

The Pre-FOMC Drift and the Secular Decline in Long-Term Interest Rates

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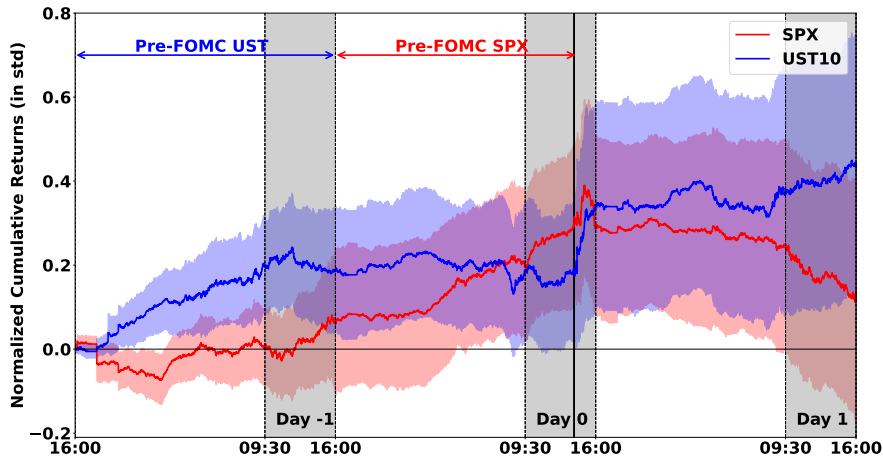
Joint work with Qing Peng from SAIF

Motivations and Research Questions

- This paper examines the pricing of Treasury bonds before FOMC announcements, different from existing literature on post-FOMC reactions (e.g., [Kuttner 2001](#), [Gurkaynak et al. 2005](#), [Nakamura and Steinsson 2018](#)).
- Motivated by two studies at the intersection of the Fed and the financial markets:
 - ▶ [Lucca and Moench \(2015\)](#): Large and significant pre-FOMC announcement drift in U.S. equity, but not in U.S. Treasury bonds.
 - ▶ [Hillenbrand \(2025\)](#): The three-day window (day -1, 0, and 1) around the FOMC announcements captures the entire secular decline in long-term interest rates.
- Our research questions:
 - ▶ Is there a pre-FOMC drift in U.S. Treasury bonds?
 - ▶ Its contribution to the secular decline in interest rates.
 - ▶ Its economic mechanism. (Unlike the equity market, the economic drivers of the Treasury market can be more precisely examined.)

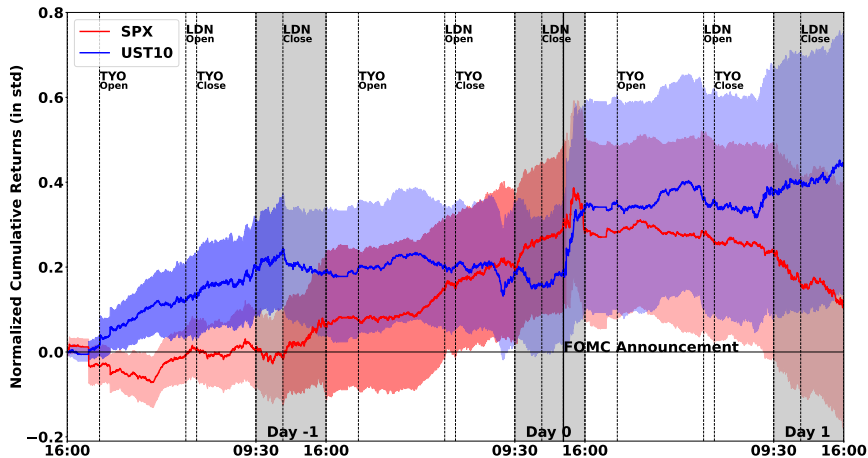
Main Contributions: The Pre-FOMC Drift in 10-Year Treasury Bond

- Contrary to [Lucca and Moench \(2015\)](#), we find significant pre-FOMC drift in UST, occurring one day before the pre-FOMC drift in SPX.



