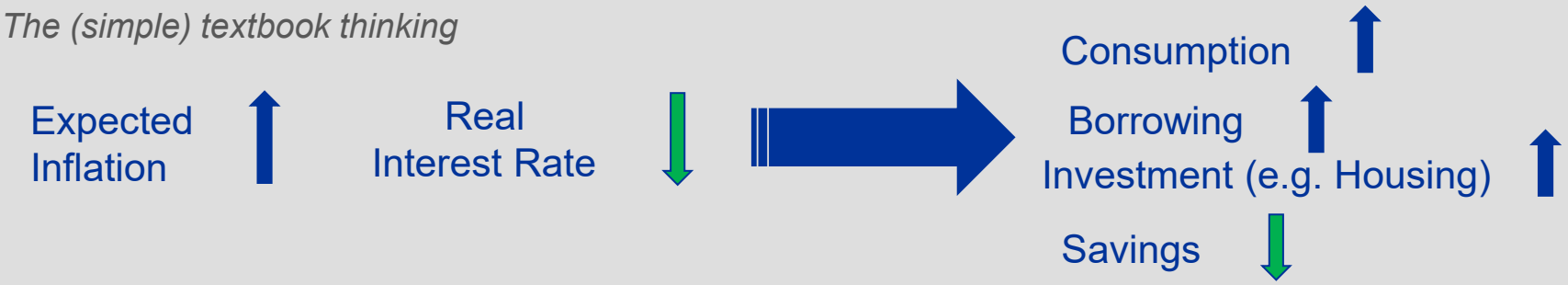
2. Are they **well-anchored around the central bank target**?

3. Are there benefits from enhanced **communication with consumers**?

Do household inflation expectations matter for economic outcomes?

Yes, they do matter but reality is more complex than simple textbook thinking

The (simple) textbook thinking



- **Size** and even the **direction** of the effect on consumption/saving is very heterogenous and context dependent.
- Much of the new evidence is based on **Randomised Controlled Trials (RCTs)** and therefore has a causal interpretation.

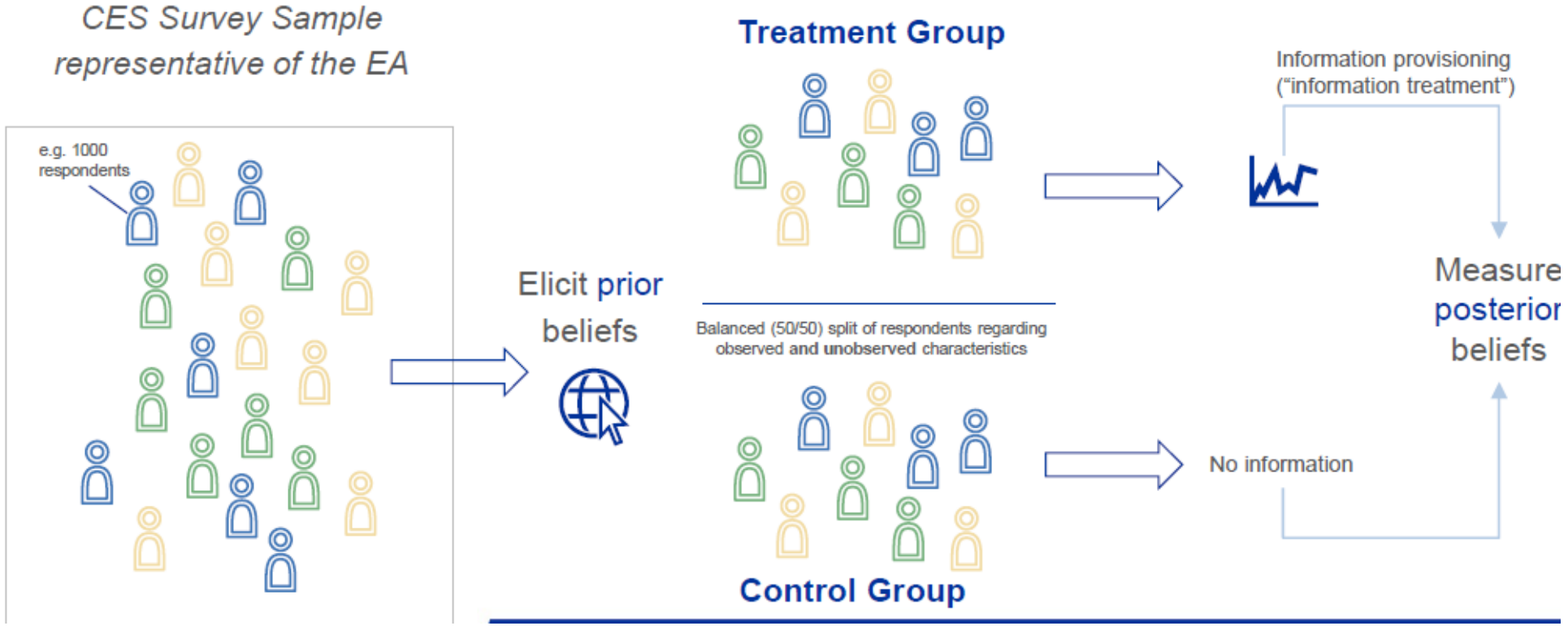
Do household inflation expectations matter for economic outcomes?

Size and even the **direction** of the effect on consumption/saving is very heterogenous and context dependent, e.g.

- Consumers bring forward (increase) consumption in anticipation of higher future prices (e.g. D'Acunto et al. 2022) also at the lower bound (Duca-Radu et al. 2021)
- Stronger positive effect for more educated, higher income, financially unconstrained and higher IQ consumers (Coibion et al. 2022, D'Acunto et al.)
- Consumption declines in response to higher inflation expectations and lower real income expectations (Bachmann et al. 2015, Coibion et al.)
- Consumers' "narrative" or subjective model behind the change in inflation expectations matters for the ultimate outcome (Andre et al. 2022, Flynn and Sastry 2022)

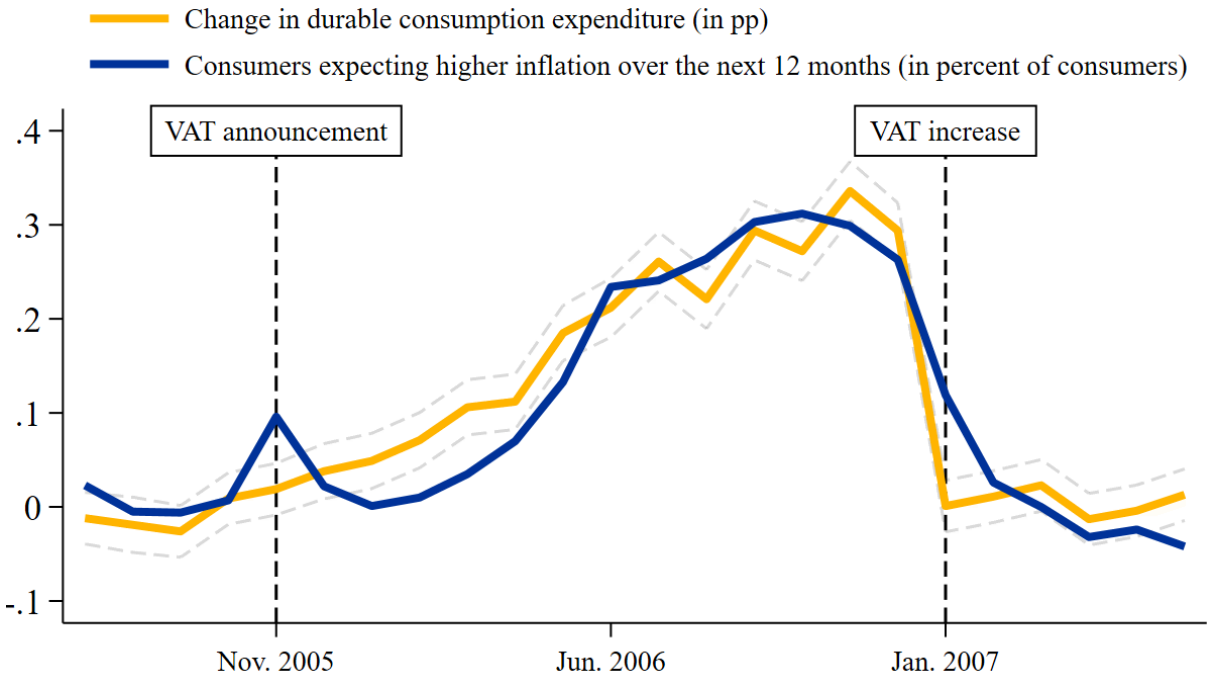
Randomized Control Trial (RCT) Approach

- Elicited expectations are confounded by many factors
- Information provision experiments in web surveys vary the information set available to respondents in a controlled way
- This way researchers can test theories, identify causal effects and answer policy-relevant questions



