The Pre-FOMC Drift in Long-Term Treasury Bonds

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Abstract

We document positive, significant pre-FOMC returns on long-term Treasury bonds. This pre-FOMC Treasury drift occurs earlier than the pre-FOMC equity drift – on the day before FOMC announcements – and predicts the subsequent equity returns. Unique to this day is a disconnect between long- and short-term yields, underscoring a risk-premium channel in bond pricing. Consistently, the pre-FOMC Treasury drift is driven primarily by the term premium component. Attributing the phenomenon to heightened uncertainty, we find that elevated labor-market uncertainty predicts and strengthens the pre-FOMC Treasury drift, while the subsequent uncertainty resolution is captured by a significant pre-FOMC reduction in the MOVE index.

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1 Introduction

This paper studies the pricing of long-term U.S. Treasury bonds in anticipation of the announcements of the Federal Open Market Committee (FOMC). Instead of focusing on the ex-post market reaction to the FOMC announcements (Kuttner (2001), Gurkaynak et al. (2005), Nakamura and Steinsson (2018)), we examine the ex-ante market pricing prior to the announcements. Our paper is motivated by two recent studies at the intersection of the Fed and the financial markets. The first paper is that of Lucca and Moench (2015), who document a strong pre-FOMC drift in the equity market over a 24-hour window before the FOMC announcements. Interestingly, they do not find a significant pre-FOMC drift in U.S. Treasury bonds, the market with the closest connection with monetary policy. The second and more recent paper by Hillenbrand (2025), however, affirms the connection between the Treasury market and the Fed via the striking finding that a three-day window around the FOMC announcements captures the secular decline in long-term U.S. Treasury yields.

Connecting these two emerging strands of literature, we make two important empirical observations. First, contrary to the conclusion of Lucca and Moench (2015), we find positive and significant returns (i.e., negative yield changes) on long-term Treasury bonds before the FOMC announcement, as shown in the upper panel of Figure 1. Our approach differs from that of Lucca and Moench (2015) in that, instead of examining the 24-hour window before the FOMC announcements, we focus our attention on the day before the FOMC, which is also the first day of the two-day FOMC meeting. Over the 24-hour window that ends at the market close of the day before the FOMC announcement, the 10-year zero-coupon bond yield drops by a significant 0.79 basis points, compared with a full-sample average of -0.04 basis points. Moreover, this significant pre-FOMC reduction in yield is unique and robust only for long-term bonds – over the same pre-FOMC window, the 2-year bond yield drops by an insignificant 0.25 basis points while the 3-month-ahead federal funds futures rate increases by 0.33 basis points. High-frequency Treasury futures data further show that this earlier Treasury drift is concentrated outside regular U.S. trading hours. The average Treasury futures return starts to rise around the Tokyo open on day -2 and peaks around the London close on day -1, whereas equity returns begin to rise later in the 24-hour window before FOMC announcements.

Moreover, the pre-FOMC drift in long-term Treasuries co-moves closely with the well-known drift in the equity market. The lower panel of Figure 1 plots the cumulative pre-FOMC drift in both long-term bond and equity markets, revealing a striking similarity. The persistent comovement is difficult to reconcile with a pure information channel: if markets were only reacting to monetary policy news without bearing risk, there would be no systematic upward accumulation in either drift. Instead, the parallel and upward accumulation

of pre-FOMC returns prior to announcements points to a common risk-premium channel in which investors require compensation for bearing policy-related uncertainty that is resolved before the FOMC release. However, the specific drivers differ: the pre-FOMC SPX drift is more closely associated with equity-market uncertainty (e.g., VIX), whereas the pre-FOMC UST drift is linked to macro uncertainty (e.g., UMAI) and the post-2008 QE environment.

Second, the pre-FOMC drift contributes to a steady decline in long-term interest rates. From June 1989 through December 2025, the cumulative effect of the pre-FOMC reduction in yield amounts to -3.09%, the largest one-day contributor to the secular decline in interest rates documented by Hillenbrand (2025) using a three-day window that includes the day before, the day of, and the day after scheduled and unscheduled FOMC announcements. While Hillenbrand (2025) attributes the long-run path of interest rates primarily to the forward guidance provided by the Fed's announcements, our pre-FOMC drift, realized prior to the FOMC announcements, indicates the presence of a second channel that is important in explaining the secular decline of long-term yields.