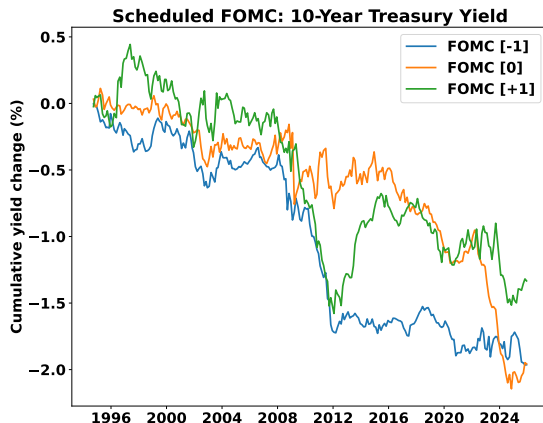
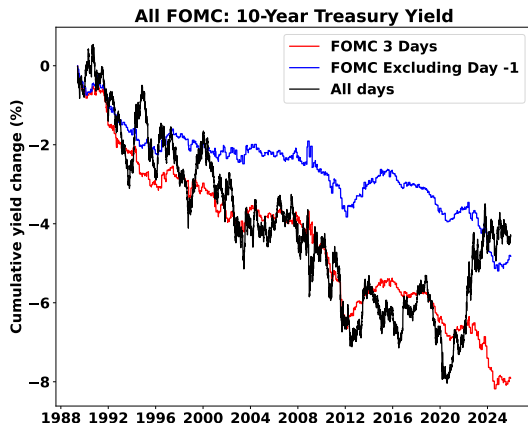
Main Contributions: The Pre-FOMC Drift in 10-Year Treasury Bond

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Main Contributions: The Secular Decline in 10-Year Treasury Yield

- Contributes importantly to the secular decline in interest rates documented by [Hillenbrand \(2025\)](#).



Related Literature

- The pre-FOMC drift in equity and currency markets
 - ▶ Lucca and Moench (2015), Mueller, Tahbaz-Salehi, and Vedolin (2017).
 - ▶ Cieslak, Morse and Vissing-Jorgensen (2019), Hu, Pan, Wang and Zhu (2022), Ai, Bansal, and Han (2022).
- Time-varying bond risk premium and term premium
 - ▶ Fama and Bliss (1987), Campbell and Shiller (1991), Cochrane and Piazzesi (2005).
 - ▶ Kim and Wright (2005), Adrian, Crump and Moench (2013).
- Secular decline in long-term interest rates
 - ▶ Hillenbrand (2025), Bauer and Rudebusch (2020), Drechsler, Savov and Schnabl (2020).
- Monetary policy shocks
 - ▶ Kuttner (2001), Gürkaynak, Sack and Swanson (2005), Nakamura and Steinsson (2018), and Bauer and Swanson (2022).

I. The pre-FOMC drift in UST

- (a) Significant only for long-term bonds; not about the short rate or the announcement.
- (b) Driven by the term premium (TP) component, not expected short rates (EH).
- (c) Heightened unemployment uncertainty as the key driver of pre-FOMC UST.

II. The risk-premium channel as the common mechanism for pre-FOMC stock and bond

- (a) Mechanism: accumulation of heightened uncertainty and its subsequent resolution.
- (b) The pre-FOMC UST is predictive of the pre-FOMC SPX.

Part I(a): The Pre-FOMC UST – Significant only for Long-Term Bonds

	Δ Zero Coupon Yield (bps)			
	UST10	UST5	UST2	FF4
FOMC[-1]	-0.79 [-2.40]	-0.63 [-1.91]	-0.24 [-0.77]	0.33 [1.17]
FOMC[0]	-0.78 [-1.82]	-0.96 [-2.04]	-0.75 [-1.79]	-0.28 [-1.01]
FOMC[1]	-0.53 [-1.11]	-0.33 [-0.75]	-0.36 [-0.96]	-0.43 [-1.68]
All days	-0.04 [-0.59]	-0.04 [-0.59]	-0.03 [-0.49]	-0.02 [-0.50]

FF4 is the 3-month ahead Fed fund futures rate.

