When does Monetary Policy Matter?
Policy Stance vs. Term Premium News

Sylvérie Herbert, Paul Hubert & Mathias Lé
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Timothée DANGLETERRE and Giovanni MANCHE

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Introduction

▶ High-frequency identification: study of the transmission of monetary policy to financial markets

▶ Heterogeneity among monetary events: announcements convey different messages ...

▶ ... Consequently, only considering aggregate monetary surprises might lead to puzzling results - "long-term rates puzzle"

▶ **Research question: To what extent does the heterogeneity of central banks communication reshape the transmission of monetary policy to financial markets ?**

Contents

Methodology
Monetary Policy surprises
Higher-order moments
Event-study design

Data

Empirical Results

Conclusion

Target and Path monetary policy surprises

- ▶ Introduced by Gürkaynak, Sack, and Swanson (2005) using PCA on HF changes in federal funds and Eurodollar futures + specific rotation
- ▶ **Target surprise**: unexpected change in the current policy rate
- ▶ **Path surprise**: revision to expected future policy rates, orthogonal to Target
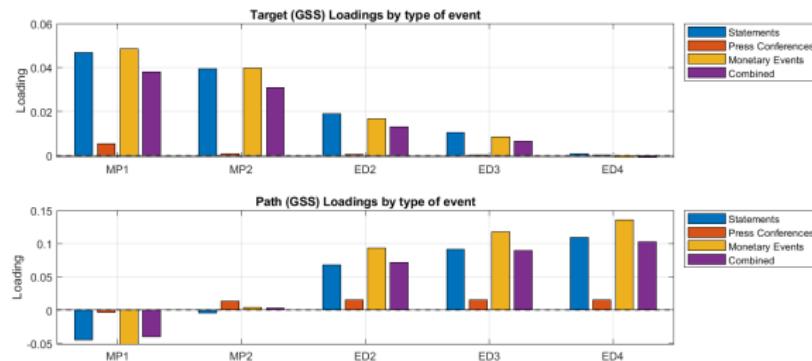
Figure: Rotated factor loadings across FOMC events

Orthogonalized monetary policy surprises

▶ The standard monetary policy surprise (MPS) combines Target and Path components

▶ MPS display systematic predictability due to central bank information effects (interpreted as "Fed information effect" or "Fed response to news effect")

▶ Following Bauer & Swanson (2023), we construct:

$$MPS_t^{\text{orth}} = MPS_t - \hat{\alpha} - \hat{\beta}' X_{t^-}$$

$$X_{t^-} = \begin{pmatrix} \text{Employment growth} \\ \text{S\&P 500 (3-month log return)} \\ \text{Yield curve slope (3-month change)} \\ \text{BCOM (3-month log return)} \\ \text{Treasury yield skewness} \end{pmatrix}$$

All controls are observed immediately prior to the FOMC announcement.

Monetary policy surprise time series
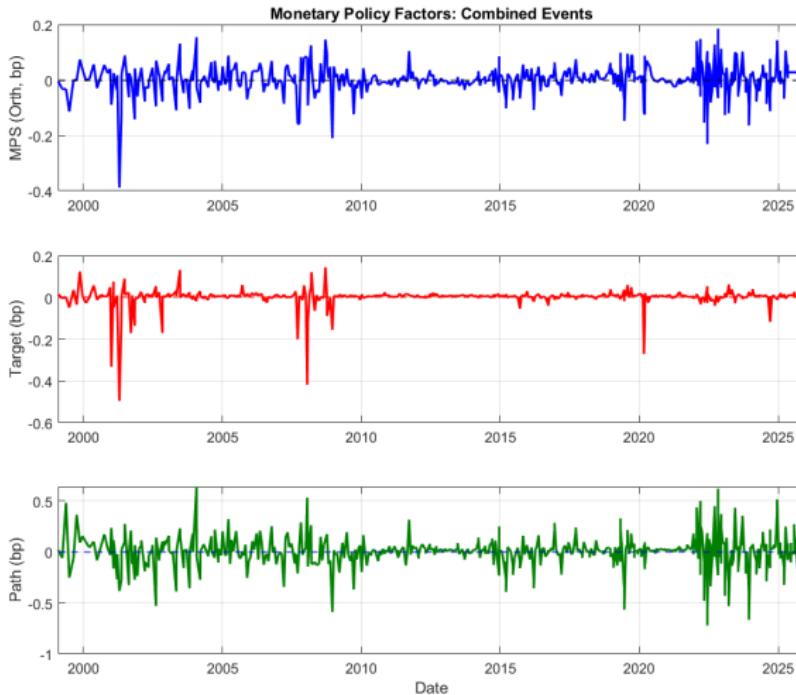
Figure: Time series of orthogonalized MPS, Target and Path (extended dataset).

