

# Monetary Policy in the News: Communication Pass-Through and Inflation Expectations

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*The views expressed in this presentation are those of the authors and do not necessarily represent those of the BIS.*

# Motivation

- Important role of communication for monetary policy transmission
  - Ample evidence on financial market impact
  - More limited analysis on central banks' ability to reach the broader public
- First step in the transmission is media coverage. Questions:
  - Is the FOMC sentiment correctly portrayed by the media?
  - Does the pass-through differ across time and communication tools?
  - Does the media coverage influence households' inflation expectations?

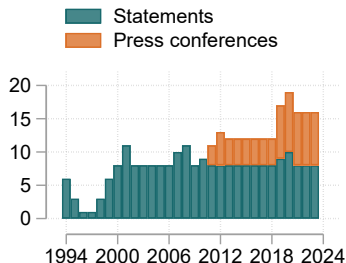
# Outline

- 1 Sentiment of FOMC communication and media coverage
- 2 Communication pass-through and impact on inflation expectations

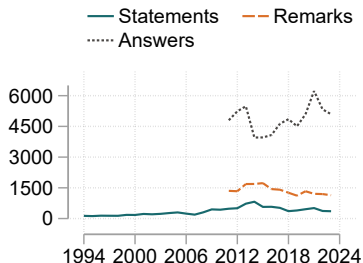
# FOMC communication

- 224 FOMC meetings between 1994 and 2023
- FOMC communication has become **more frequent** and **more lengthy**
  - **Press statements** since 1994
  - Press conference **introductory remarks** and **Q&A** since 2011
  - Average nr of words: **202** pre-GFC, **6808** post-2011

Frequency of FOMC communication



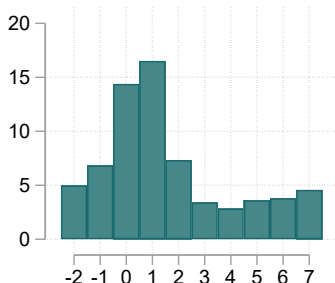
Length of FOMC communication



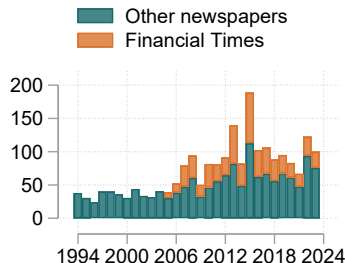
# Newspaper coverage of FOMC meetings

- 8 newspapers: FT, WSJ, Washington Post, Los Angeles Times, CNN, USA today, New York Post, Fox News
- Publication window:  $[-2, +7]$  days; 59% published in  $[-1, +1]$
- Approx 41K articles; 14K after accounting for similarity and MP focus
- Average media coverage of FOMC increased post-GFC

Coverage around FOMC



Coverage over time



# Sentiment extraction

- 5 categories: dovish, mostly dovish, neutral, mostly hawkish, hawkish
- Extract sentiment from individual FOMC communication pieces and articles using alternative LLMs
- Map sentiment to scores in  $[-1, +1]$  range

# Choice of LLM: GPT4 vs RoBERTa and BERT

- Extract sentiment from answers at press conferences using
  - GPT4
  - RoBERTa-large version in Shah et al. (2023) (henceforth SPC23)
  - BERT version in Gorodnichenko et al. (AER, 2023) (henceforth G23)
- Compare sentiment against human classification provided in G23

Model	Human's classification			
	All	Hawkish	Neutral	Dovish
GPT-4	0.60	0.16	0.91	0.38
RoBERTa-SPC23	0.61	0.34	0.75	0.54
BERT-GoPhTa23	0.42	0.54	0.26	0.60
Number of answers	692	117	336	239