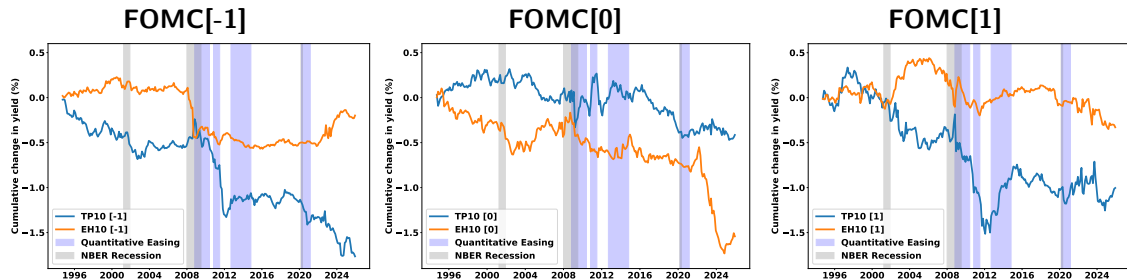
Part I(b): The Pre-FOMC UST – Driven by Term Premium

- The ACM decomposition ([Adrian, Crump, and Moench 2013](#))

UST Yield = TP (term premium) + EH (expectation of short-term rates)

	10 Year			2 Year		
	Δ UST	Δ TP	Δ EH	Δ UST	Δ TP	Δ EH
FOMC[-1]	-0.79 [-2.40]	-0.71 [-2.36]	-0.08 [-0.36]	-0.25 [-0.80]	-0.33 [-1.74]	0.08 [0.27]
FOMC[0]	-0.78 [-1.82]	-0.17 [-0.47]	-0.62 [-1.91]	-0.75 [-1.79]	-0.01 [-0.05]	-0.74 [-1.94]
FOMC[1]	-0.53 [-1.11]	-0.4 [-0.85]	-0.13 [-0.46]	-0.36 [-0.96]	0.12 [0.47]	-0.48 [-1.38]
All days	-0.04 [-0.59]	-0.02 [-0.34]	-0.02 [-0.47]	-0.03 [-0.49]	-0.01 [-0.27]	-0.02 [-0.39]

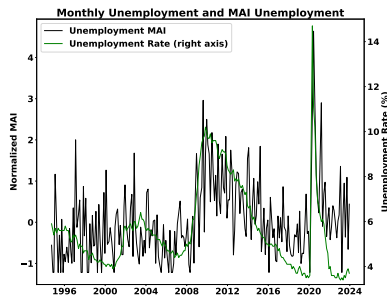
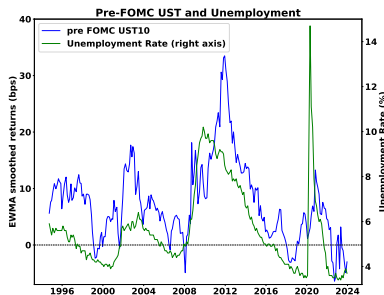
Part I(b): Decomposing Hillenbrand (2025) into TP and EH



- The dominance of EH on FOMC[0] supports the “long-run Fed guidance” channel.
- The dominance of TP on FOMC[-1], however, indicates a risk-premium channel.
- Also intriguing is the similarity between FOMC[-1] and FOMC[+1].

Part I(c): Heightened Unemployment Uncertainty

- Unemployment is an important driver of the monetary policy – the high unemployment rate after 2008 was a major contributor to the three rounds of QEs.
- We find significantly larger pre-FOMC drift in UST amidst higher unemployment rates.
- To find high-frequency evidence, use the Macro Attention Indices (MAI) on unemployment ([Fisher, Martineau, and Sheng 2022](#)) to proxy for the heightened macro uncertainty.



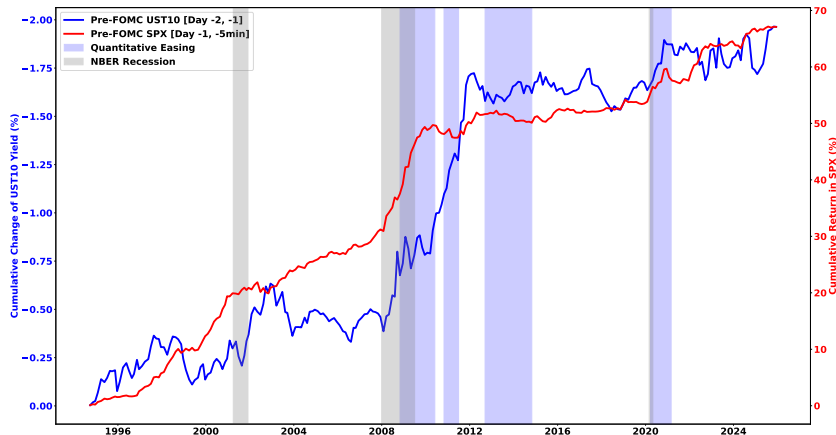
Part I(c): Heightened Unemployment MAI as the Key Driver