Example I: Higher expected inflation due to pre-announced VAT increase

Consumer inflation expectations and durable consumption



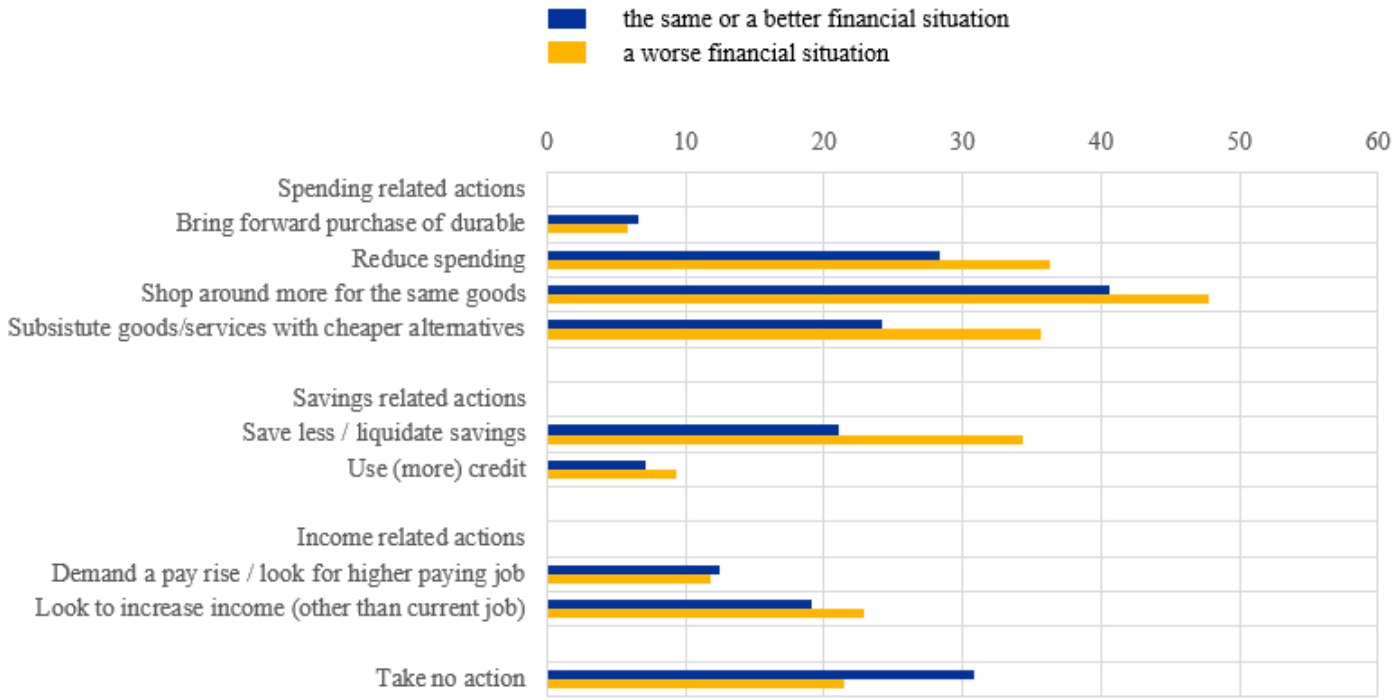
Source: D'Acunto et al. (2022) based on a GfK Survey in Germany.
Notes: The change in durable consumption expenditure is estimated as average treatment effect of consumers affected by the VAT policy announcement compared to not affected consumers. Changes are expressed in percentage points relative to a baseline month in June 2005. Dashed lines indicate the 95-% confidence interval of the estimated treatment effect.
Latest observation: June 2007.

- Very **salient and well understood** temporary increase in expected inflation in Germany
- D'Acunto et al. (2022) find **macroeconomically sizeable positive effects** of higher inflation expectations on consumption of durables (10.3%)
- Stronger effects for more **educated, higher income** and less financially constrained consumers (Duca-Radu et al. 2021)

Example II: How consumers react to their expectations about price change?

Consumers response to expectations of future price change

(percentage of consumers answering yes, by their financial situation)



Source: ECB Consumer Expectations Survey (EA-11) and authors calculation.
Notes: Population weighted data from August .

- The most prevalent answer is **to "shop around" more actively** especially amongst consumers who are pessimistic about their financial situation.
- **Heterogeneity** in how consumption responds to expectations of inflation.
- **More than 30% of respondents** indicating that they expect to **reduce consumption** and a considerably **smaller fraction indicating plans to increase spending or bring forward consumption**
- **Few CES respondents** indicate that they would **draw down on their savings or look to negotiate higher pay** as a result of their expectations about prices.

Example III: Stagflationary dynamics and real income channel

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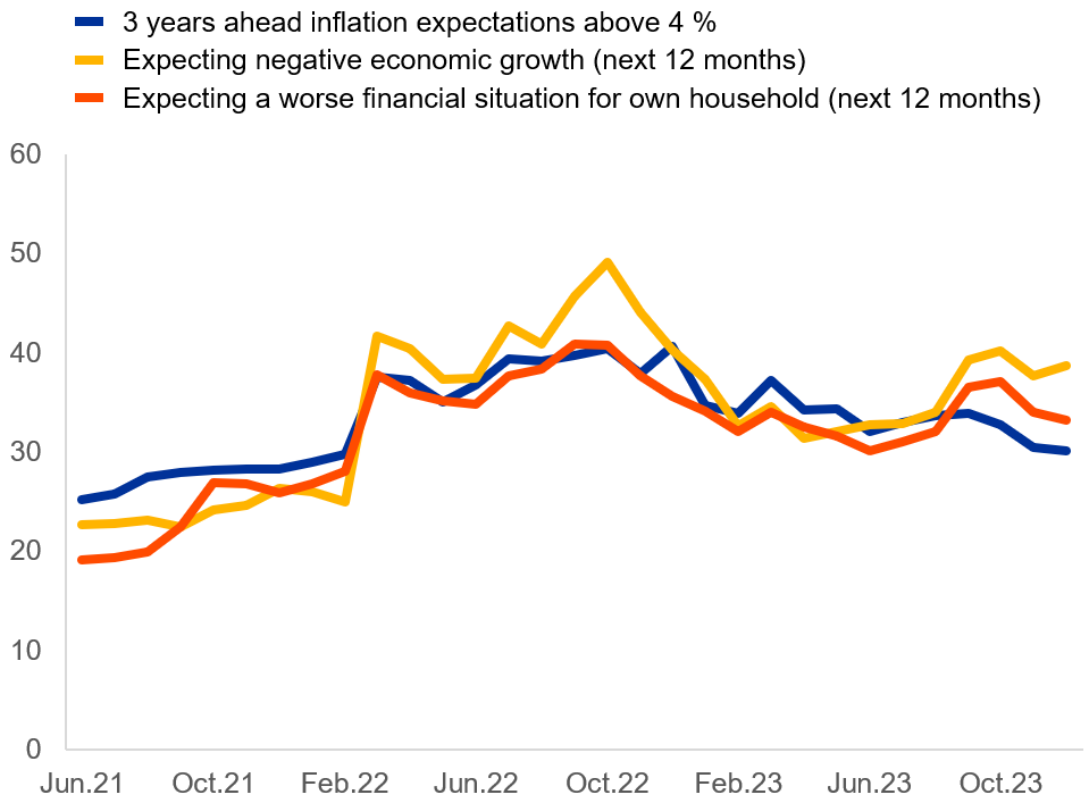
Consumers growth outlook and inflation expectations

(percentage of consumers)



Source: ECB Consumer Expectations Survey (EA-6) and authors calculation.
Latest observation: December .

