Consumers' Attention to Monetary Policy: The Importance of Having "Skin in the Game"

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NBER Monetary Economics, November 2026

The views expressed here are those of the authors and do not necessarily reflect the views of the Federal Reserve Bank of Cleveland, the Federal Reserve System, or the Inter-American Development Bank.

Motivation

- The strength of monetary policy transmission depends on people being aware of policy changes – credit channel of monetary policy.
  Maćkowiak and Wiederholt (2015), Afrouzi et al. (2024), Bernanke and Gertler (1995)

- Rising inflation has renewed interest in attention to macroeconomic variables.
  Pfäuti (2025), Weber et al. (2025)

- **But:** Attention to inflation $\neq$ Attention to monetary policy.
  Link et al. (2025)

- Little is known about which consumers pay attention to monetary policy and the determinants of that attention.
  - $\rightarrow$ Important for evaluating monetary policy transmission.
  - $\rightarrow$ Key to designing central bank communication.

This Paper

- **Data:** A measure of monetary policy attention and household characteristics from daily repeated cross-sections between August 2020–July 2025:
  - Over 170,000 observations for attention.
  - 74,000 matched with relevant households characteristics.
- **Model:** Rational inattention framework that generates six testable implications relating individual and aggregate drivers of attention, and their interactions.
- **Empirics:** We test the model's predictions using a large consumer survey, exploiting individual and aggregate variation.
- **Policy:** Use the validated model to discuss implications for central bank communication.

Measures of Attention to MP and Skin in the Game

Objective: Capture one dimension of attention to MP and a relevant margin of skin in the game.

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Attention: "Have you heard any news about monetary policy or the Federal Reserve in the last week?"

- Yes/no response measures the **extensive margin**, not attention intensity.

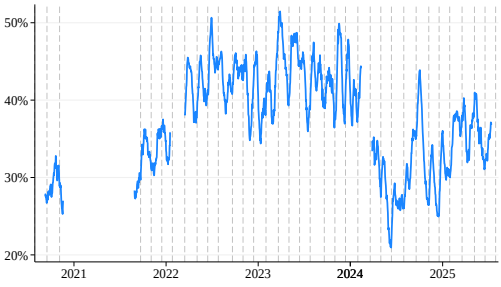
Skin in the game: Plans to purchase a home or vehicle in the next month/year.

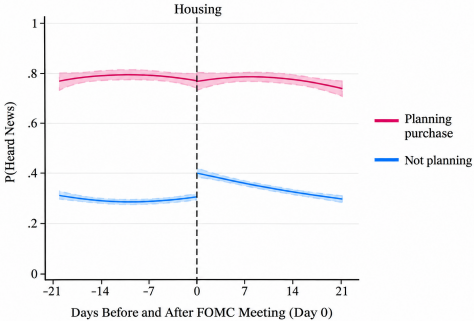
- A forward-looking/persistent proxy for interest rate exposure, rather than a measure of all assets and liabilities.

Design: Repeated cross-sections, with no individual panel.

Measurement details

Attention over the Monetary Policy Cycle, 2020–2025





1. Cycle of attention: higher when inflation was high, higher around FOMC meetings.
   Plot with macro variables
2. Consumers w/ "skin in the game" are much more attentive.
3. Cyclical behavior of attention driven by consumers w/o "skin in the game" 1 year out

Attention mostly about interest rate | No differences in inflation expectations

Consumer's Problem: Part 1

- Maximize utility wrt consumption (C) and bond-holdings (B):

$$\max_{C_{it}, B_{it}} \mathbb{E}_{i0} \sum_{t=0}^{\infty} \beta^t log(C_{it}) \tag{1}$$
$$C_{it} + B_{it} = R_{t-1} B_{i,t-1} + Y_{it}$$

  - $y_{it} = log\left(Y_{it}/\bar{Y}_i\right)$ – exogenously given, iid, income, $\mathbb{E}(y_{it} y_{jt}) = 0, \forall i \neq j$
  - $r_t = log\left(R_t/\bar{R}\right) = log\left(\beta R_t\right) \sim iid\ \mathcal{N}(0, \sigma_r^2)$ – real interest rate
  - Each consumer i has steady-state $\bar{B}_i$, $\bar{C}_i$ (and $\bar{Y}_i$)

Consumer's Problem: Part 2

- Doesn't observe r_t for free. Instead, each period (Paciello and Wiederholt (2013))

$$s_{it} = r_t + v_{it}, \qquad v_{it} \sim \mathcal{N}(0, \sigma^2_{r|s_i}) \tag{2}$$