Risk and Return in Long-Term Bonds – The pre-FOMC drift offers a unique and concentrated window into the risk and return in long-term bonds, which are closely linked to macro and policy uncertainties. As evidence that the pre-FOMC drift in long-term yields is dominated by the risk-premium channel, not the monetary-policy decision on the target rate, we document a reduced comovement between the long- and short-term yields that is unique to the day before the FOMC announcement when the pre-FOMC UST drift is realized.[1] Focusing further on the risk premium component, we use the 10-year term premium constructed by Adrian et al. (2013) which is the difference between the 10-year yield and the expectation of future short rates. We find that the pre-FOMC reduction in yield can be attributed almost entirely to the term premium component.[2]

To shed further light on the risk-premium channel, we build our hypothesis on the two-risk model of Hu et al. (2022), which attributes the pre-announcement drift to the resolution of heightened uncertainty prior to the announcement. Central to the model is the incorporation of an impact uncertainty, which controls the market impact of the announcement shock. To the extent that market participants are highly uncertain about an impending announcement, it is reflected in the model via a volatile impact uncertainty, which in turn drives up the

[1]Specifically, the importance of the slope factor, which captures the difference between the long- and short-term yields, jumps from a normal level of 14% to 34% and then quickly reverts back to the normal level, while the level factor, which captures the overall level of the yield curve, jumps downward from a normal level of 76% to 56%. In other words, on the day before the FOMC, when the pre-FOMC drift in long-term bonds is realized, the driver of long-term bond pricing is disconnected from the short-rate dynamics.

[2]On the day before the FOMC announcement, the average reduction in the 10-year zero coupon yield changes by -0.79 basis points with a t-statistic of -2.39, while the 10-year term premium changes by -0.71 basis points with a t-statistic of -2.34.

premium for impact uncertainty. Upon the resolution of the heightened uncertainty prior to the announcement, the risk premium for impact uncertainty is also realized, giving rise to the pre-announcement drift.

Heightened Uncertainties and Subsequent Resolution – Central to Hu et al. (2022) is the accumulation of heightened uncertainty and its subsequent resolution prior to the announcement. By examining option-implied measures of market uncertainty, VIX for equities and MOVE for Treasuries, we uncover that the accumulation of uncertainty and its subsequent resolution occur earlier in the bond market than in the equity market. The Treasury-market uncertainty component, captured by the portion of MOVE orthogonal to VIX, rises earlier from day -5 to day -4 and decreases from day -2 to day -1. By contrast, the VIX index only decreases from day -1 to day 0, and a substantial portion of this reduction occurs before the announcement. Crucially, the timing of uncertainty resolution aligns tightly with the timing of positive returns. We further show that this Treasury-specific uncertainty resolution is priced through the term premium: a one-point decline in orthogonalized MOVE on day -1 is associated with a 0.33-basis-point decline in the 10-year term premium. The analogous equity-market evidence is that a reduction in VIX before the announcement is associated with higher pre-FOMC stock returns. Together, these results indicate that in both U.S. Treasury and equity markets, greater resolution of market-specific uncertainty prior to the FOMC announcement is associated with a larger pre-FOMC drift.

The two-risk model by Hu et al. (2022), however, is silent on exactly what kind of uncertainty is resolved. Taking advantage of the fact that the risk involved in bond pricing is substantially less complex than that in equity pricing, we directly investigate the macroeconomic drivers of the pre-FOMC drift in bond markets. In particular, we examine whether the pre-FOMC drift in the bond market is systematically linked to fundamentals that govern the Fed's policy stance. Consistent with the Federal Reserve's dual mandate, we find that the magnitude of the pre-FOMC drift in long-term bonds is positively related to the monthly unemployment rate, a key indicator shaping expectations of policy accommodation. This evidence ties the pre-FOMC drift to labor-market conditions, providing new insight into the specific nature of uncertainty being resolved.

To find high-frequency evidence, we use the daily macro attention index (MAI) developed by Fisher et al. (2022). As news-based measures, the MAI indices capture newspapers' attention on a range of macroeconomic risks, including monetary MAI on monetary policy and unemployment MAI on labor market conditions. Compared with the uncertainty measures extracted from capital markets (e.g., the option-implied VIX and MOVE indices), the MAI indices, with their dedicated focus on the respective macroeconomic fundamentals, offer a more precise link to the source of uncertainty. For example, an increase in the unemployment MAI indicates heightened uncertainty with respect to the labor market. As documented by

Fisher et al. (2022), the unemployment MAI intensifies in response to higher unemployment rates and increases more when it is associated with bad news. Indeed, we find that, three days before the FOMC announcement, the correlation between the unemployment MAI and the contemporaneous unemployment rate intensifies, suggesting a heightened sensitivity to labor market conditions in anticipation of the FOMC announcements.[3]

Focusing on unemployment MAI and monetary MAI, two uncertainty measures that are highly related to monetary policy, we examine their respective impact on the pre-FOMC drift in long-term bonds. Using the unemployment MAI three days before the FOMC announcement as a conditioning variable, we find that the pre-FOMC reduction in 10-year zero-coupon yield is larger by a significant 1.42 basis points, or about 1.5 basis points in total, when uncertainty about labor-market conditions is above median. By contrast, when the uncertainty is below median, the pre-FOMC change in 10-year yield is no longer significant and is close to zero. These results indicate that the pre-FOMC drift is significant only under heightened uncertainty over labor-market conditions, confirming the mechanism of the premium for heightened uncertainty. Moreover, our approach also allows us to identify the nature of the uncertainty. In contrast to unemployment MAI, the uncertainty proxied by the monetary MAI does not have any impact on the pre-FOMC bond pricing, indicating that while uncertainty naturally increases in anticipation of the FOMC announcements, it is the heightened uncertainty with respect to macro fundamentals, such as the unemployment rate, that drives the risk premium in long-term bonds.