Forward-looking component of Target

▶ Path does not convey information about the current stance while Target embeds information about the future $\Rightarrow$ unclear distinction.

$$Target_t = c + f^T$$
$$Path_t = f^P$$
$$f^T \perp f^P \Rightarrow \text{must convey different information !}$$
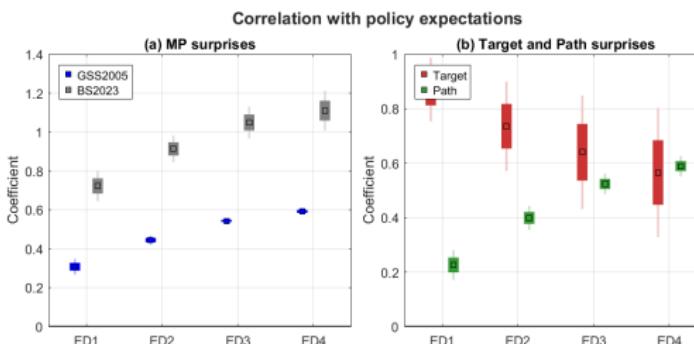

Figure: Regression coefficients of intraday changes in Eurodollar futures around FOMC announcements on MPS, Target, and Path.

Higher-order moments

▶ Key intuition: f^T reflects information about the expected future policy stance (**first-order moment**), while f^P reflects information about uncertainty surrounding future policy (**higher-order moment**).

$$1_t^{HOM} = \begin{cases} 1 & \text{if } |Path_t| \geq |Target_t| \text{ and } \text{sign}(Target_t) \neq \text{sign}(Path_t) \\ 0 & \text{otherwise} \end{cases}$$

(1)

$$1_t^{Att} = \begin{cases} 1 & \text{if } |Path_t| \leq |Target_t| \text{ and } \text{sign}(Target_t) \neq \text{sign}(Path_t) \\ 0 & \text{otherwise} \end{cases}$$

(2)

Event-study identification and heterogeneous effects

▶ Causal effects of MP on financial assets can be identified using event-study regressions around FOMC events.

$$\Delta Y_t = \alpha + \beta \, MPS_t + \varepsilon_t, \qquad \Delta Y_t = \alpha + \beta_T \, Target_t + \beta_P Path_t + \varepsilon_t$$

▶ To assess heterogeneity, we interact monetary surprises with statement-type indicators:

$$\Delta Y_t = \alpha + \beta_1 MPS_t + \beta_2 MPS_t \cdot 1_t^{Att} + \beta_3 MPS_t \cdot 1_t^{HOM} + \beta_4 1_t^{Att} + \beta_5 1_t^{HOM} + \varepsilon_t$$

▶ β_1: effect of monetary policy for same-sign statements

▶ β_3: differential effect of higher-order moment statements

▶ $\beta_1 + \beta_3$: causal (marginal) effect of HOM monetary policy shocks

Contents

Data sources and construction

▶ Monetary events database: US-MPD
  ▶ High-frequency responses of asset prices
  ▶ Construction of monetary surprises measures

▶ Economic and financial news series

▶ Euro area monetary events database

▶ Financial indicators: risk measures and term structure components

Contents

Aggregate effects of monetary surprises

Table: Effects of monetary policy surprises on asset prices

	1999–2025			
	SP500	2y	5y	10y
MPS_t	-5.037***	0.591***	0.472***	0.260***
	[1.28]	[0.05]	[0.06]	[0.05]
R^2	0.043	0.218	0.116	0.045
$Target_t$	-1.791	0.228***	0.095	0.014
	[1.83]	[0.09]	[0.10]	[0.08]
$Path_t$	-1.638***	0.086***	0.102***	0.081***
	[0.39]	[0.02]	[0.02]	[0.02]
R^2	0.04	0.30	0.20	0.10
Observations	751	751	751	751

▶ $\Delta MPS_t^+ = \begin{cases} - \text{ on } S\&P500 \\ + \text{ on bond yields} \end{cases}$

▶ Path surprises load positively on bond yields

Heterogeneity of monetary transmission
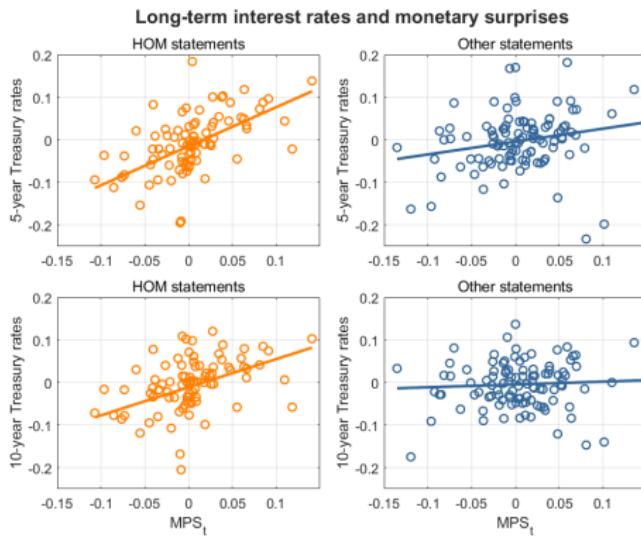
Table: Monetary policy effects with higher-order moment signals