- **Stagflationary narrative** (Candia et al. 2020) took hold weaker growth and higher inflation.
- Expected real income channel dominates (Coibion et al.) with more than 30% of consumers in CES indicated they would **cut spending**
- Consumers' "narrative" or **subjective model** behind the change in inflation expectations matters for the ultimate outcome (Andre et al. 2022, Flynn and Sastry 2022)

Disentangling 1st and 2nd moment effects of inflation on behaviour

Georgarakos, D, Y Gorodnichenko, O Coibion and G Kenny (2024), 'DP19563 The Causal Effects of Inflation Uncertainty on Households' Beliefs and Actions', NBER Working Paper No. 33014 : https://www.nber.org/papers/w33014

- Much recent research has focused on **how point predictions** for inflation affect beliefs and actions; but virtually **no evidence** on the **distinct** role of consumer **uncertainty about inflation**

- **Measurement** of uncertainty in surveys is a relatively new development and linking it with actual household behavior is quite rare

- With decades of low and stable inflation in advanced economies, there has been **limited historical variation** in inflation uncertainty, making time series methods harder to use

Disentangling 1st and 2nd moment effects

Georgarakos, D, Y Gorodnichenko, O Coibion and G Kenny (2024), 'DP19563 The Causal Effects of Inflation Uncertainty on Households' Beliefs and Actions', CEPR Discussion Paper No. 19563. CEPR Press, Paris & London. https://cepr.org/publications/dp19563

- **Randomized Control Trial**: The study uses an RCT approach with randomized information treatments to different groups of households to induce *exogenous* variation in household expectations and uncertainty about future inflation in the euro area

- **Follow-up Surveys to Measure Outcomes**: By tracking the same households over time, we can measure how/whether the exogenous variation in inflation uncertainty (net of first moment expectations) affected household decisions:
  - **Spending** (durables and non-durables)
  - Propensity to invest and actual **investment** in financial assets
  - **Labor** search and employment outcomes
  - Other choices (e.g., **mortgage** type; **shopping** intensity)

Disentangling 1st and 2nd moment effects: Information Treatment

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T1 (first moment): *The average prediction among professional forecasters is that inflation in the euro area will be at 2.5% over the next 12 months.*

T2 (second moment): *Professional forecasters are exceptionally uncertain right now about inflation compared to recent years. As a result, there is a significant difference of 3.1 percentage points between the lowest and the highest predictions about inflation in the euro area over the next 12 months.*

T3 (first and second moment): *The average prediction among professional forecasters is that inflation in the euro area will be at 2.5% over the next 12 months. At the same time, professional forecasters are exceptionally uncertain right now about inflation compared to recent years. As a result, there is a significant difference of 3.1 percentage points between the lowest and the highest predictions about inflation in the euro area over the next 12 months.*

Disentangling 1st and 2nd moment effects: Information treatments

Purchases of durable goods: One-month post-treatment

	Dependent variable: indicator variable is a durable good is purchased*100					
	Home	Durable	Car	Holiday package	Luxury items	Other
	(1)	(2)	(3)	(4)	(5)	(6)
Posterior mean	**0.421**	**4.812*** **	**0.483**	**1.934**	**0.539***	**0.451**
	(0.268)	**(1.369)**	**(0.315)**	**(1.578)**	**(0.283)**	**(0.863)**
Posterior uncertainty (log)*100	**-0.025** **	**-0.230*** **	**-0.024***	**-0.091**	**-0.021** **	**-0.055***
	(0.010)	**(0.057)**	**(0.013)**	**(0.065)**	**(0.011)**	**(0.034)**
Observations	11,514	11,509	11,504	11,513	11,519	11,481
R-squared	0.00	-0.04	-0.00	0.10	0.02	0.03
1st stage F-stat (mean)	118.5	114.7	117.6	115	117.7	112.4
1st stage F-stat (uncert)	99.38	99.33	98.19	100.5	100.6	100.1
KP Wald test	10.69	9.451	10.46	10.53	10.49	10.32

- Uncertainty has **sizeable negative effects**, net of first moments, on spending
- **Persist** 2 months after RCT

Are household inflation expectations well-anchored around target?

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No – not really

- Limited attention to official inflation news or news about monetary policy
  - Low levels of inflation attention but increasing as inflation rises (Weber et al. 2024)
  - Consumers' inflation expectations do not respond to monetary policy announcements (Lamla and Vinogradov 2019) or to forward guidance (De Fiore et al. 2022)

- Highly subjective inflation expectations based on own personal experiences
  - Own shopping experience shape expectations for inflation
  - Gender roles (e.g. shopping responsibilities), demographic differences (Gomes, Monteiro and Ribeiro 2024) and life-time experiences (Malmendier and Nagel 2016, Goldfayn-Frank and Wohlfart 2020) e.g. of hyperinflation
  - Influence of imperfect memory ("selective recall"), emotions and sentiment on survey responses

- Clear evidence of extrapolative behavior and overreaction to observed price signals
  - Consumers mechanically extrapolate recent trends into the future (e.g. Coibion et al. 2018, Huber, Minina and Schmidt)
  - Overreaction: A change in expectations today systematically leads to larger forecast errors in the future

Are household inflation expectationswell-anchored around target?

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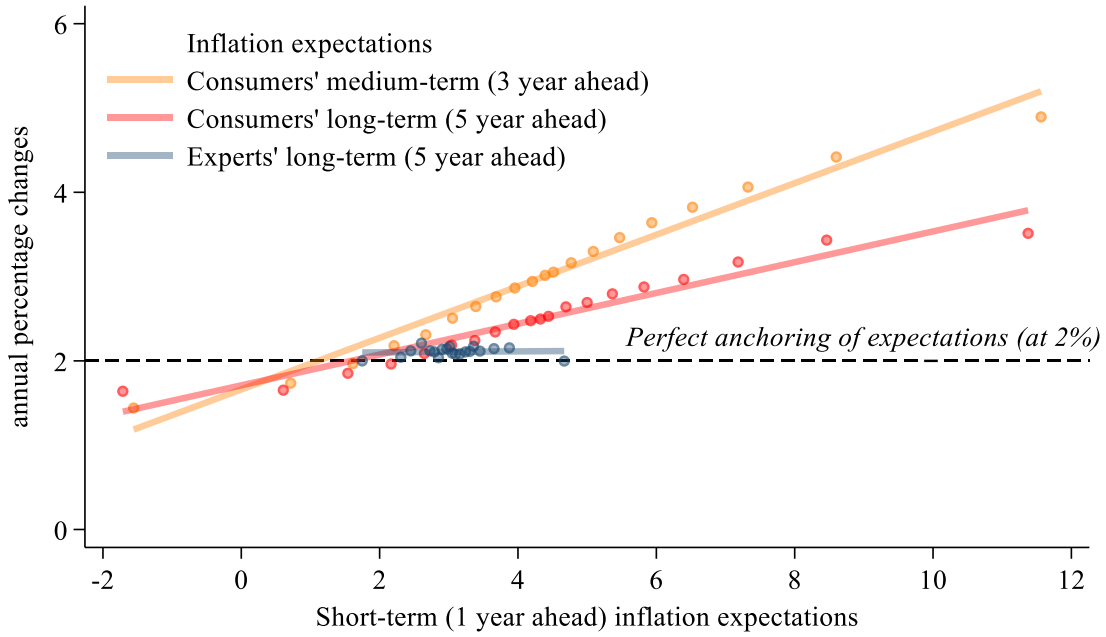
Co-movement of short- and longer-term inflation expectations

(annual percentage changes)



Source: ECB Consumer Expectations Survey, ECB Survey of Professional Forecasters and authors calculation.
Notes: Binscatter plot of the pooled February 2022 to December data. The chart depicts variation in expectations within individuals over time by means of a fixed-effects regression. Inflation news is measured as the within individual variation of consumers one year forecast of inflation.