To further capture the accumulation of heightened uncertainty, an important component in the model of Hu et al. (2022), we also trace the change of unemployment MAI from day -5 to -3 relative to the FOMC announcement. We find that the larger the increase in uncertainty, the stronger the pre-FOMC drift in long-term yields – a one-standard-deviation increase in the change in MAI is associated with an extra pre-FOMC reduction of 0.70 basis points in 10-year yield and 0.86 basis points in the term premium component of the 10-year yield. Overall, consistent with the prediction of the two-risk model of Hu et al. (2022), increased macro uncertainties, as captured by both the level of the unemployment MAI and its change, are predictive of the pre-FOMC reduction in long-term yields.

Pre-FOMC Drift in Bond and Equity – While the premium for heightened uncertainty drives the pre-FOMC drift in both bond and equity markets, the exact content of uncertainty differs. For the equity market, the heightened uncertainty is best captured by the VIX

[3]We match the daily unemployment MAI with both the current and past-month unemployment rate, and the results are similar, with the current-month specification slightly stronger. The current-month employment information has yet to be released, although the content of the information (i.e., labor-market conditions) is already taking place contemporaneously. The past-month unemployment rate, however, is released in the current month.

index (Lucca and Moench, 2015). Regressing the pre-FOMC drift in the S&P 500 index on lagged VIX, the R-squared of this predictive regression is 14.5%, which is substantial for a predictive regression of equity returns at this high frequency.[4] Interestingly, the VIX index has no predictability for the pre-FOMC drift in long-term yields, indicating that, when it comes to pre-FOMC pricing, the risk that matters for the equity market is not important for the bond market. The converse is also true. While heightened uncertainty in the bond market can be best captured by the unemployment MAI, it is unimportant in explaining the pre-FOMC drift in equity.

In addition to examining the distinct components between pre-FOMC UST and SPX captured by the market-based uncertainty measures, we further explore the shared component between the two. By using the macro and financial uncertainty indexes of Jurado et al. (2015), we find that they capture a common risk component: higher financial uncertainty in the previous month leads to larger pre-FOMC returns in both markets.

As the pre-FOMC drift in bonds is realized by the market close of day -1, while the pre-FOMC drift in equity is observed afterward, we further use the pre-FOMC drift in bonds to predict the subsequent drift in equity. We find significant predictability: a one-basis-point pre-FOMC reduction in the 10-year yield predicts a 1.73-basis-point increase in the pre-FOMC return in the S&P 500 index. Importantly, we show that the predictive power arises primarily from the term premium component, rather than from the expected short-rate. A one-basis-point decrease in the term premium is associated with an approximately 2.43-basis-point increase in pre-FOMC stock returns and remains significant after controlling for the VIX level. We also show that this significant predictability exists only under heightened macro and policy uncertainties. Specifically, when the unemployment MAI is above median, a one-basis-point pre-FOMC reduction in the 10-year yield predicts about a 2.56-basis-point increase in the pre-FOMC stock return after controlling for the VIX level. By contrast, when unemployment MAI is below median, there is no relation between the pre-FOMC drift in bonds and equity.

Related Literature – Our paper belongs to the literature that documents, for a broad set of asset classes, sizable positive returns realized prior to FOMC announcements. This includes Lucca and Moench (2015) on the equity market and Mueller et al. (2017) on the foreign exchange market.[5] The parallel evidence for the Treasury bond market, however, is limited, which is puzzling given the bond market's central importance in the decision and operation of monetary policy. Following Lucca and Moench (2015), the general consensus

[4]We calculate the pre-FOMC SPX return using the S&P 500 index from the market close of the day before the FOMC announcement to five minutes before the FOMC release.

[5]See also Liu et al. (2022) on the options market, and Javadi et al. (2018) and Abdi and Wu (2018) on the corporate bond market.

prior to our paper is that the pre-announcement drift documented for the equity market does not exist in the bond market. Against this backdrop, our paper documents a significant pre-FOMC drift in long-term Treasury bonds by focusing on a pre-announcement window that has not been examined by the previous literature.

We also contribute to the growing literature on the economic driver of the pre-announcement drift, including the information channel of Cieslak et al. (2019) and the heightened uncertainty channel of Hu et al. (2022) and others.[6] While supportive of the heightened uncertainty channel of Hu et al. (2022), our paper differs in that, instead of using the market-based VIX index to measure heightened uncertainty, we take advantage of the news-based attention measures of Fisher et al. (2022), which allow us to identify what kind of uncertainty is resolved prior to the FOMC announcement. We find that the pre-FOMC drift in long-term bonds is significant only when uncertainty over labor-market conditions is substantially elevated.