- Good performance of GPT4 despite no training on FOMC communication

# Choice of LLM: GPT4 vs RoBERTa

- Confusion matrices: GPT4 less prone to make severe mistakes

Actual	Predictions					
	GPT-4			RoBERTa-SPC23		
	Hawkish	Neutral	Dovish	Hawkish	Neutral	Dovish
Hawkish	16.2	70.9	12.8	34.2	41.9	23.9
Neutral	1.5	91.4	7.1	6.8	74.7	18.5
Dovish	0.8	61.1	38.1	7.1	38.9	54.0

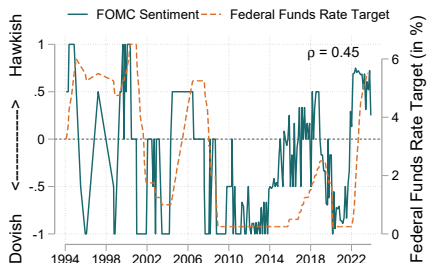
- GPT4 more suitable for long text (Gambacorta et al. 2024)



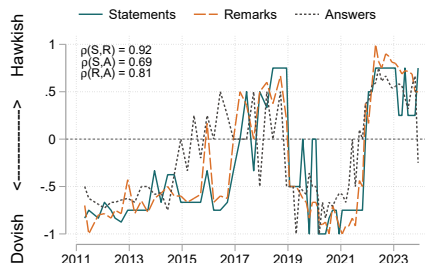
# FOMC sentiment

- Variation in FOMC sentiment over time well aligns with FFR dynamics
- Dovish (hawkish) sentiment generally anticipates FFR decline (increase)
- Strong co-movements of sentiments across written comm tools
- Weaker for answers during press conferences

Aggregate FOMC sentiment

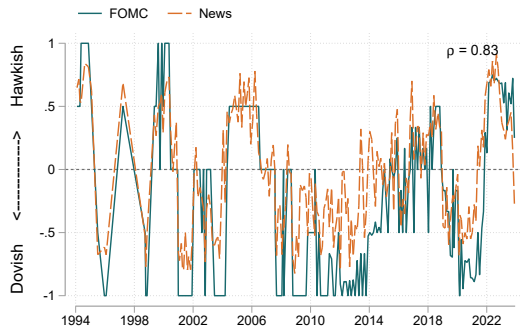


FOMC sentiment by communication tool



# FOMC sentiment and media coverage

- Media sentiment closely tracks FOMC sentiment but some exceptions



- We measure sentiment pass-through by estimating

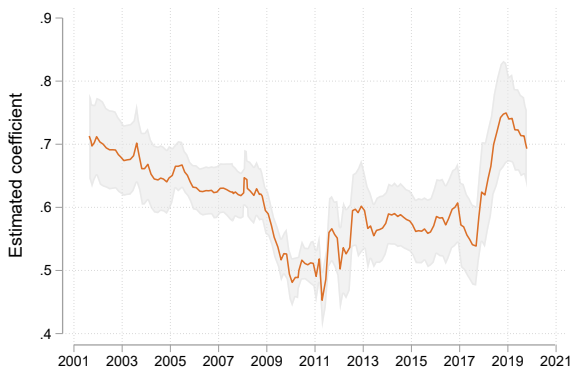
$$S_{i,j,t}^{Media} = \alpha_j + \beta S_t^{FOMC} + u_{i,j,t}$$

where  $i$  denotes the article,  $j$  the journal, and  $t$  the FOMC date

# Pass-through over time

- Communication pass-through declined at the onset of the ZLB period...
- ... but recovered with the introduction of press conferences in 2011

Time-variation in sentiment pass-through



# Press conferences as key communication tool

- Sentiment pass-through is stronger for meetings with press conferences
- Media coverage is primarily driven by the press conference answers
- Pass-through is weaker at the beginning of new Fed Chair's tenure