  - What does the consumer know for free? σ^2_r
  - Optimally choose $\sigma^2_{r|s_i} \leq \sigma^2_r$: can lower variance of noise by paying λ_i per unit of information flow, with Sims (2003) entropy-based info flow:

$$\mathbb{I}(r_t; s_{it}) = \frac{1}{2} log_2 \left(\frac{\sigma^2_r}{\sigma^2_{r|s_i}} \right) \tag{3}$$

- Welfare losses due to inattention (2^{nd} order approximation of utility):

$$\mathbb{W}_i = \mathbb{E}_{i,-1} \sum_{t=0}^{\infty} \beta^t (c_{it} - c^*_{it})^2 = \frac{\beta + (1-\beta) a_i^2}{1-\beta} \sigma^2_{r|s_i} \tag{4}$$

  - $|a_i| = \left| \frac{\bar{B}_i}{\bar{C}_i} \right|$ – "skin in the game", c^*_{it} – FIRE benchmark

Optimal Attention to Monetary Policy

$$min_{\sigma^2_{r|s_i} \leq \sigma^2_r} \mathbb{E}_{i,-1} \sum_{t=0}^{\infty} \frac{\beta^t}{2} \left[\underbrace{(c_{it} - c^*_{it})^2}_{\text{welfare loss}} + \underbrace{\lambda_i \left(log_2 \left(\sigma^2_r \right) - log_2 \left(\sigma^2_{r|s_i} \right) \right)}_{\text{cost of info}} \right] \tag{5}$$

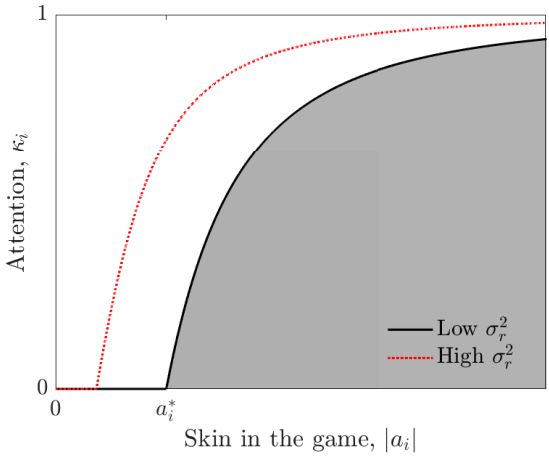
Proposition

The optimal level of attention κ_i for any consumer i is given by:

$$\kappa_i = 1 - \frac{\sigma^2_{r|s_i}}{\sigma^2_r} = \begin{cases} 1 - \frac{\lambda_i}{(\beta + (1-\beta) a_i^2) \sigma^2_r (ln2)} & \text{if } |a_i| \geq a_i^* \\ 0 & \text{otherwise} \end{cases}$$

where $a_i^* = \sqrt{\frac{\lambda_i - \beta ln(2) \sigma^2_r}{ln(2) \sigma^2_r (1-\beta)}}$.

Optimal Attention Frontier



Key features:

- Threshold a_i^*: need sufficient SG to be attentive
- Attention ↑ with skin in the game
- Higher σ_r^2 shifts frontier up and lowers a_i^*
- **Frontier flattens:** marginal effects of σ_r^2 and λ decline in $|a_i|$

⇒ High-SG consumers maintain stable attention, as seen in opening figure

Six Testable Implications

$$\kappa_{it} \equiv 1 - \frac{\sigma^2_{r|s_i,t}}{\sigma^2_{rt}} = \max\left\{0,\ 1 - \frac{\lambda_{it}}{[\beta + (1-\beta)a_{it}^2]\sigma^2_{rt} \ln 2}\right\}.$$

Determinants	**Prediction for attention**	**Derivative**
Individual	1.Higher attention for high SG.	$\frac{\partial \kappa_{it}}{\partial \lvert a_{it} \rvert} > 0$
	2. Higher attention for low λ_i.	$\frac{\partial \kappa_{it}}{\partial \lambda_i} < 0$
Aggregate	3. Higher attention for lower information costs (news).	$\frac{\partial \kappa_{it}}{\partial \lambda_t} < 0$
	4. Higher attention when interest rate volatility is higher.	$\frac{\partial \kappa_{it}}{\partial \sigma_{rt}} > 0$
Interactions	5. Info cost effect lower for high SG.	$\frac{\partial^2 \kappa_{it}}{\partial \lambda_t \, \partial \lvert a_{it} \rvert} > 0$
	6. Volatility effect lower for high SG.	$\frac{\partial^2 \kappa_{it}}{\partial \sigma_{rt} \, \partial \lvert a_{it} \rvert} < 0$

First: 1-2. Then: 3 & 5, and 4 & 6.