Our paper also adds to the literature on the secular decline in interest rates. A large literature has examined the decline in inflation that occurred after the great inflation (Bauer and Rudebusch, 2020; Drechsler et al., 2020). Closely related to our paper is that of Hillenbrand (2025), which shows that a narrow 3-day window around the FOMC announcement captures the secular decline in U.S. Treasury yields since 1989 and interprets the result as the dominating influence of the Fed's forward guidance released at the FOMC announcements. Our finding of the significant pre-FOMC drift breaks the 3-day window of Hillenbrand (2025) into before and after the FOMC announcements. More importantly, as the pre-FOMC drift is realized prior to the FOMC announcement, it cannot be a direct consequence of the forward guidance. Instead, we conclude that an important component of the secular decline of interest rates captured by Hillenbrand (2025) originates from the resolution of heightened uncertainty on the day before the FOMC announcement.

Finally, by examining the risk and return in long-term bonds, our paper is also related to the literature that studies the factors influencing the bond risk premium. Predicting bond returns using the information on the yield curve, Fama and Bliss (1987), Campbell and Shiller (1991) and Cochrane and Piazzesi (2005) provide strong evidence of time-varying risk premium in the bond market. We add to this literature by focusing on a narrow pre-FOMC window and find significant pre-FOMC returns only for long-term bonds. More importantly, instead of using market-based yield curve information to predict bond returns,

[6]See also Ai and Bansal (2018) study the intertemporal preferences that generate a nonnegative announcement premium, Wachter and Zhu (2022) build a model in which agents learn the probability of an adverse economic state on announcement days, Bernile et al. (2016) investigate informed trading prior to announcements, Ying (2020) and Laarits (2019) study the arrival of new information during the pre-announcement period, and Ai et al. (2021) model endogenous information acquisition before FOMC announcements.

we link the long-term bond risk premium directly to the macro and policy uncertainties that emerge prior to the FOMC announcement.

The remainder of the paper is organized as follows. Section 2 describes the data we use in our analysis. Section 3 presents the pre-FOMC drift in long-term bonds and its implication for the secular decline of long-term interest rates. Section 4 investigates the risk-premium channel behind the pre-FOMC drift, including Treasury-specific uncertainty resolution, macro-attention evidence, and the comparison between bond and equity markets. Section 5 concludes.

2 Data

Our analysis examines U.S. Treasury yield changes and stock returns around scheduled FOMC meetings. Our main sample period for the pre-FOMC drift in both markets runs from September 1994 to December 2025, following the sample convention in Lucca and Moench (2015). During this period, we have 250 scheduled FOMC announcements. We also extend the U.S. Treasury sample back to 1980.

Treasury Yield: We use zero-coupon yield data, term premia, and expected short-rate components from Adrian et al. (2013). Additionally, we include the daily one-year forward rates beginning 9, 4, and 1 years ahead from Gürkaynak et al. (2007). These forward rates are the yields at which an investor commits today to invest over a defined period in the future: for m years beginning n years hence (Gürkaynak et al., 2007). The one-year forward rate beginning 9 years ahead can be understood as buying the 10-year Treasury bond and selling the 9-year Treasury bond with corresponding portfolio weights.[7] Finally, we define the pre-FOMC UST drift as the yield change from day -2 to day -1 prior to the FOMC announcement, which does not contain the FOMC meeting outcome.

High-Frequency Data: For stock returns, we use the intraday S&P 500 index from NYSE Trade and Quote (TAQ). We calculate the pre-FOMC SPX return from 4:00 pm on the day before a scheduled FOMC announcement to five minutes prior to the exact release time. We use 10-year U.S. Treasury note futures, which trade almost around the clock, to plot the pre-FOMC return in the bond market before FOMC meetings.[8] We obtain tick-by-tick data on E-mini Treasury futures from January 2004 to June 2025 from the Chicago Mercantile Exchange (CME). We also obtain E-mini S&P 500 index futures from CME. Following Hu

[7]In addition to the zero-coupon yield, we further include the constant maturity yield obtained from the Federal Reserve Board website, daily actual Treasury transaction data, and the daily return of the Fixed Term Index from CRSP to check the robustness of the result.

[8]We have missing futures trading data on several trading days in our sample period. One of these trading days, January 29, 2014, is a scheduled FOMC release day.

et al. (2022), we select the most active futures contract with the highest trading volume.

Macroeconomic Attention Indices: We obtain Macroeconomic Attention Indices proposed by Fisher et al. (2022).[9] They construct macroeconomic attention indices (MAI) based on news articles published in the New York Times and Wall Street Journal. Following their approach, we use the demeaned monetary MAI and unemployment MAI three days before FOMC meetings in this paper as proxies for heightened uncertainty about the federal funds rate and unemployment rate. We also collect the relevant information such as timing, date, actual and survey number on unemployment rate data from Bloomberg Economic Calendar.