- Consumers **3 and 5 year ahead** inflation expectations are much more imperfectly anchored compared with experts

- **Key question for monetary policy**: Does any observed change in medium or long-run expectations reflect:
  - (i) An overreaction that may subsequently correct?
  - (ii) A more genuine shift in medium-run risks price stability?

Are household inflation expectations well-anchored around target?

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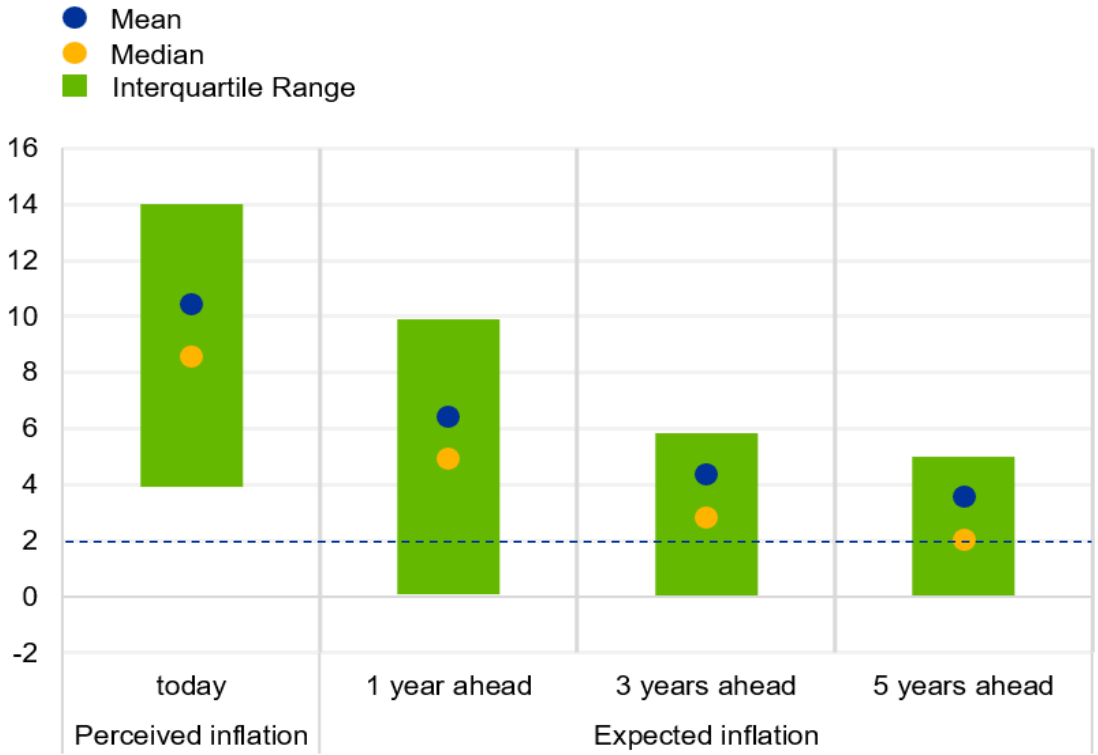
No – not really . . . but not completely adrift either.

Term-structure of consumers' inflation expectations

(annual percentage changes)

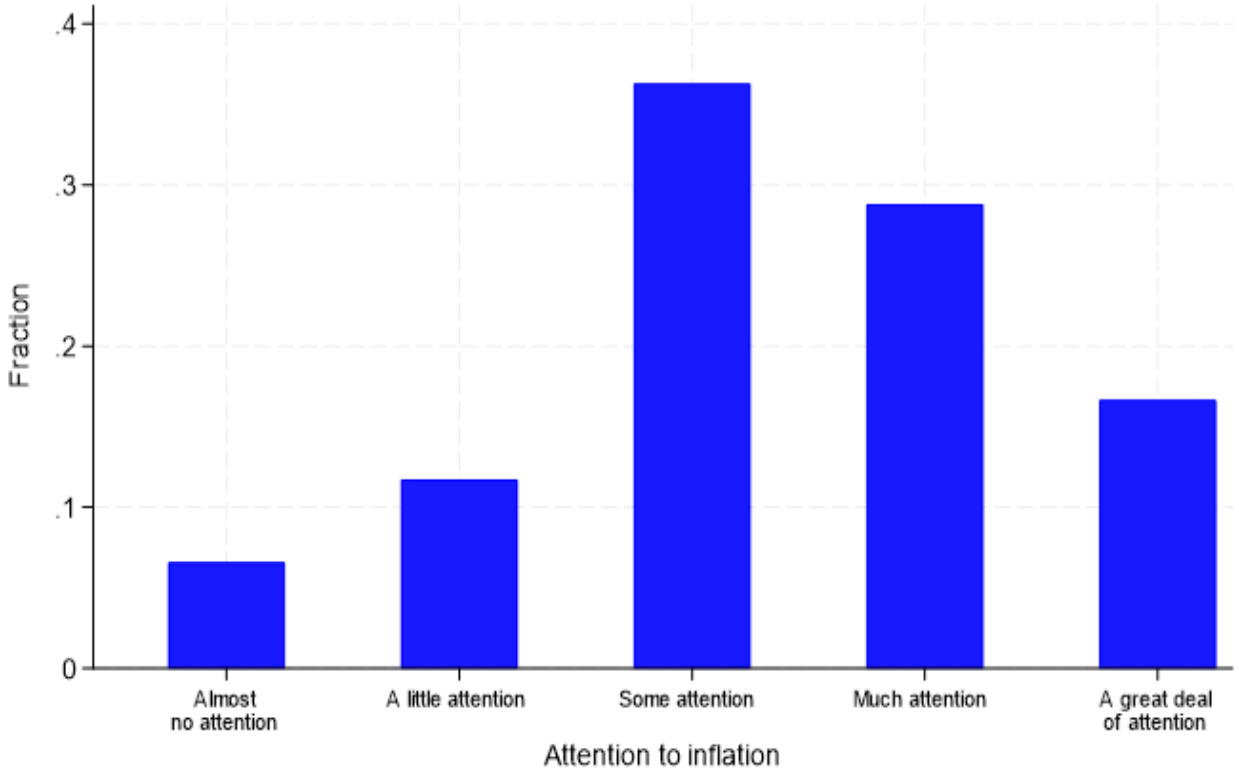


Source: ECB Consumer Expectations Survey and authors calculation.
Notes: Pooled June 2022 to June data.

- **Downward sloping term structure** of expected inflation (D'Acunto et al. 2024)
- **Reduced dispersion** of 3 and 5 year ahead inflation expectations
- Both imply **some traction** of the central bank's objective as a guide for consumers' inflation expectations in the more medium term