Implication 1: More Attention for Those with Higher "Skin in the Game"

$$\kappa_{it} = \gamma_t + \beta_1 |a_{it}| + X_{it}'\theta + \varepsilon_{it}.$$

	(1)	(2)
Purchase in next month	0.32***	0.28***
	(0.01)	(0.01)
Purchase in next year	0.13***	0.10***
	(0.01)	(0.01)
Time fixed effects	Yes	Yes
Demographic Controls	No	Yes
Observations	75,262	75,262

κ_{it}: heard news; $|a_{it}|$: purchase plans. Robust standard errors in parentheses.

Closer purchase horizons are associated with greater attention.

OLS and logit

Purchase Plans and Attention: What Can We Identify?

- Purchase plans may themselves respond to changes in attention. The data do not randomly assign SG.
- The association remains positive across demographic groups and interest rate regimes: result robust to decisions associated with life-cycle events.
- Empirically, news availability, FOMC timing, and volatility generally do not systematically predict purchase plans.
- Coefficient is stable across different points of the interest rate cycle.

Interpretation: Consistent with incentives driving attention. Repeated cross-sections cannot measure changes in SG.

Demographic Check Stability over time

Implication 2: More Attention for Those with Lower Information Cost

$$\kappa_{it} = \alpha + \beta_2 \lambda_i + \varepsilon_{it} \tag{6}$$

	OLS		Logit (Odds Ratio)	
	(1)	(2)	(3)	(4)
Numerical literacy				
High	0.05***		1.23***	
	(0.00)		(0.02)	
Education				
Some college		0.04***		1.22***
		(0.00)		(0.05)
Bachelor's		0.20***		2.48***
		(0.00)		(0.05)
Master's or higher		0.38***		5.23***
		(0.00)		(0.11)
Time fixed effects	Yes	Yes	Yes	Yes
Observations	158316	171102	158316	171102
Adjusted R^2	0.02	0.09	0.01	0.07

Literacy: *Imagine there are white and black balls in a ballot box. You draw a ball 70 times. 56 times, you have drawn a white ball, 14 times a black ball. Given this record, what would you say is the probability of drawing a black ball the next time?* With Demog Controls

Implications 3 and 5: Lower Aggregate Cost Increases Attention, but less for High SG

$$\kappa_{it} = \alpha + \beta_{51}|a_i| + \beta_{52}N_t + \beta_{53}(N_t \times |a_i|) + \varepsilon_{it} \tag{7}$$

	OLS	IV
Plan to purchase in next month	0.31***	0.43***
	(0.01)	(0.06)
"Monetary policy" news supply	0.05***	0.24***
	(0.00)	(0.04)
"Monetary policy" news × Purchase next month	-0.04***	-0.22**
	(0.01)	(0.09)
Demographic controls	Yes	Yes
Observations	75,166	75,166
First-stage F-stat	—	198.5

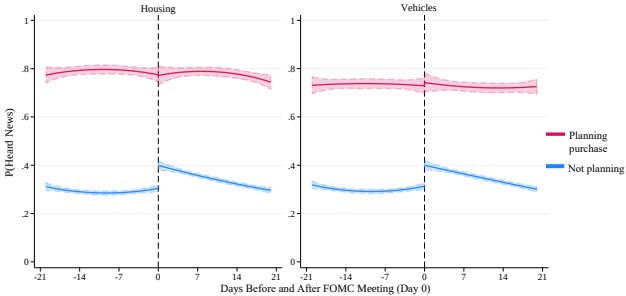
Note: IV uses days before/after FOMC meetings as instrument for news counts.

with $N_t = F(\lambda_t)$, $F'() < 0$: 1-week moving averages relative to 2021 (mean= 0.52, sd=0.71).

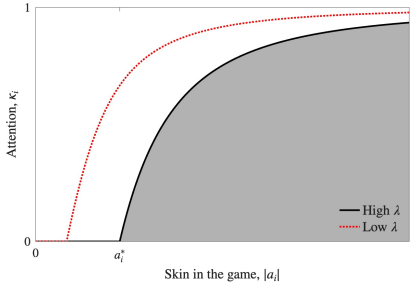
News spikes around FOMC meetings

Why Does Attention Spike Mainly for Low-SG Consumers?