Uncertainty and Volatility Measures: We use the VIX index of implied volatility from S&P 500 options and the MOVE index as benchmark measures of market participants' uncertainty. Daily VIX and MOVE indexes are downloaded from Bloomberg. In addition to market-based uncertainty measures, we also use the macro and financial uncertainty indexes proposed by Jurado et al. (2015). The macro uncertainty index reflects a shared component in the time-varying volatilities of h-step-ahead forecast errors across a wide range of macroeconomic series, which includes variables from three categories: real activity, prices, and financial data (Ludvigson et al., 2021). Financial uncertainty is constructed using the same method but based solely on financial market data.

Table 1 provides summary statistics for the main variables used in our empirical analysis during pre-FOMC windows and at other times. For days outside the pre-FOMC window, daily zero-coupon yield changes Adrian et al. (2013) for the 10-year and 2-year Treasury bonds average -0.01 and -0.03 basis points, respectively. By contrast, during the pre-FOMC window, which is one day prior to FOMC announcements, long-term yields experience substantially larger declines. The 10-year yield declines by an average of 0.79 basis points, while the 2-year yield drops insignificantly by only 0.25 basis points. The 3-month-ahead federal funds futures rate increases slightly by 0.33 basis points during the same period. The contrasting behavior of long-term and short-term yield changes before FOMC meetings is discussed in more detail later.[10]

For daily uncertainty and volatility measures, we use values observed on day -3 as ex-ante measures for the pre-FOMC drift; for the monthly macro and financial uncertainty indexes, we use the previous month's value. The unemployment MAI and monetary MAI three days before the FOMC announcements are on average smaller than on other days because MAI typically peaks on the day after announcements. The VIX, MOVE, macro uncertainty, and

[9]We thank Jinfei Sheng for sharing the updated data which ends in 2025 with us

[10]Regarding the relationship between the term premium and the expected short-rate yield, the correlation tends to be more negative during the pre-FOMC period. For instance, the correlation between the changes in the 2-year expected short-rate yield and the 10-year term premium is approximately -0.31 one day prior to FOMC announcements, compared to around -0.24 on other days.

financial uncertainty indexes are around the same magnitude before FOMC announcements and on other normal days.

3 The Pre-FOMC Drift in Long-Term Treasury Bonds

Scheduled eight times per year, FOMC meetings serve as key information events, where monetary policy decisions are announced and the Fed's assessment of the macroeconomy is revealed. The uniqueness and significance of these meetings have drawn considerable attention from both market participants and academic researchers. Most existing studies focus on the post-FOMC window, examining how short-term Treasury yields adjust once the Fed's policy decision becomes public. In the early 2000s, Kuttner (2001) exploits the FOMC announcement setting to construct a measure of monetary policy shocks based on market reactions after the FOMC announcement. Since then, a growing body of literature has used the post-FOMC setting to analyze the interaction between monetary policy and financial markets, aiming to identify policy surprises and assess the effectiveness of monetary interventions (Bauer and Swanson, 2022; Bernanke and Kuttner, 2005; Gurkaynak et al., 2005; Nakamura and Steinsson, 2018).

It was not until the seminal work of Lucca and Moench (2015), who document significant average equity returns in the 24-hour window preceding FOMC announcements for both U.S. and international markets, that attention shifted toward the pre-FOMC period. Not only the market expectation of Fed's policy are formed, the risk and return dynamic is also prominent before the actual announcement of the FOMC meetings. From then on, another growing literature emerges to examine pre-FOMC effects across various asset classes, including exchange rates, options, and corporate bonds (Javadi et al., 2018; Liu et al., 2022; Mueller et al., 2017).

3.1 The Pre-FOMC Drift in UST10

The "pre-FOMC stock drift puzzle" that why large stock returns are realized before but not after FOMC announcements, as documented by Lucca and Moench (2015) has prompted substantial academic attention and various explanatory efforts (Cieslak et al., 2019; Hu et al., 2022). However, less attention has been paid to another puzzle highlighted in the same study: the absence of a similar pre-announcement drift in the U.S. Treasury market. The general consensus prior to our paper is that the pre-announcement drift documented for the equity market does not exist in the bond market (Balduzzi and Moneta, 2017; Cieslak and Pang, 2021).

The limited evidence for the parallel pre-FOMC drift in the Treasury bond market is

puzzling given the bond market's central importance in the implementation and transmission of monetary policy. FOMC decisions directly impact short-term interest rates, which are most immediately reflected in Treasury securities. Compared to equities or currencies, the Treasury market should, in principle, be more sensitive to upcoming policy announcements. If FOMC meetings are so important that drive stock investors' attention and uncertainty, then why bond investors behave differently?

By focusing on the pre-FOMC window in U.S. Treasury market, we find positive and significant returns (i.e., negative yield changes) on long-term Treasury bonds before the FOMC announcement. Our approach differs from Lucca and Moench (2015) in a key way: rather than analyzing the 24-hour window before the FOMC release, we examine the day before the announcement, which also marks the first day of the two-day FOMC meeting. We find that, unlike in the equity market, the pre-FOMC drift in bond yields occurs earlier, revealing a distinct timing difference across asset classes.