	1999–2025			
	SP500	2y	5y	10y
MPS_t	-5.740***	0.495***	0.357***	0.158***
	[1.54]	[0.06]	[0.06]	[0.06]
$MPS_t \times 1^{Att}$	-4.500	-0.471	-0.711	-0.419
	[11.4]	[0.32]	[0.46]	[0.39]
$MPS_t \times 1^{HOM}$	2.477	0.315***	0.381***	0.329***
	[2.69]	[0.11]	[0.12]	[0.10]
$MPS_t \mid 1^{Att} = 1$	-10.240	0.023	-0.355	-0.261
	[11.34]	[0.31]	[0.46]	[0.39]
$MPS_t \mid 1^{HOM} = 1$	-3.263	0.809***	0.738***	0.486***
	[2.21]	[0.09]	[0.10]	[0.08]
R^2	0.05	0.24	0.15	0.07
Observations	751	751	751	751

▶ Same-sign statements: overall strong responses over all assets
▶ Attenuation statements: no significant effect for the transmission of monetary policy to financial assets
▶ Higher-Order Moment statements: significant effect for the transmission of monetary policy to bond yields

Bond yield responses to monetary shock

Figure: Long-term interest rates and monetary surprises

- ▶ Stepper responses to HOM statements
- ▶ Positive response of long-term yields to HOM statements...
- ▶ ... While long-term yields don't react to same-sign statements.

Transmission channels of monetary surprises

Table: Decomposition of nominal interest rates: real rates and inflation compensation; 1999-2025

	Nominal interest rates			Real interest rates			Inflation compensation		
	2y	5y	10y	2y	5y	10y	2y	5y	10y
MPS_t	0.50***	0.36***	0.16***	0.22	0.42***	0.25***	0.28	-0.07	-0.10***
	[0.06]	[0.06]	[0.06]	[0.27]	[0.09]	[0.07]	[0.26]	[0.06]	[0.03]
$MPS_t \times 1^{HOM}$	0.31***	0.38***	0.33***	0.73**	0.54***	0.43***	-0.26	0.02	0.03*
	[0.11]	[0.12]	[0.10]	[0.30]	[0.14]	[0.11]	[0.28]	[0.08]	[0.05]
$MPS_t \mid 1^{HOM} = 1$	0.81***	0.74***	0.49***	0.94**	0.96***	0.67***	0.02	-0.06	-0.07
	[0.09]	[0.10]	[0.08]	[0.12]	[0.10]	[0.08]	[0.10]	[0.05]	[0.04]
R^2	0.24	0.15	0.07	0.05	0.18	0.13	0.14	0.04	0.07
Observations	751	751	751	751	751	751	751	751	751

▶ Effects of HOM statements on nominal yields operates through the real rate component.

▶ Responses of inflation compensation not significant.

Transmission channels of monetary surprises

Table: Decomposition of Nominal Rates (EH and TP) - 1999-2025, all type of events

	Nominal interest rates			Expectation hypothesis			Term premium		
	2y	5y	10y	2y	5y	10y	2y	5y	10y
MPS_t	0.50***	0.36***	0.17***	0.52***	0.48***	0.38***	-0.02	-0.11***	-0.21***
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.05)	(0.03)	(0.04)	(0.06)
$MPS_t \times 1^{HOM}$	0.43***	0.50***	0.41***	0.04	0.20*	0.21**	0.39***	0.30***	0.20**
	(0.11)	(0.12)	(0.10)	(0.13)	(0.12)	(0.10)	(0.07)	(0.06)	(0.09)
$MPS_t \mid 1^{HOM} = 1$	0.924***	0.863***	0.583***	0.56***	0.685***	0.585***	0.363***	0.179***	-0.001
	(0.09)	(0.10)	(0.08)	(0.11)	(0.10)	(0.08)	(0.07)	(0.05)	(0.07)
R^2	0.27	0.17	0.09	0.21	0.22	0.22	0.10	0.04	0.03
Observations	751	751	751	751	751	751	751	751	751

▶ same-sign statements: positive response on nominal yields from upward revision of the expectation hypothesis