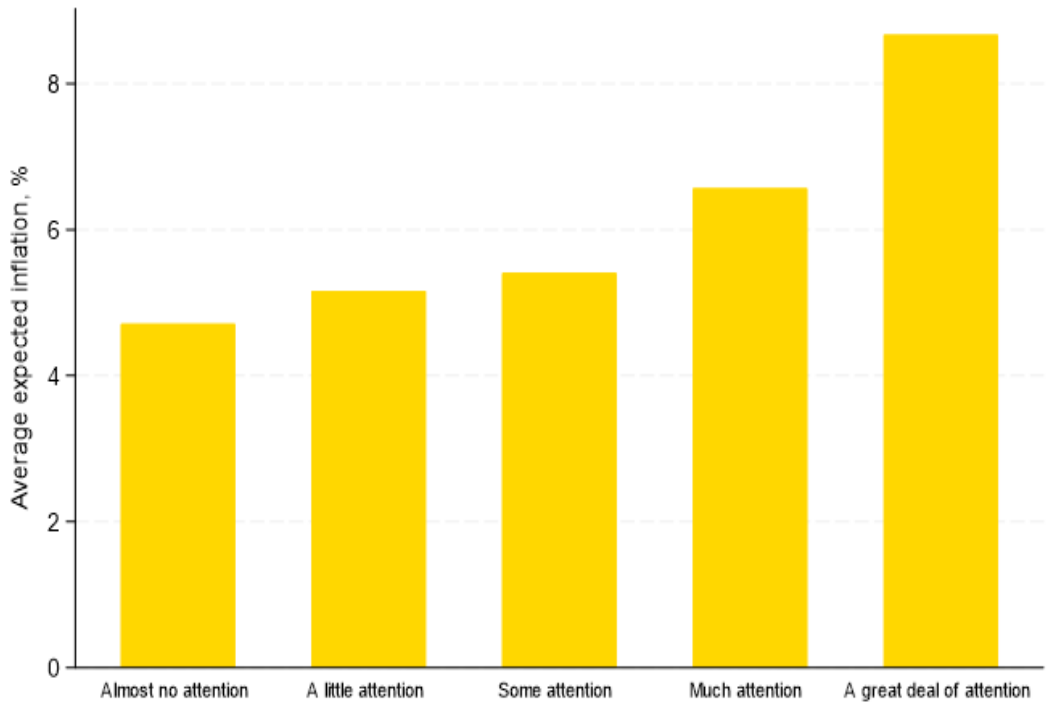
Anchoring challenge I: Inflation (in)attention

Euro area consumers inflation attention



- **Majority** of consumers report **at least some attention** to inflation

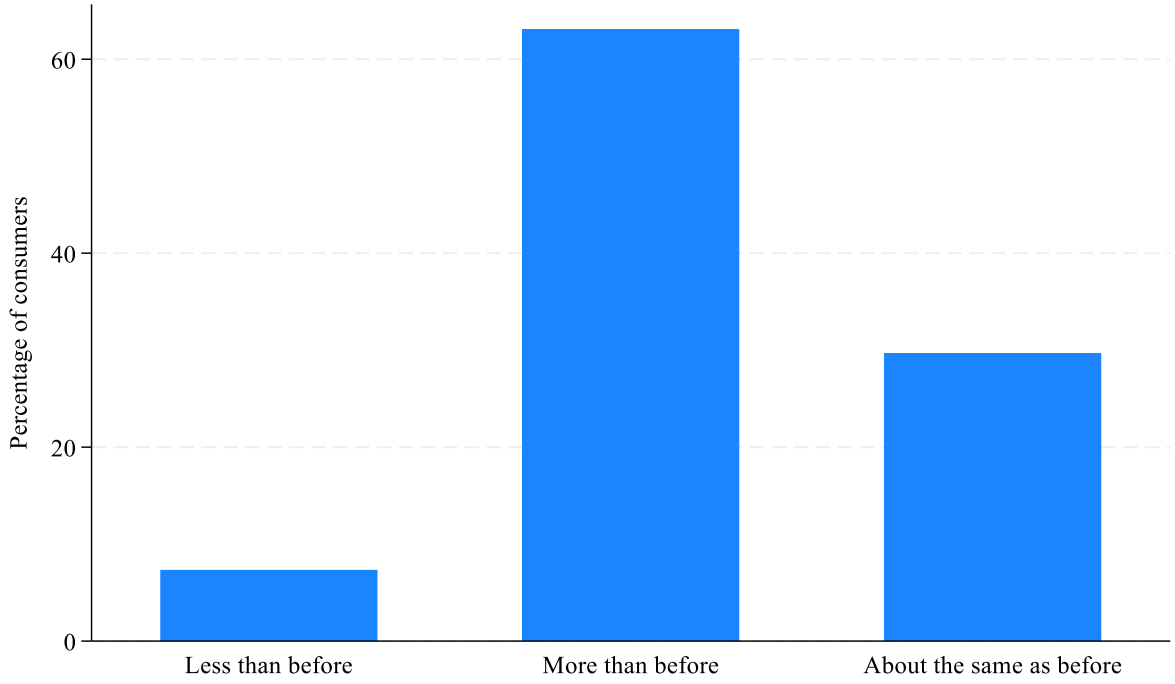
Euro area consumers inflation expectations (1ya)



- Consumers with **higher attention** to inflation hold **higher inflation** expectations

Anchoring challenge I: Inflation (in)attention

Euro area consumers inflation attention in January compared to 12 months before



- **More than 60% of respondents stated that they paid more attention to inflation than before**

Anchoring challenge I:Time-Varying Inflation Attention

Weber, M., Candia, B., Afrouzi H. Ropele, T., Lluberas, R., Frache, S., Meyer, B.H., Kumar, S., Gorodnichenko, Y., Georgarakos, D., Coibion, O. and Kenny, G. (). Tell me something I don't already know: Learning in low and high-inflation settings, forthcoming, Econometrica

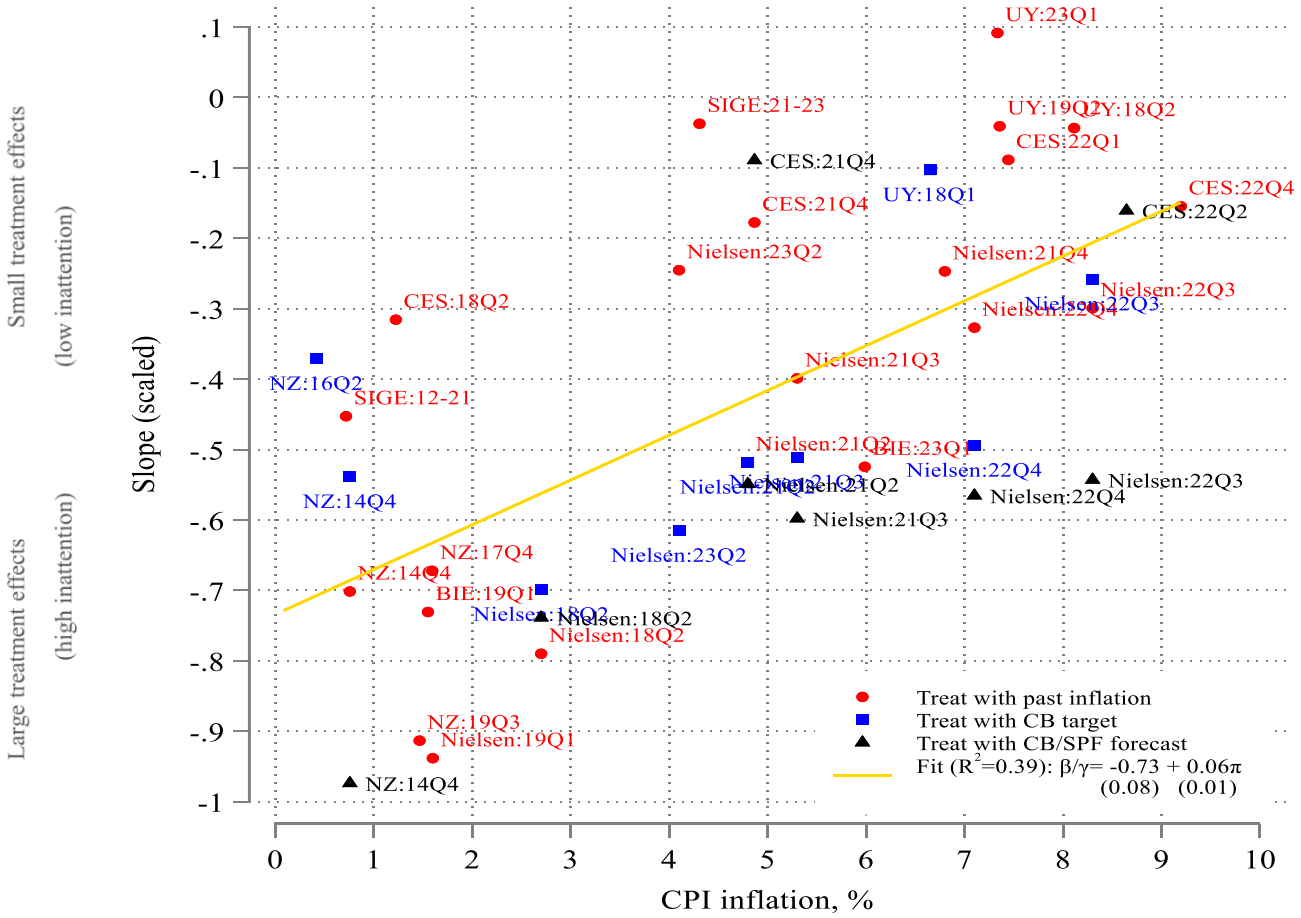
- Theories of inattention emphasize agents balancing costs and benefits of acquiring and processing information:
  - Sticky information (Reis 2006)
  - Rational inattention (Sims 2003)
- The *degree of inattention should be endogenous to economic conditions*