	High UMAI			Low UMAI		
	UST10	TP10	EH10	UST10	TP10	EH10
FOMC[-1]	-1.72 [-3.44]	-1.74 [-3.45]	0.02 [0.07]	0.19 [0.44]	0.4 [1.26]	-0.22 [-0.58]
FOMC[0]	-0.33 [-0.54]	0.03 [0.05]	-0.36 [-0.78]	-1.21 [-1.87]	-0.31 [-0.59]	-0.90 [-1.80]
FOMC[1]	-1.13 [-1.55]	-0.92 [-1.12]	-0.22 [-0.53]	0.16 [0.24]	0.06 [0.11]	0.09 [0.21]

- The pre-FOMC UST is significant only under high Unemployment MAI (observed on FOMC[-3]).
- The Unemployment MAI (UMAI), both the level and change, is predictive of the pre-FOMC UST.
- Decomposing the 10-year yield into TP and EH, the predictability is through term premium.
- VIX, the strongest predictor for pre-FOMC SPX, has no predictability for pre-FOMC UST.

Part II(a): A Common Mechanism for Pre-FOMC Stock and Bond

- A striking long-run similarity between the pre-FOMC drift in stock and bond, although the specific drivers differ – pre-FOMC SPX driven by equity market uncertainty (e.g., VIX), while pre-FOMC UST by macro uncertainty (e.g., UMAI) and the post-2008 QE.



Part II(a): The Risk Premium Channel – A Two-Risk Model

- Under [Hu, Pan, Wang, and Zhu \(2022\)](#), the market impact of the announcement

$$D = \bar{D} + \sigma \epsilon,$$

where ϵ is the news shock, to be released at the FOMC announcement (date 0).

- Central to the model is the presence of the impact uncertainty σ
 - Its variability $V(\sigma^2) = \lambda^2$ can be dialed up and down via λ .
 - The same ϵ can have substantially different market impact depending on σ .
 - Accumulation (date -2): heightened uncertainty in anticipation of FOMC ($\lambda \uparrow$).
 - Pre-announcement (date -1): Resolution of σ takes place, before the announcement.
- The equilibrium price under a CARA investor with risk aversion α ,

$$P_{-2} = \bar{D} - \alpha E(\sigma^2) - \frac{\frac{1}{2}\alpha^3\lambda^2}{1 - \frac{1}{2}\alpha^2\lambda} \quad \text{and} \quad P_{-1} = \bar{D} - \alpha\sigma^2.$$

- The pre-announcement drift results from the accumulation of heightened uncertainty ($P_{-2} \downarrow$) and its subsequent resolution prior to the announcement ($P_{-1} \uparrow$).

Part II(a): The Risk Premium Channel – Testable Implications

	Accumulation (Date -2)	Pre-Announcement (Date -1)	Announcement (Date 0)
		σ Resolves	ϵ Resolves
Impact Uncertainty			
Bond	MOVE $^{\perp}$ \uparrow	MOVE $^{\perp}$ \downarrow	
Equity	VIX \uparrow	VIX \downarrow	
Pricing			
Bond	UST10 \downarrow	UST10 \uparrow	
Equity	SPX \downarrow	SPX \uparrow	

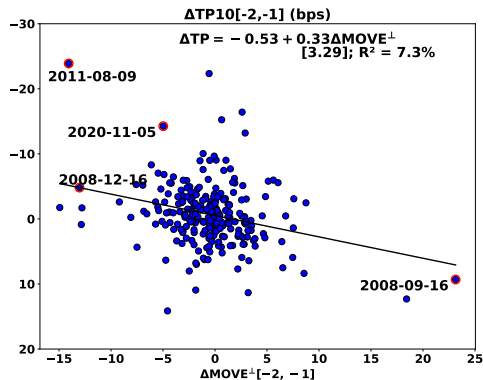
Part II(a): Heightened Uncertainty and its Subsequent Resolution