The Empirical Pattern:



The Mechanism:



- **Low SG (blue):** Steep part of frontier ⇒ attention spikes with news/volatility
- **High SG (red):** Flat part of frontier ⇒ stable high attention

Implications 4 and 6: Higher Volatility Increases Attention, but less for High SG

$$\kappa_{it} = \alpha + \beta_{61}|a_i| + \beta_{62}\sigma_{rt} + \beta_{63}(\sigma_{rt} \times |a_i|) + \varepsilon_{it}$$

	(1)	(2)
Plan to purchase in next month	0.35***	0.32***
	(0.01)	(0.01)
σ_{rt}	0.43***	0.44***
	(0.04)	(0.04)
$\sigma_{rt}\times$ Purchase next month	-0.34***	-0.32***
	(0.09)	(0.09)
Demographic controls	No	Yes
Observations	75,262	75,262

σ_{rt} : Standard deviation of the 1-year Treasury yield over the previous 30 days. (mean=0.09, SD of 0.08). time series

Implications for Central Bank Communication

- Communication lowers information costs from λ to λ_p, at resource cost $g(\lambda_p)$.
- **Problem:** for each consumer i, choose whether to target them with communication or not:

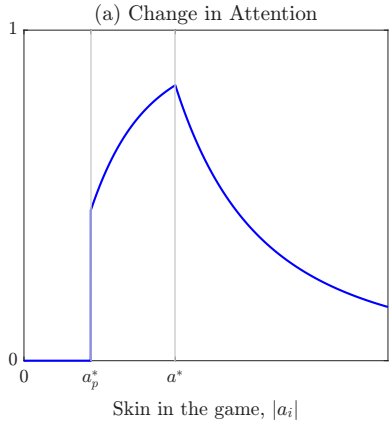
$$\lambda_p^*(i) = \arg \min_{\lambda_p(i) \leq \lambda} \left[V(\lambda_p(i); a_i, \sigma_r^2) + g(\lambda_p(i)) \right] \tag{8}$$

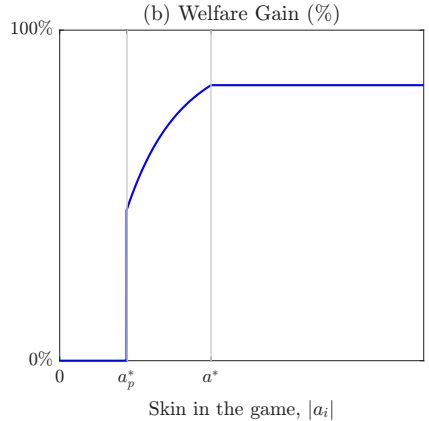
$$\mathbb{V}(\lambda; a_i, \sigma_r^2) = \begin{cases} \frac{\lambda}{2(1-\beta)ln2} & \text{if } |a_i| \geq a^* \\ \sigma_r^2 \frac{\beta + (1-\beta)a_i^2}{2(1-\beta)} & \text{otherwise.} \end{cases} \tag{9}$$

- Since $\lambda_p^* < \lambda$, optimal communication generates a new SG threshold a_p^*:

$$a_p^* \equiv \sqrt{\frac{\lambda_p^*}{\sigma_r^2 (\ln 2)(1-\beta)} - \frac{\beta}{1-\beta} + \frac{2g(\lambda_p^*)}{\sigma_r^2}} \tag{10}$$

Communication Effects on Households' Attention and Welfare





Policy Insights

Aggregate attention determines policy transmission:

$$\frac{\partial c_t}{\partial r_t} = -\beta K_p \tag{11}$$

where K_p = aggregate attention with communication

Implications:

1. Communication amplifies transmission
   - Targeted communication increases $K_p \Rightarrow$ stronger consumption response
2. Prioritize high-volatility periods
   - Higher $\sigma_r^2 \Rightarrow$ lower thresholds (a^* and a_p^*) $\Rightarrow$ larger K_p
   - More consumers endogenously attentive $\Rightarrow$ more households worth targeting at a given λ_p

Concluding Remarks

Monetary policy transmission requires consumer attention — but who pays attention?

Our contribution

First individual-level measure of monetary policy attention + validated RI framework

- Attention is incentive-driven
  - "Skin in the game" matters most (+28–32pp effect)
- Cyclical behavior of attention around FOMC meetings
  - External factors (macro news, volatility) only move low-SG consumers
  - High-SG consumers stay tuned in regardless

Policy takeaway

Target communication to consumers whose economic decisions depend on policy actions, in volatile times

$\rightarrow$ Maximum monetary policy transmission, in the face of costly communication

Comparative Statics on the Interior

Let $x = |a_i| > 0$, $D = \beta + (1-\beta)x^2$, and $\kappa = 1 - \lambda/(D\sigma_r^2 \ln 2)$.