Anchoring challenge I:Time-Varying Inflation Attention

*Does the **attention** that economic agents pay to **inflation** and **monetary policy** communication **remain relatively stable** or **does it vary** depending on the **prevailing inflationary environment**?*

- Pool comparable RCTs across countries:
  - U.S., Euro-area, New Zealand, Uruguay, Italy, Netherlands
- Pool comparable RCTs *within a country* over time:
  - When inflation is low and stable
  - When inflation is high and stable
  - When inflation goes from low to high
- Pool comparable RCTs across agents:
  - Households and firms
- Pool comparable information treatments:
  - Information about recent inflation
  - Information about inflation targets
  - Information about inflation forecasts

Updating of inflation expectations and the level of inflation



- **Weight** attached to the new information (*y-axis*) correlates with **inflation** at the time of RCT (*x-axis*)
- **Inattention** to inflation is more pervasive in **low-inflation** than high-inflation environments
- **When inflation is high** reaching the public is much easier since they are attentive, but **changing their views is harder**

Treatment effects systematically vary with inflation: endogenous inattention!

Anchoring challenge II: Asymmetric updating of inflation beliefs

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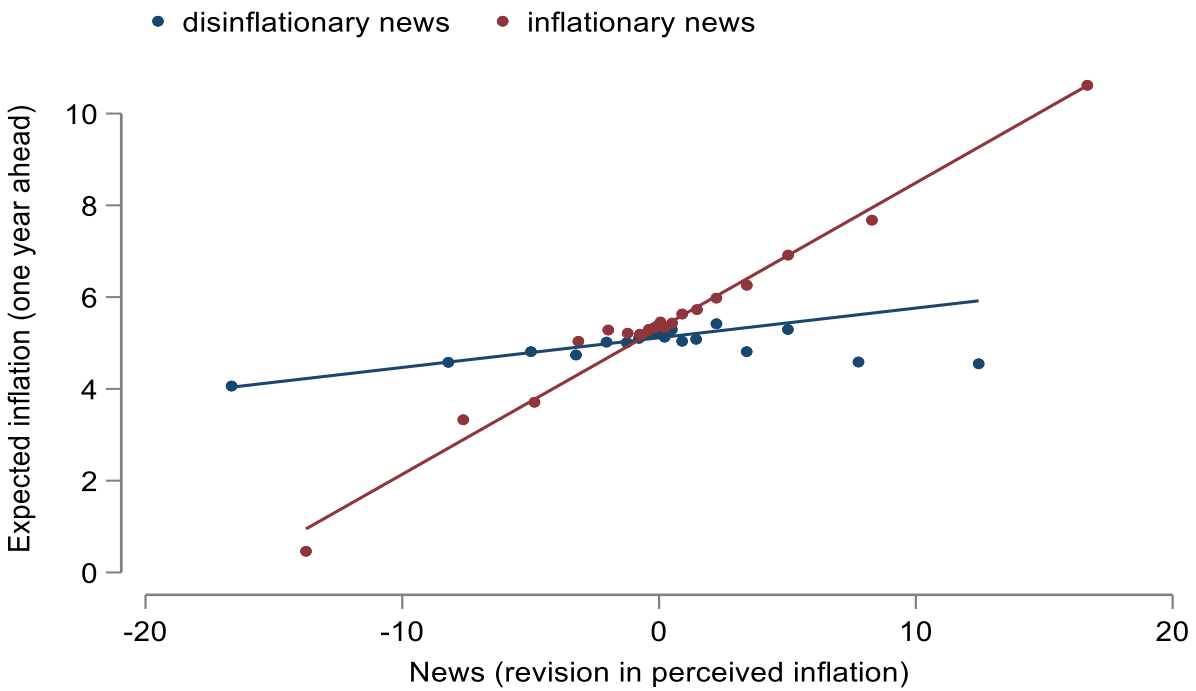
Asymmetric updating of inflation expectations to news

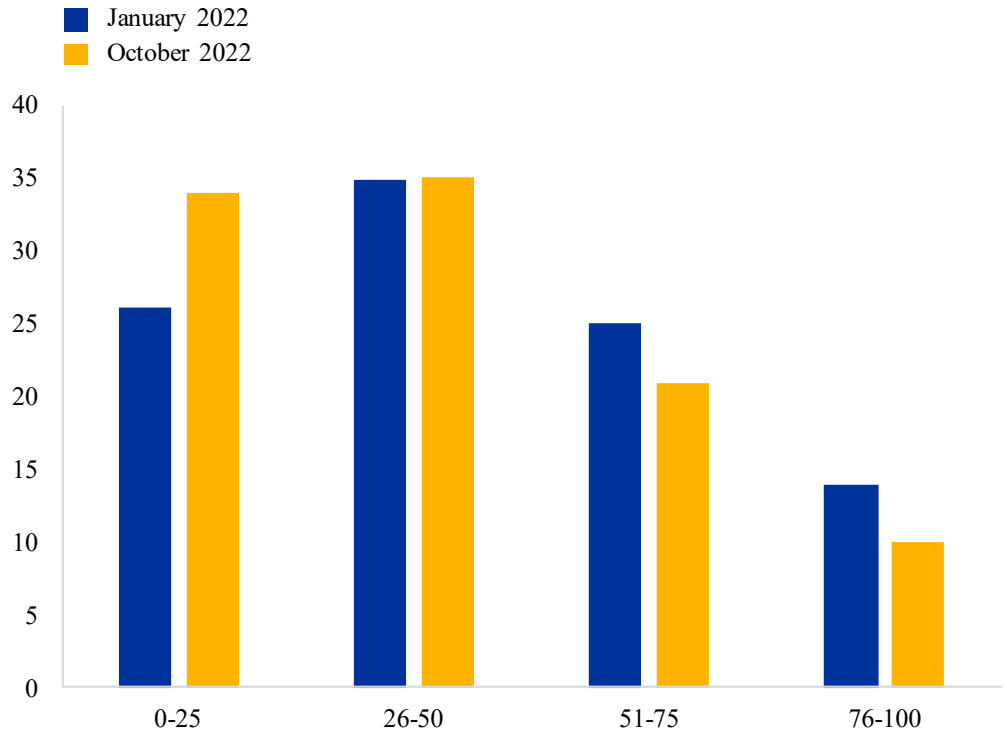
(in annual percentage changes)



Source: ECB Consumer Expectations Survey (EA-6 before April 2022, EA-11 afterwards), pooled April 2020 to December data.

Are there benefits from enhanced communication with consumers?