Panel A of Figure 1 shows the minute-by-minute average cumulative returns of 10-year U.S. Treasury note futures and the S&P 500 index around FOMC announcements. The sample in this plot runs from January 2004 to June 2025 due to the availability of UST futures data and includes only scheduled FOMC meetings. To better compare the pre-FOMC drift in the stock and bond markets, we normalize returns by their respective daily standard deviations. The solid blue line is the average normalized cumulative UST return over the three-day window covering the day before the meeting, the meeting day, and the day after the meeting. The blue-shaded areas are pointwise 95% confidence bands around the average cumulative UST returns, while the red line and red-shaded areas are for SPX returns. The grey-shaded areas are regular U.S. trading hours. The solid vertical line is set at 2:15 pm Eastern Time.

For the stock market, the upward drift occurs mostly overnight before the FOMC release, consistent with prior literature. In the U.S. Treasury market, however, we observe an upward drift from day -2 to day -1 before FOMC announcements, which also occurs mostly during the overnight period. Previous literature investigates how fixed-income securities react to upcoming FOMC announcements and shows that there is no drift in the 24-hour window before the announcement or on the FOMC announcement day. Lucca and Moench (2015) show that the pre-announcement drift does not exist in fixed-income securities. Cieslak and Pang (2021) present similar results and attribute this to a hedging premium, where bonds serve as a hedge against cash-flow risk in equities. However, Hu et al. (2024) provide evidence that U.S. Treasuries became a source of risk on FOMC announcement days with high stock-bond correlations. This suggests that the hedging channel may no longer be the dominant mechanism, especially given the direct influence of monetary policy on Treasury yields.

Prior literature focuses on UST yield movements over the same pre-announcement win-

dow as equity, namely from 2:00 pm on the day before a scheduled FOMC announcement to 2:00 pm on the announcement day. Indeed, Panel A of Figure 1 shows that the 10-Year U.S. Treasury does not move much during the same pre-announcement window in which the pre-FOMC drift in U.S. equity is realized. However, when we extend the pre-announcement window to include the overnight period from day -2 to day -1, a clear and significant drift also emerges in long-term Treasury yields. The key distinction is timing: Treasury prices adjust before the standard 24-hour pre-announcement window studied in the equity literature begins. This timing difference helps reconcile our finding with prior evidence of little Treasury-market movement within that window. Our findings reveal that the pre-FOMC drift is not limited to the equity market (Lucca and Moench, 2015) and the exchange rate market (Mueller et al., 2017), but also appears in the U.S. Treasury market with an earlier realization window, specifically on the day before the FOMC announcement.

We further plot the cumulative pre-FOMC drift in long-term bonds and stocks over time in Panel B of Figure 1. The pre-FOMC window for the bond market is from day -2 to day -1, while the pre-FOMC window for the stock market is from day -1 to five minutes before the FOMC announcement. The y-axis for the 10-year Treasury yield is inverted so that declining yields, which correspond to positive bond excess returns, move upward in the same direction as equity returns, making the common upward trend visually salient. The persistent comovement suggests that the Treasury drift and the equity drift may reflect a common pre-announcement pricing force. This pattern is consistent with a risk-premium interpretation, which we examine below using term-premium decompositions and uncertainty measures.

As shown in Figure 1, the significant pre-FOMC UST drift is realized during the overnight trading period from day -2 to day -1. A natural question arises: who is trading U.S. Treasuries during this time? To shed light on this question, we mark the opening and closing times of the Tokyo and London markets in Figure 2, using Eastern Time (ET). The figure begins at 16:00 ET, which marks the end of the U.S. stock trading day. The futures markets for both stocks and Treasuries close at 17:00 ET and reopen at 18:00 ET, coinciding roughly with the start of trading in Australasia. The Tokyo market typically opens at 19:00 ET and closes at 4:00 ET, while the London market opens at 3:00 ET and closes at 12:00 ET, so there is a one-hour overlap between Tokyo and London trading.

The intraday decomposition in Figure 2 shows that the pre-FOMC yield decline is concentrated during non-U.S. trading hours, especially the window that overlaps with Tokyo and London market hours. The average cumulative return on U.S. Treasury futures begins to rise at 19:00 ET on day -2, coinciding with the start of the Tokyo market, and peaks at 12:00 ET on day -1, aligning with the closing of the London market. The average 10-year Treasury return over this non-U.S. trading window is approximately 7.26 basis points, with

a statistically significant t-statistic of 2.82. In contrast, during the remainder of the day (12:00 ET–17:00 ET) leading up to the FOMC meeting, the return is around -2.05 basis points, with a t-statistic of -1.76.

An interesting pattern is that when bond returns decline after the London market closes, stock returns begin to rise. Lucca and Moench (2015) examine the 24-hour window before FOMC announcements and show that stock prices start increasing after 14:00 ET on day -1. In Figure 2, we further move the starting point of the pre-FOMC SPX window to 12:00 ET. The contemporaneous increase in stock returns and decrease in Treasury returns after the London market closes on day -1 reflect the well-documented negative stock-bond correlation (Hu et al., 2024). During the pre-FOMC window, uncertainty appears to be resolved first in the U.S. Treasury market during the overnight Tokyo-London trading window from day -2 to day -1. After the London market closes on day -1, uncertainty is resolved in the stock market, leading to the well-known pre-FOMC stock drift.