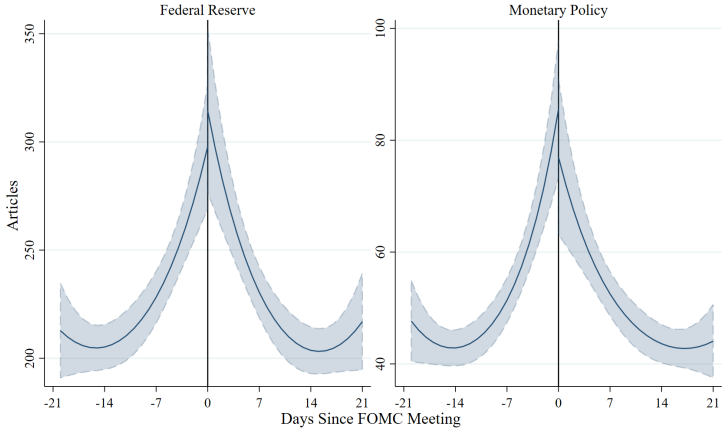
$$\frac{\partial \kappa}{\partial x} = \frac{2\lambda(1-\beta)x}{D^2\sigma_r^2 \ln 2} > 0, \quad \frac{\partial \kappa}{\partial \lambda} = -\frac{1}{D\sigma_r^2 \ln 2} < 0, \quad \frac{\partial \kappa}{\partial \sigma_r} = \frac{2\lambda}{D\sigma_r^3 \ln 2} > 0.$$

$$\frac{\partial^2 \kappa}{\partial \lambda \partial x} = \frac{2(1-\beta)x}{D^2\sigma_r^2 \ln 2} > 0, \qquad \frac{\partial^2 \kappa}{\partial \sigma_r \partial x} = -\frac{4\lambda(1-\beta)x}{D^2\sigma_r^3 \ln 2} < 0.$$

- If news lowers λ, its marginal effect is positive and attenuates with exposure.
- These derivatives apply where attention is positive. Threshold crossings generate an additional extensive margin.

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More News Coverage Around FOMC Meetings



$News_t = \alpha + \beta Days_t + \gamma \mathbf{1}_{post-FOMC} + \theta(Days_t \times \mathbf{1}_{post-FOMC}) +$ higher-order terms$_t + error_t$. Shaded areas show 95% confidence intervals; 1,716 days around 42 meetings (6/1/2020-7/9/2025). Back

Related Literature

- **Rational inattention:** Sims (2003), Maćkowiak and Wiederholt (2009, 2015), Paciello and Wiederholt (2013), Afrouzi et al. (2024).

  Direct evidence on monetary policy attention and its interaction with financial stakes.

- **Attention to inflation:** Cavallo et al. (2017), Weber et al. (2025), Pfäuti (2025).

  Focus on policy news, which is distinct from inflation attention.

- **Central bank communication:** Blinder et al. (2008, 2024), Haldane and McMahon (2018), Angeletos and Sastry (2025).

  A welfare-based targeting rule with endogenous attention and costly communication.

References follow the supplied draft and slides.

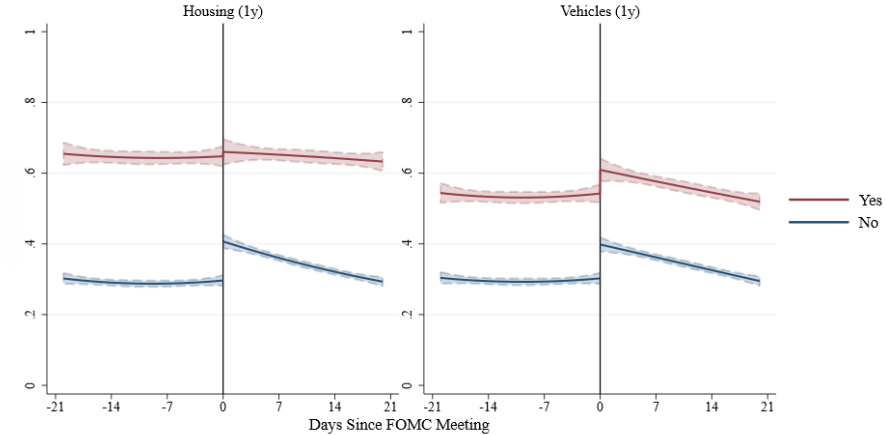
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Measures, Sample, and Interpretation

- **Survey:** Cleveland Fed daily online survey, administered by Qualtrics. Repeated cross-sections since August 2020.
- **Attention:** Yes/no report about news heard in the past week. It does not verify knowledge or comprehension.
- **Purchase plans:** Home or motor vehicle in the next month / year. Other exposures, such as existing debt and savings, are not exhaustively measured.
- **Information costs:** Education and numerical literacy at the individual level; Factiva policy and Fed news counts at the aggregate level.
- **Volatility:** Trailing 30-day SD of the one-year Treasury yield. This is an empirical proxy for model real-rate uncertainty.