The cross-sectional distribution of ECB credibility



- CES asked the respondents to assess the likelihood the ECB to achieve the **price stability over the next 3 years**

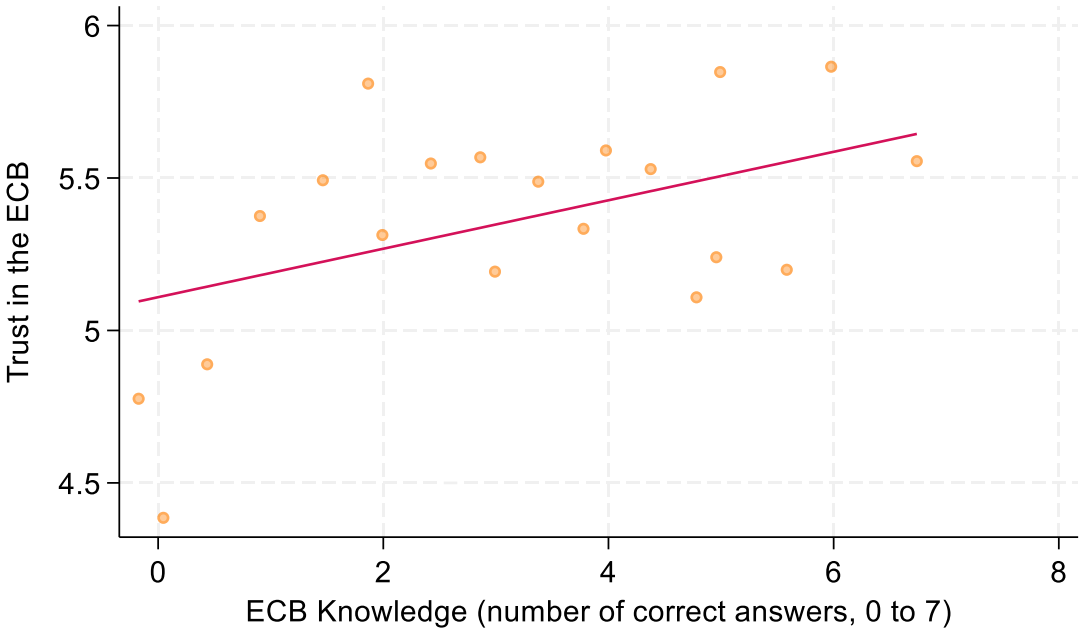
- **A significant increase in the share of the CES respondents attaching to a below 50% probability** of ECB to achieve the price stability over the next 3 years during a period when inflation started to rise in the euro area

Are there benefits from enhanced communication with consumers?

Some caution but ultimately yes

Knowledge about and trust in the ECB

(trust in the ECB 0 (no trust) to 10 (complete trust))

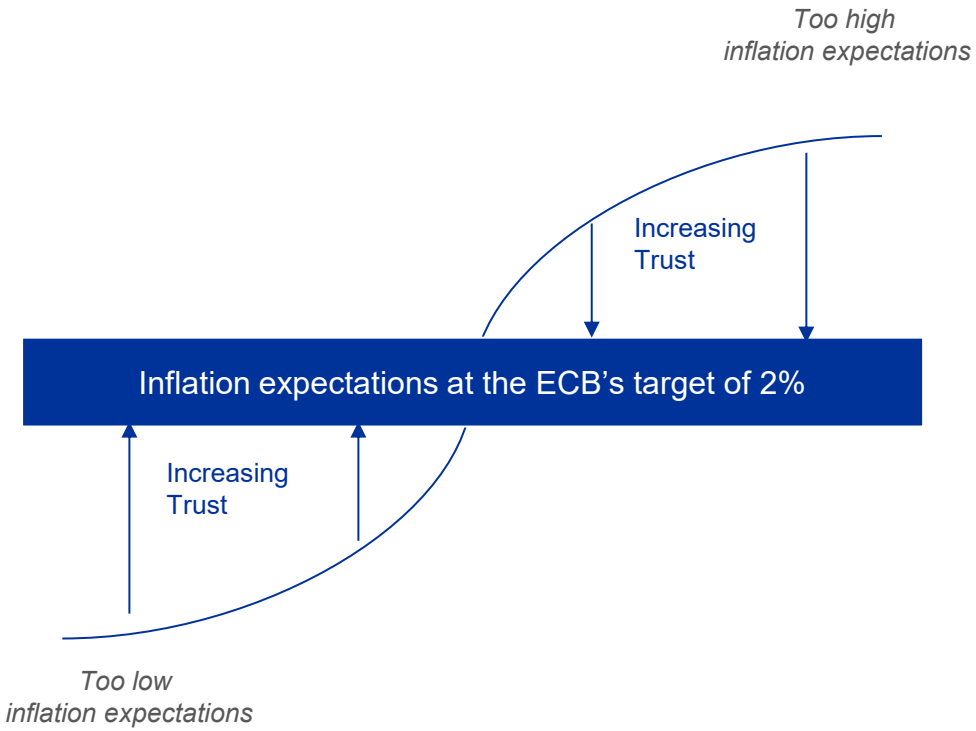


Source: ECB Consumer Expectations Survey and authors calculation.
Notes: Binscatter plot based on 2020 to data (net of country-specific effects).

- Increasing consumer knowledge about monetary policy via our communication can contribute to increasing **trust in the ECB**
- Increasing trust is important (Christelis et al. 2020, Rumler and Valderrama 2020)
- Higher trust can help to better **anchor inflation expectations**

Are there benefits from enhanced communication with consumers?

The anchoring effect of increasing trust



- Increasing trust is important (Christelis et al. 2020, Rumler and Valderrama 2020)
- Higher trust can help to better **anchor inflation expectations**
- Both from **above and from below**

Are there benefits from enhanced communication with consumers?

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Ehrmann, M., Georgarakos, D. and Kenny, G., 2025. Credibility gains from communicating with the public: evidence from the ECB's new monetary policy strategy, European Economic Review,*177, 10569:* *https://doi.org/10.1016/j.euroecorev.2025.105069*

- What are the **causal effects** from communication on central bank **credibility**?

- Credibility measure*:*

  How likely do you think it is that the ***ECB will maintain price stability in the euro area economy over the next 3 years****?* [0%….100%]

  - free of numerical framing to 2%

Treatment group 1: *Symmetric Target (ST) only*

The ECB aims for a **2% inflation target** over the medium term as the best way to maintain price stability. The target is **symmetric**: inflation may sometimes be slightly above it or below. The ECB looks through short-term deviations. **Persistent negative and positive deviations are regarded as equally undesirable**.

Treatment group 2: *Symmetric Target (ST) + Explanation*

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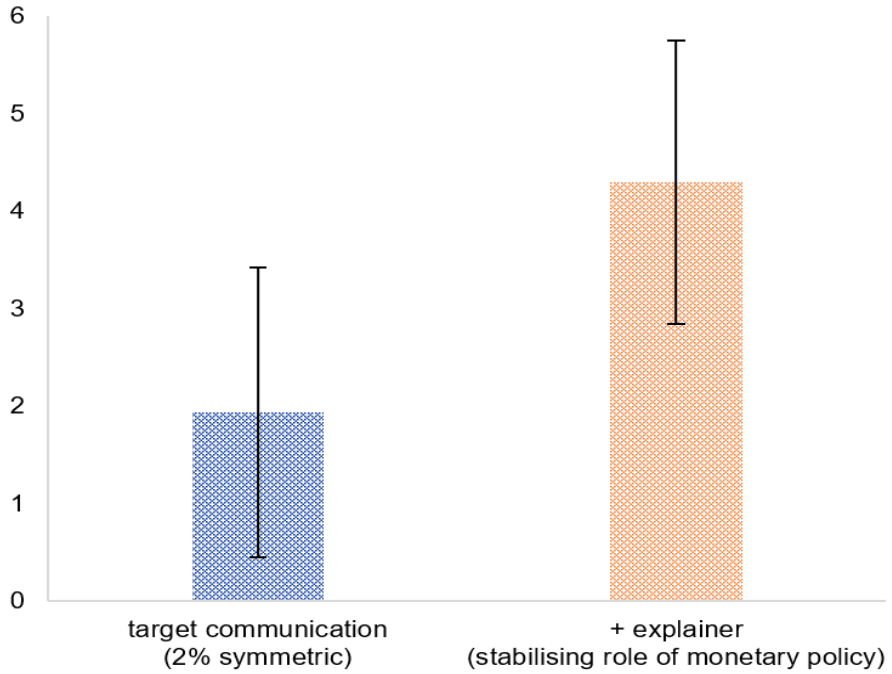
The ECB aims for a **2% inflation target** over the medium term as the best way to maintain price stability. The target is **symmetric**: inflation may sometimes be slightly above it or below. The ECB looks through short-term deviations. **Persistent negative and positive deviations are regarded as equally undesirable**.