3.2 Term Structure of the Yield Curve

Going beyond the long-term Treasury bond, we further investigate the term structure of Treasury bonds in return space in Panel A of Figure 3. We calculate daily raw returns for zero-coupon bonds with maturities of $n = 0.5, 1, 2, \ldots, 9$, and 10 years following Adrian et al. (2013) and plot the average bond returns of different maturities for day -1 before the FOMC announcement in blue and for normal days outside the FOMC window in green. On day -1, the average return of the 10-year bond is around 10 basis points, which is significantly different from normal trading days. In contrast, short-maturity bonds show almost no difference from non-FOMC days. For example, the 6-month bond return is small and statistically indistinguishable from the normal-day benchmark. This pattern implies that the pre-FOMC drift is significant only for long-term bonds, not for short-term bonds.

We further investigate the term structure of Treasuries in yield space by calculating zero-coupon yield changes from Adrian et al. (2013) for different maturities and event windows around FOMC meetings in Table 2. The announcement day of FOMC meetings is marked by FOMC[0], and the days preceding the announcements are marked by FOMC[-n]. The results reveal a clear and economically meaningful pre-FOMC drift in the Treasury market, concentrated in long-term bonds on the day before the announcement. Specifically, on the day before the FOMC announcement, the 10-year bond yield drops by a significant 0.79 basis points, compared with a full-sample average of -0.04 basis points. Importantly, this pre-FOMC yield reduction is both statistically significant and uniquely concentrated in the long end of the curve. In contrast, over the same window, the 2-year yield decreases by a statistically insignificant 0.25 basis points, and the 3-month-ahead federal funds futures rate

actually increases by 0.33 basis points.

This disconnect in yield behavior between the long and short ends of the curve is particularly striking, given that short-term instruments such as the 2-year yield and federal funds futures are generally more responsive to monetary policy surprises. The muted response of short-term yields suggests that the pre-FOMC drift in long-term Treasury yields is not driven by anticipated changes in the policy rate itself. Rather, it likely reflects the pricing of non-monetary components, such as risk premia or uncertainty, surrounding the FOMC meeting.

To further explore this disconnect, we test the relationship between the daily yield change of the 10-year Treasury and the 3-month-ahead federal funds futures contract in Table 3, where the dependent variable is the daily zero-coupon 10-year Treasury yield change. The first column shows that the 10-year yield drops by an additional 0.77 basis points on the day before the FOMC announcement. The coefficient in the second column is positive at 0.62 and highly significant, which shows a strong positive co-movement between long-term and short-term yield changes during normal times. When the short-term yield increases by 100 basis points, the 10-year yield increases by 62 basis points contemporaneously.

The third column presents evidence of reduced co-movement between long-term and short-term yield changes on the day before FOMC meetings, highlighting the uniqueness of the pre-FOMC window. The interaction term between FF4 and FOMC[-1] is -0.28, significant at the 10% confidence level. This result shows that the usual comovement between long and short rates is significantly reduced on day -1, indicating that a driver of the long rate is not shared by the short rate. This disconnect stems from the sharp drop in long-term yields coupled with the muted movement in short-term rates, as also reflected in Table 2.

Under typical market conditions, the strong positive correlation between yields across maturities is largely attributed to the level factor, which induces parallel shifts in the yield curve. However, the decoupling observed on day -1 suggests an increased role of the slope factor, which affects short- and long-term yields differently and leads to changes in the steepness of the curve. This shift in dynamics underscores the distinct behavior of the yield curve ahead of policy announcements.

To better understand the specialness of the pre-FOMC window for Treasury bond, we perform principal component analysis (PCA) on the covariance matrix of daily changes in five short- and long-rate variables: the 10-, 5-, and 2-year zero-coupon Treasury yields and the current-month and 3-month-ahead federal funds futures rates. In addition to estimating this covariance matrix over all trading days, we repeat the analysis separately within each FOMC event window. Specifically, for each event day from FOMC[-4] to FOMC[1], we collect the corresponding daily changes from September 1994 to December 2025, yielding 250 observations per event day, and calculate the variance shares explained by the first

principal component (PC1) and the second principal component (PC2). Panel B of Figure 3 plots the relative importance of PC1 and PC2 around FOMC announcements, together with the all-day benchmarks shown by dashed black lines.