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Attention Around FOMC Meetings: One-Year Purchase Plans



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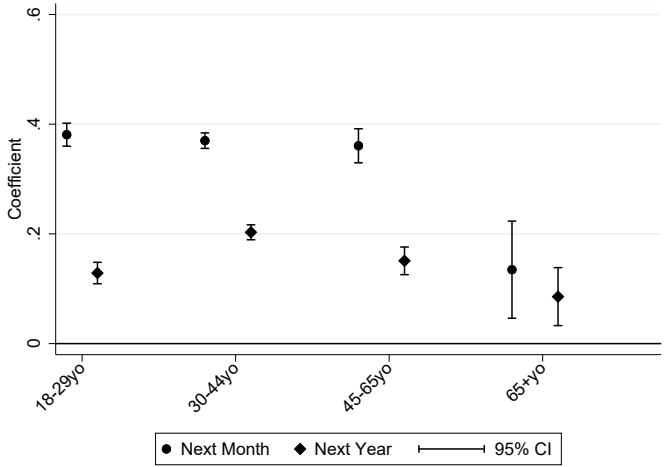
Attention and Purchase Plans: Full Original Table

	OLS		Logit (Odds Ratio)	
	(1)	(2)	(3)	(4)
Plan to purchase in next...				
... month	0.32***	0.28***	3.85***	3.92***
	(0.01)	(0.01)	(0.12)	(0.15)
... year	0.13***	0.10***	1.83***	1.65***
	(0.01)	(0.01)	(0.04)	(0.05)
Demographic controls	No	Yes	No	Yes
Time fixed effects	Yes	Yes	Yes	Yes
Observations	75262	75262	75262	75262
Adj./Pseudo R^2	0.12	0.20	0.09	0.16

Robust standard errors in parentheses. Logit columns report odds ratios.

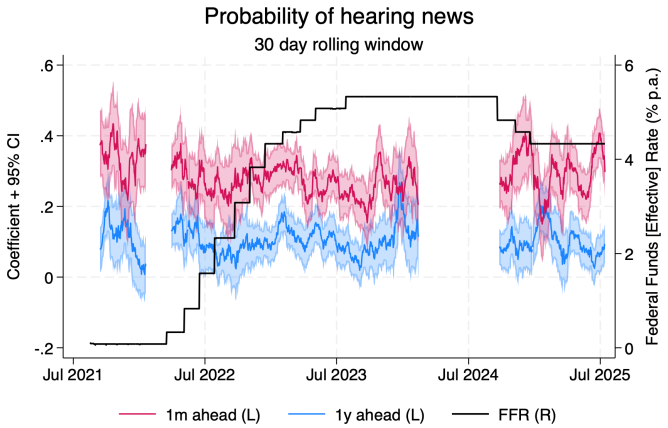
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Demographic Homogeneity: Attention would cause purchase mainly among young households



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The Purchase-Plan Association Is Positive Across Policy Regimes



Original rolling-regression figure. Stability supports the interpretation but does not establish exogeneity.

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News Coverage and Attention: Original Regression Table

	OLS		IV	
	(1)	(2)	(3)	(4)
"Monetary Policy" news	0.05***		0.14***	
	(0.00)		(0.01)	
"Federal Reserve" news		0.04***		0.11***
		(0.00)		(0.01)
Constant	0.05***	0.03***	0.00	-0.03***
	(0.01)	(0.01)	(0.01)	(0.01)
Demographic controls	Yes	Yes	Yes	Yes
Observations	163065	163065	163065	163065
Adjusted R^2	0.13	0.13	0.11	0.12
1st stage F-stat			3765.2	3939.9

See paper Table 3 for current first-stage reporting. Coefficients use the paper news normalization.

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Volatility and Attention: Original Regression Table

	OLS		Logit (Odds Ratio)	
	(1)	(2)	(3)	(4)
σ_{rt}	0.49***		11.17***	
	(0.02)		(1.11)	
Forward Guidance		-0.07***		0.71***
		(0.00)		(0.02)
Constant	0.03***	0.09***	0.10***	0.14***
	(0.01)	(0.01)	(0.00)	(0.01)
Demographic controls	Yes	Yes	Yes	Yes
Time fixed effects	No	No	No	No
Observations	163161	163161	163161	163161
Adj./Pseudo R^2	0.13	0.13	0.11	0.10

Forward guidance: August 26, 2020–March 16, 2022. Volatility is the trailing 30-day SD of the one-year yield.