	Impact Uncertainty			Pricing	
	ΔVIX	$\Delta MOVE$	$\Delta MOVE^\perp$	$\Delta UST10$	$\Delta TP10$
FOMC[-5]	-0.05 [-0.43]	0.19 [0.68]	0.28 [0.88]	0.35 [0.98]	0.23 [0.75]
FOMC[-4]	-0.18** [-2.42]	0.77** [2.57]	1.11*** [3.51]	0.28 [0.75]	0.04 [0.13]
FOMC[-3]	0.05 [0.52]	0 [0.01]	-0.1 [-0.38]	0.05 [0.14]	-0.14 [-0.46]
FOMC[-2]	0.25*** [2.73]	0.35 [1.34]	-0.13 [-0.47]	0.47 [1.22]	0.22 [0.70]
FOMC[-1]	0.06 [0.50]	-0.49* [-1.77]	-0.61** [-2.34]	-0.80** [-2.35]	-0.73** [-2.36]
FOMC[0]	-0.48*** [-3.83]	-2.56*** [-8.50]	-1.62*** [-4.86]	-0.79* [-1.80]	-0.21 [-0.57]
const	0.01 [0.42]	0.06 [1.21]	0.05 [0.86]	0.01 [0.11]	0.04 [0.52]
N	7802	7802	7802	7802	7802
R-sqrd (%)	0.39	1.35	0.69	0.19	0.13

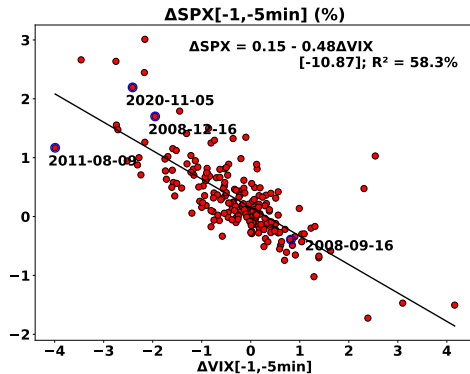
MOVE: bond option implied volatility; $MOVE^\perp$: orthogonal to VIX.

Part II(a): Stronger the Resolution, Larger the Pre-FOMC Drift

Pre-FOMC Drift in UST



Pre-FOMC Drift in SPX



- True in both the bond and equity markets: higher degrees of uncertainty resolution are associated with larger pre-FOMC drift.

Part II(b): The Pre-FOMC UST is Predictive of the Pre-FOMC SPX

Dependent: Pre-FOMC Returns in SPX (basis points)									
	Full Sample			High UMAI			Low UMAI		
const	-32.25*** [-3.10]	-31.79*** [-3.19]	-31.46*** [-2.96]	-48.28*** [-3.36]	-46.50*** [-3.39]	-41.60*** [-2.68]	-17.73 [-0.93]	-17.93 [-0.93]	-17.83 [-0.95]
$\Delta UST10[-1]$	-1.58** [-2.26]			-2.74*** [-2.62]			-0.34 [-0.35]		
$\Delta TP10[-1]$		-2.15** [-2.32]			-3.26*** [-2.98]			-0.29 [-0.27]	
$\Delta EH10[-1]$			0.48 [0.34]			1.82 [0.91]			-0.24 [-0.16]
VIX[-3]	2.94*** [4.81]	2.90*** [4.88]	2.96*** [4.74]	3.36*** [4.31]	3.23*** [4.26]	3.27*** [3.92]	2.40** [2.04]	2.41** [2.03]	2.40** [2.08]
R-sqrd (%)	16.22	17.13	14.57	21.91	23.63	18.56	9.91	9.85	9.85
N	250	250	250	117	117	117	117	117	117

- The equity market uncertainty (VIX) is by far the strongest driver of the pre-FOMC drift in SPX.
- Against this backdrop, the pre-FOMC UST, particularly the TP component, can also predict the pre-FOMC SPX. Under low UMAI, however, the predictability is absent.

Conclusions

- We fill an important gap in the pre-FOMC literature by documenting the presence of a significant pre-FOMC drift in the Treasury market.
- Our pre-FOMC result adds to the important observation by [Hillenbrand \(2025\)](#) on the secular decline in long-term interest rates and the three-day FOMC window.
 - ▶ FOMC[-1]: dominated by TP, indicating a risk-premium channel.
 - ▶ FOMC[0]: dominated by EH, consistent with “long-run Fed guidance.”
 - ▶ FOMC[1]: an intriguing connection between FOMC[-1].
- We offer a common mechanism to explain the pre-FOMC drift in bond and equity.
 - ▶ The accumulation of heightened uncertainty and its subsequent resolution.
 - ▶ A striking similarity between the two pre-FOMC drift over the long run.
 - ▶ The pre-FOMC drift in UST is predictive of the pre-FOMC SPX.