▶ HOM statements: main driver of yield responses is the term premium

Robustness checks - Different subsamples

Table: Monetary Policy Effects across Subsamples

	S&P 500	2y	5y	10y
Panel A: Pre-GFC (1999–2008). Obs: 240. HOM = 96 (40%).				
MPS_t	-6.836***	0.544***	0.372***	0.199***
	(1.791)	(0.073)	(0.074)	(0.069)
$MPS_t \times 1^{HOM}$	3.096	0.357*	0.491**	0.456***
	(3.249)	(0.199)	(0.196)	(0.158)
$MPS_t \mid 1^{HOM} = 1$	-3.740	0.901***	0.862***	0.655***
	(2.710)	(0.185)	(0.182)	(0.142)
Panel B: Post-GFC (2009–2022). Obs: 391. HOM: 141 (36%).				
MPS_t	0.489	0.519***	0.350***	-0.007
	(3.326)	(0.111)	(0.121)	(0.121)
$MPS_t \times 1^{HOM}$	2.032	0.259*	0.503**	0.568***
	(4.075)	(0.155)	(0.211)	(0.206)
$MPS_t \mid 1^{HOM} = 1$	2.520	0.778***	0.854***	0.561***
	(2.354)	(0.107)	(0.173)	(0.166)
Panel C: Recent tightening (2023–2025). Obs: 120. HOM: 56 (47%).				
MPS_t	-6.706**	0.245	0.279	0.145
	(2.645)	(0.192)	(0.180)	(0.128)
$MPS_t \times 1^{HOM}$	-0.042	0.559**	0.332	0.188
	(4.909)	(0.227)	(0.204)	(0.150)
$MPS_t \mid 1^{HOM} = 1$	-6.748	0.803***	0.611***	0.333***
	(4.135)	(0.122)	(0.097)	(0.079)

Robustness check - Euro area evidence

▶ HOM announcements in the euro area have similar effects on long-term yields.

▶ Euro-area regressions display substantially higher R^2 than their US counterparts

▶ **Key difference with the FOMC**: attenuation events play a significant role in the transmission of MPS. May reflect differences in communication strategies across central banks.

	STOXX 50	2y	5y	10y
MPS_t	-0.059***	0.851***	0.600***	0.212***
	(0.022)	(0.055)	(0.071)	(0.080)
$MPS_t \times 1^{Att}$	0.008	-0.438***	-0.564***	-0.392**
	(0.025)	(0.159)	(0.189)	(0.179)
$MPS_t \times 1^{HOM}$	0.014	0.337***	0.635***	0.650***
	(0.026)	(0.125)	(0.135)	(0.133)
$MPS_t \mid 1^{HOM} = 1$	-0.045***	1.188***	1.235***	0.863***
	(0.014)	(0.112)	(0.115)	(0.106)
R^2	0.148	0.751	0.578	0.309
Observations	315	315	315	315

Table: Euro Area Evidence: Monetary Policy Surprises with HOM Signals

Contents

Conclusion

▶ Monetary policy transmission is heterogeneous and depends on the information conveyed during monetary events

▶ Effects of monetary policy surprises on the long end of the yield curve are primarily driven by HOM statements.

  ▶ Although HOM events represent a minority of announcements, they account for the bulk of the variation in long-term yields.

  ▶ Accounting for the informational content of policy announcements helps resolve the "long-term yield puzzle".

▶ Transmission channels of MP announcements on bond yields:

  ▶ Main transmission channel for HOM statements: term premium

  ▶ Main transmission channel for same-sign statements: revision of short-term expectations

Thank you for listening !

Main references

Herbert, Sylvérie and Hubert, Paul and Lé, Mathias. When does monetary policy matter? Policy stance vs. term premium news. 2025

Bauer, Michael D. and Swanson, Eric T.. A Reassessment of Monetary Policy Surprises and High-Frequency Identification. 2023

Gürkaynak, Refet S. and Sack, Brian and Swanson, Eric T.. Do actions speak louder than words? The response of asset prices to monetary policy actions and statements. 2005

Gürkaynak, Refet S. and Sack, Brian and Wright, Jonathan H.. The U.S. Treasury yield curve: 1961 to the present. 2007

Adrian, Tobias and Crump, Richard K and Moench, Emmanuel. Pricing the term structure with linear regressions. 2013

Acosta, Miguel and Ajello, Andrea and Bauer, Michael and Loria, Francesca and Miranda-Agrippino, Silvia. Financial market effects of FOMC communication: evidence from a new event-study database. 2025

Abrahams, Michael and Adrian, Tobias and Crump, Richard K. and Moench, Emanuel and Yu, Rui. Decomposing real and nominal yield curves. 2016