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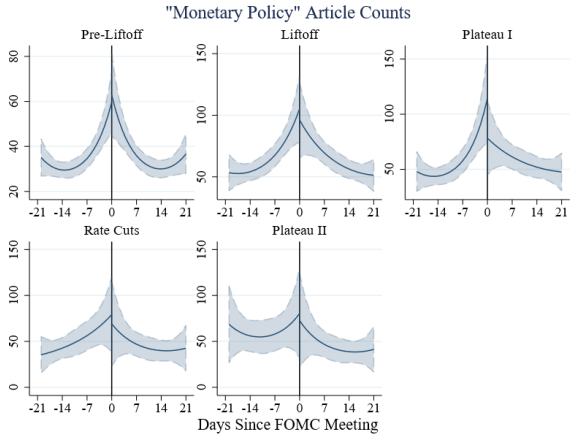
News IV: Interpretation and Exclusion Restriction

- **Instrument:** Days before / after scheduled FOMC meetings predicts news coverage.
- **Relevance:** News coverage is concentrated around meetings. Table 5 reports first-stage $F = 198.5$ for monetary policy news and 145.8 for Fed news.
- **Exclusion:** Meeting timing must affect attention through measured news supply after controls. Predetermined meeting dates alone do not establish this.
- **Interactions:** The endogenous news–purchase-plan interaction requires corresponding excluded variation, typically the timing instrument interacted with purchase plans.
- **Scope:** Results support the information-cost channel. Meetings can also affect salience, uncertainty, and the content of news.

The draft does not spell out the full interacted instrument set. Verify it against the estimation code before describing its exact implementation.

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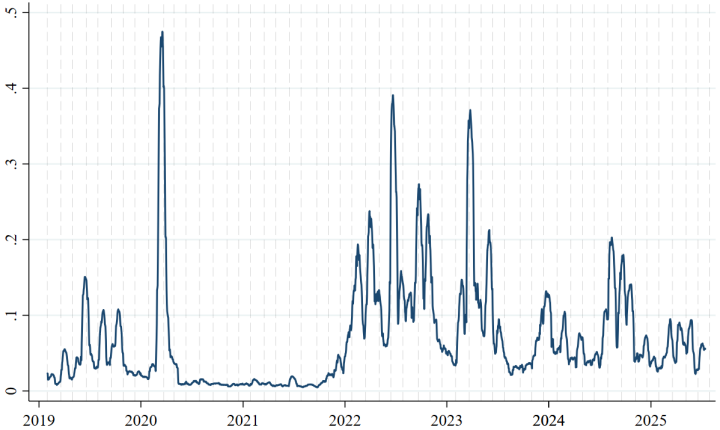
News Coverage Around FOMC Meetings Across Policy Regimes



Monetary policy news: pre-liftoff, liftoff, plateau I, rate cuts, plateau II.

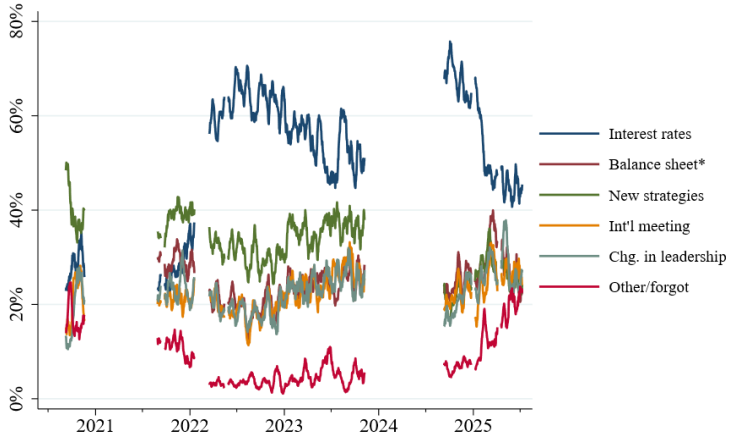
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Interest Rate Volatility: 1-year Treasury Yield



Two-week moving average of the standard deviation of the 1-year Treasury yield over the last 30 days. Dashed lines indicate FOMC meetings. Back

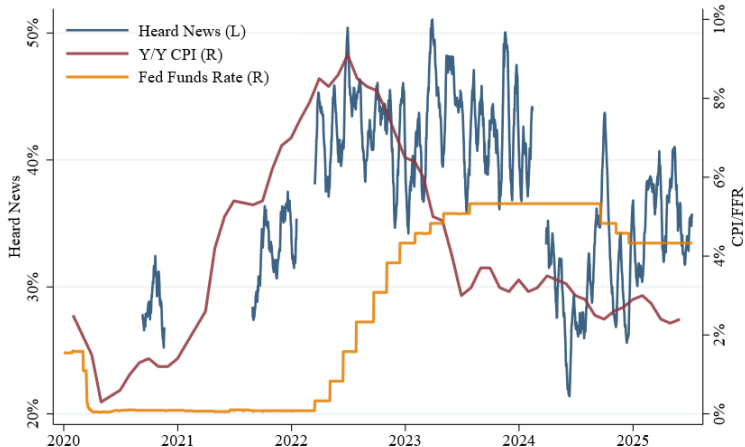
Attentive Consumers Mostly Report Interest Rate News