Pass-through differences across communication tools and chair tenure

	(1) Meetings between April 2011 and 2018	(2) Only meetings with press conference	(3) All meetings
FOMC sentiment	0.534*** (0.038)		0.651*** (0.032)
FOMC sentiment × PressConf=1	0.118** (0.036)		
Statements sentiment		0.187*** (0.025)	
Remarks sentiment		0.140*** (0.024)	
Answers sentiment		0.406*** (0.037)	
FOMC sentiment × NewChair=1			-0.255*** (0.033)
No. of meetings	62	73	224
No. of articles	3982	5179	10472
R2	0.22	0.35	0.39

Notes: Standard errors clustered at newspaper-level. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

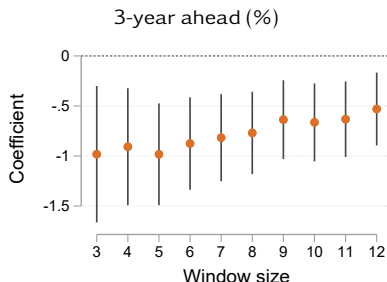
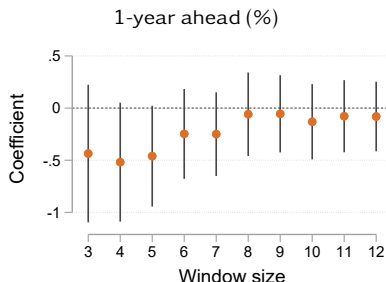
# Media coverage and inflation expectations

- Does media influence households' inflation expectations?
- Using NY Fed SCE, we estimate

$$\pi_{it}^e = \alpha_i + \gamma_m + \left( \beta_1 + \beta_2 \Delta S_m^{News} \right) Post_{im} + u_{it}$$

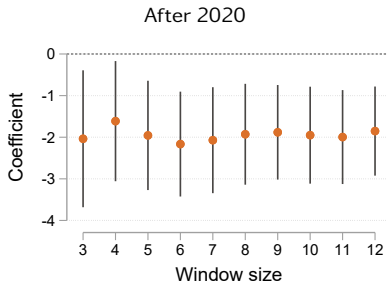
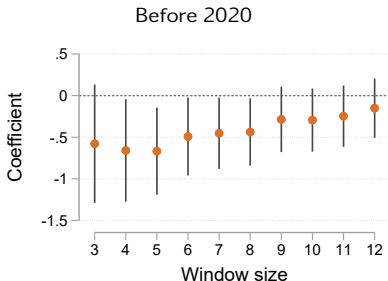
for different time windows surrounding FOMC meetings

- When media sentiment becomes more hawkish, households reduce medium-term inflation expectations



# Expectations reacted more during inflation surge

- Media had stronger impact on inflation expectations during infl. surge
  - Likely because of greater attention to monetary policy news



- Media influences expectations even controlling for FOMC sentiment
  - FOMC sentiment has no direct impact on expectations (De Fiore et al. 2024)
  - Media is a key transmission channel for CB communication

# Main takeaways

- FOMC sentiment is generally correctly portrayed by the media
- Variation arises over
  - **time**: pass-through deteriorated at ZLB but recovered since then
  - **tools**: press conferences are important in guiding media coverage but convey at times different sentiment than statements
  - **chair tenure**: pass-through is weaker at the start of tenure
- Media coverage influences households' inflation expectations
  - Stronger impact on medium-term inflation expectations...
  - ... during periods of high inflation (when more important)
  - FOMC sentiment does not exercise direct impact on expectations

# Reserve slide



# GPT4 prompt and keywords

- GPT4 prompt:

*You're a research assistant working at the Fed. You have a Master degree in Economics. Your task is to understand and classify the monetary policy stance described in the text given to you into one of the following five categories: dovish, mostly dovish, neutral, mostly hawkish, hawkish. Dovish means that the central bank is more lenient towards higher inflation to support economic activity and employment, and hence is more likely to lower interest rates or keep them low for a period of time. Hawkish means the opposite. Neutral is neither one nor the other.*

- Keywords for articles' search:

*{FOMC or Federal Open Market Committee or FED or Federal Reserve}*  
**and** *{interest rate(s) or monetary or federal funds rate or fed funds rate}*