A target of 2% has an important function: it creates space so that monetary policy can have its stabilising effect. In bad times, such as during the pandemic, **monetary policy stimulates the economy** through low interest rates and so has **significant favourable effects on economic growth and employment. This may also imply a transitory period in which inflation is moderately above the target of 2%.**

Are there benefits from enhanced communication with consumers?

Likelihood that the ECB delivers price stability
over the medium-term (3 years)

(treatment effect on ECB credibility, in percentage points)

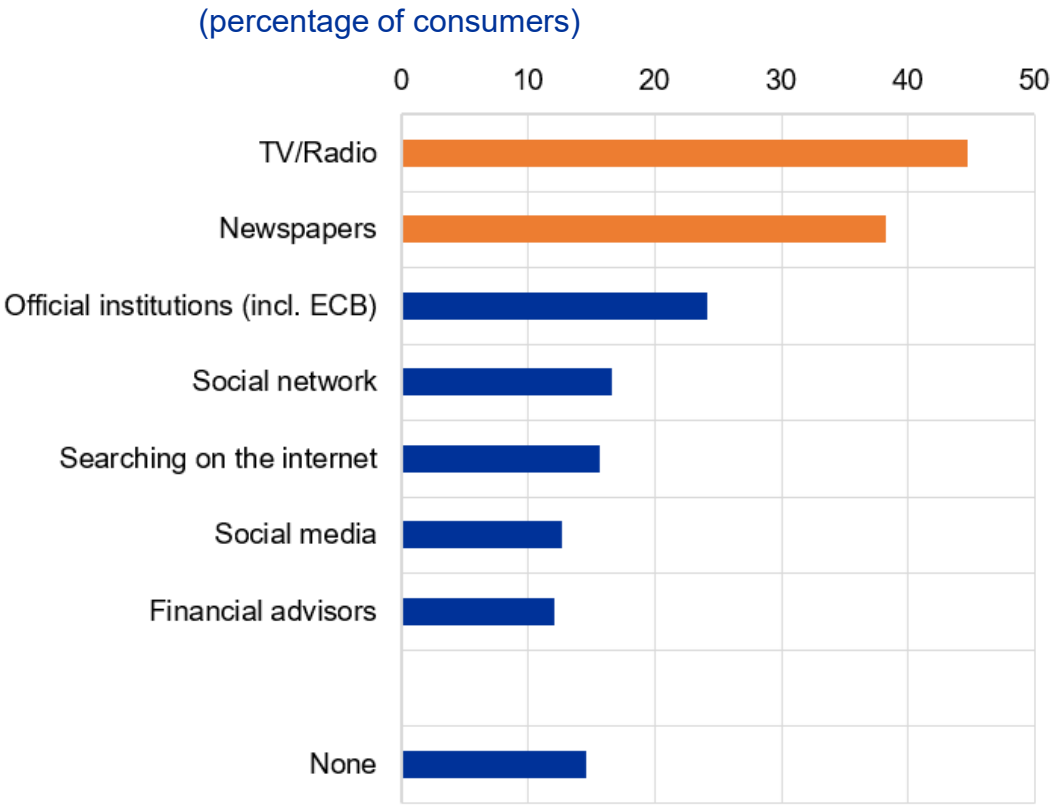


Source: Ehrmann, Georgarakos, Kenny (2025) based on the ECB Consumer Expectations Survey.
Notes: The figure depicts the treatment effects (with 95-% confidence intervals) on the ECB's credibility to achieve price stability over the next 3 years.

- Communicating our 2% target can **improve credibility**
- Effect is further enhanced if a **simple explanation** on stabilising role of monetary policy is added
- Heterogeneity: Effects driven by more **financially literate consumers**
- Yet explanations are also effective for **less financially literate** consumers

Are there benefits from enhanced communication with consumers?

Information sources about monetary policy



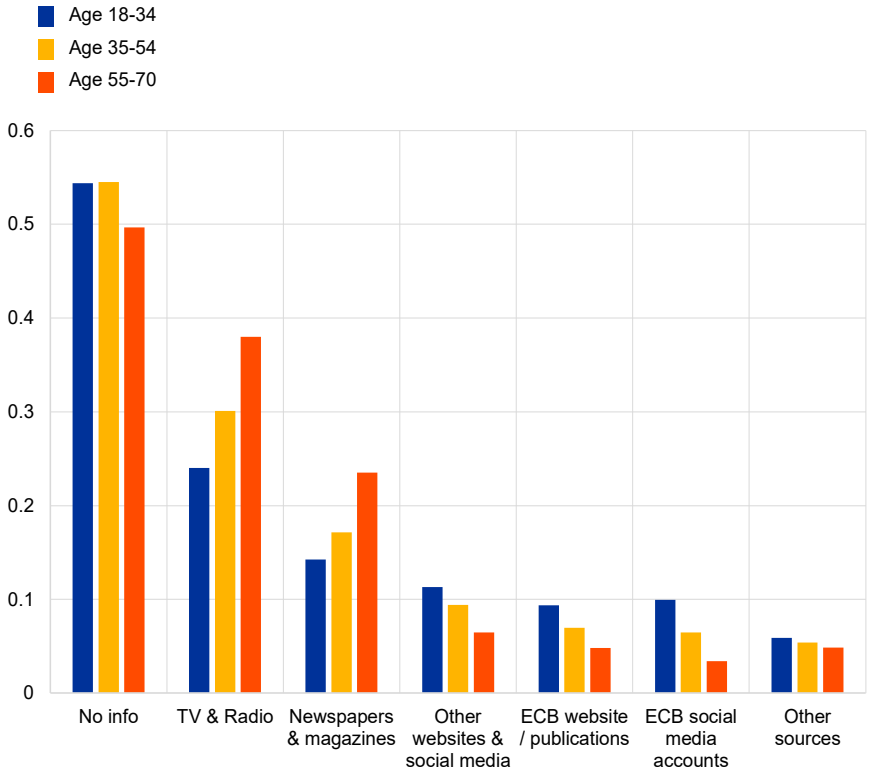
Source: ECB Consumer Expectations Survey (EA-11).
Notes: In August , consumers were asked which sources they would use over the next 12 months to acquire information about monetary policy.

- Consumers use a **wide range of information channels** to learn about monetary policy
- These channels impact their expectations (Conrad, Enders and Glas 2022)
- An optimal communication strategy needs to exploit all of them !

Communication Channels

Information about the ECB: channels by age group

(% of all respondents, by information source)



Source: ECB Consumer Expectations Survey (CES) – September 2021

Note: "In the past two months, have you seen or heard information about the European Central Bank (ECB) from any of the following sources?". Apart from "No info", all other options are not mutually exclusive, leading to a total sum higher than 100% of the respondents. Weighted estimates.

Heterogeneity by age:

- *Older*: higher shares use **traditional** channels
- *Younger*: higher shares use **social media**

Summary of key messages

- **Households act on their beliefs about inflation**
  - Inflation expectations affect economic outcomes and therefore monetary policy transmission but they do so in a complex and context dependent way
  - Recent episode of higher inflation expectations likely reduced consumption via the real income channel ("stagflationary narrative") and more elevated inflation uncertainty

- **Consumers inflation expectations are highly subjective and only imperfectly anchored**
  - Imperfect anchoring poses challenges and risks for monetary policy
  - Suggesting scope to clarify the role of these indicators in central bank reaction functions

- **Communicating with the public enhances monetary policy effectiveness**
  - While the public is hard to reach building consumer knowledge via communication helps strengthen trust, enhancing credibility
  - When attention to inflation and monetary policy is high, there is a "window of opportunity" for communicating but changing beliefs is more challenging in such an environment

ΤΡΑΠΕΖΑ ΤΗΣ ΕΛΛΑΔΟΣ
ΕΥΡΩΣΥΣΤΗΜΑ

Thank you!

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