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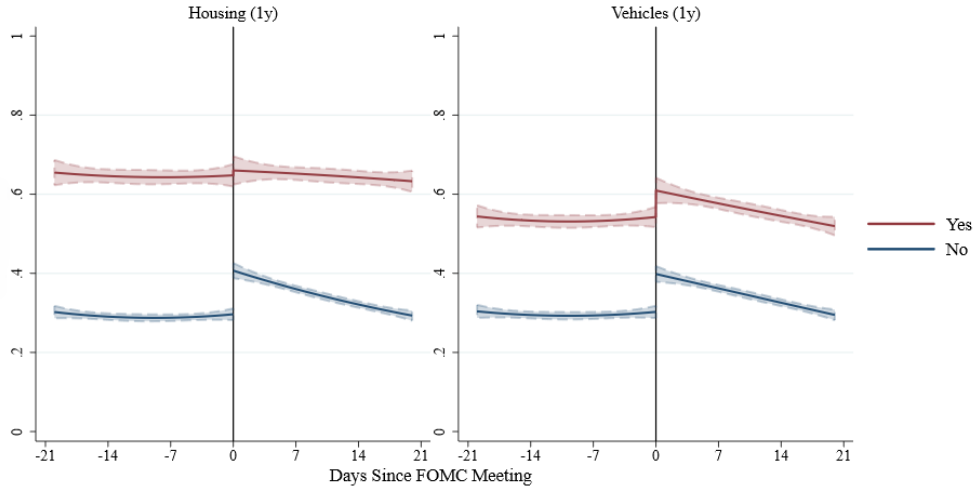
Attentive Consumers and Macroeconomic Variables

Figure: Attention to Monetary Policy, Inflation, and the Federal Funds Rate



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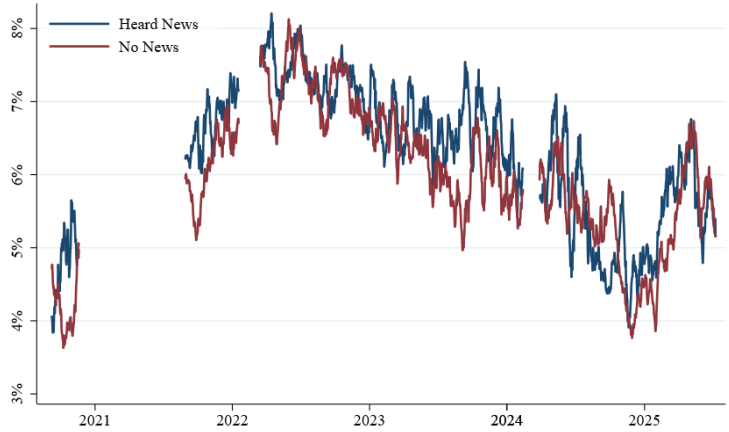
More on Attention Around FOMC Meetings



$$Attention_{it} = \alpha + \beta Days_t + \gamma \mathbf{1}_{post-FOMC} + \theta(Days_t \times \mathbf{1}_{post-FOMC}) + \text{higher-order terms}_t + error_t$$

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Inflation Expectations of Attentive and Inattentive Consumers



Similar inflation expectations provide a descriptive distinction from inflation beliefs, rather than a definitive test of attention to inflation.

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Implication 2 with Controls

	OLS		Logit (Odds Ratio)	
	(1)	(2)	(3)	(4)
Numerical literacy				
High	-0.01*		0.97	
	(0.00)		(0.02)	
Education				
Some college	0.03***	0.03***	1.16***	1.15***
	(0.00)	(0.00)	(0.03)	(0.03)
Bachelor's	0.14***	0.13***	1.86***	1.85***
	(0.00)	(0.00)	(0.04)	(0.04)
Master's or higher	0.26***	0.26***	3.13***	3.09***
	(0.01)	(0.01)	(0.09)	(0.08)
Constant	0.08***	0.08***	0.08***	0.08***
	(0.01)	(0.01)	(0.01)	(0.01)
Demographic controls	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes
Observations	158316	163161	158316	163161
Adj./Pseudo R^2	0.14	0.14	0.11	0.11

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