The PCA analysis on FOMC windows confirms the uniqueness of the day before FOMC meetings for Treasury bonds. On all trading days from 1994 to 2025, the first PC accounts for 76% of the total variance and the second PC accounts for 14%, as shown by the dashed black lines in Figure 3. On the day before FOMC announcements, the relative importance of PC1, represented by the blue line, decreases to about 56%, while the relative importance of PC2, represented by the red line, increases to about 34%. This finding demonstrates that the co-movement across short and long rates, captured by the level factor, weakens one day before FOMC announcements, while the disconnect, captured by the slope factor, strengthens. This is primarily driven by declining long-term yields, occurring not on or after the FOMC announcement day but rather in the period leading up to the announcement. Traditionally, investors and researchers, especially in fixed income, have focused more on the Fed's announcement day and how asset prices react to monetary policy afterward (Bauer and Swanson, 2023; Brooks et al., 2018; Gurkaynak et al., 2005; Kuttner, 2001; Nakamura and Steinsson, 2018). This paper highlights the distinctive nature of the reduced co-movement across the yield curve in the pre-FOMC window, emphasizing the need to study the Treasury market before FOMC meetings.

3.3 Secular Decline in Long-Term Interest Rates

As pointed out by Ben Bernanke, low interest rates are part of a long-term trend rather than a short-term aberration.[11] Numerous papers seek to explain the persistent decline in long-term yields, attributing it to factors such as lower inflation expectations, reduced productivity growth, and a global savings glut, among others. Hillenbrand (2025) studies the secular decline in long-term yields from a unique perspective, showing that a narrow 3-day window around FOMC meetings captures the secular decline in U.S. long-term Treasury yields and attributing this pattern to forward guidance from the Fed revealed at the announcement. Building on his work, our finding of a significant pre-FOMC drift further decomposes the 3-day window into periods before and after FOMC announcements. We find that the pre-FOMC UST drift contributes significantly to the narrow 3-day window and indicates the presence of a second channel, beyond forward guidance, in explaining the secular decline of long-term yields around FOMC windows, thereby complementing Hillenbrand (2025).

[11] See "Why are interest rates so low?" by Ben Bernanke, Brookings Institute, 2015.

We first replicate and extend Figure 1 in Hillenbrand (2025) from June 1989 to 2025, including scheduled and unscheduled FOMC meetings and using the constant maturity yield from the Fed.[12] The black line in the top panel of Figure 4 shows the actual evolution of the 10-year U.S. Treasury yield from 1989, and the red line is the hypothetical time series obtained by cumulating yield changes of the 10-year U.S. Treasury bond over the 3-day window for all FOMC meetings. It shows that the secular decline in long-term bond yields appears to be concentrated in a narrow 3-day window around FOMC meetings.

Our focus is the contribution of the pre-FOMC window to the overall decline in long-term bond yields captured by narrow 3-day windows around FOMC meetings. To investigate this, we isolate the pre-FOMC component by plotting the cumulative yield change for 2-day windows excluding day -1 in Panel A of Figure 4 in blue for all FOMC meetings. We find that the 10-year yield declined by approximately 3.09% over the pre-FOMC window from June 1989 to 2025, accounting for nearly 40% of the total 7.91 percentage-point decline over the three-day window. The result reveals that a substantial portion of the 3-day window yield decline originates from the pre-FOMC window from June 1989 to 2025.[13]

We further separate the 3-day window into pre-FOMC, FOMC, and post-FOMC windows for the 10-year U.S. Treasury yield in the lower plot of Figure 4 for scheduled FOMC meetings from September 1994 to 2025. The 10-year yield in pre-FOMC windows shows a steady decline, while the post-FOMC yield movement displays an upward trend between 2012 and 2016. One critique raised by Hillenbrand (2025) against the risk-premium explanation of the 3-day FOMC pattern is that the FOMC window captures low-frequency long-term yield movements even when yields drift sideways or upward. However, by separating the 3-day windows instead of grouping them together, we can see that the ability to capture the upward trend comes mostly from the post-FOMC window rather than the pre-FOMC window. Therefore, the pre-FOMC decline remains consistent with a risk-premium channel taking place before the announcement.

Another noteworthy observation is that the majority of the yield decline in the 3-day windows around FOMC meetings does not occur on FOMC announcement days before March 2022. This observation offers insight into why prior literature finds no pre-FOMC drift in the Treasury bond market: it often focuses solely on the FOMC announcement day. The results in Table 2 are consistent with the message in Figure 4 that the secular decline in

[12]Following the FOMC dates convention in the appendix of Hillenbrand (2025), we use the day after the meeting as day 0 for scheduled meetings before 1994. For unscheduled meetings before 1994, day 0 is the meeting day when the market learned about changes in the federal funds rate as identified by Kuttner (2001).

[13]A similar pattern is evident when restricting the sample to scheduled FOMC meetings, which is the focus of our paper.

long-term bond yields occurs mostly on the day before FOMC announcements. The 10-year yield change during the pre-FOMC window is significantly negative on average, but the corresponding changes on the FOMC day and the day after the FOMC meeting are not significant, even though the magnitudes on day 0 and day -1 are similar. This pattern further underscores the importance of investigating the pricing of long-term Treasury bonds before, rather than during or after, FOMC meetings.

An additional stylized fact emerges around the onset of the tightening cycle in March 2022. Prior to this date, yield declines within the three-day FOMC window are overwhelmingly concentrated on the day preceding the announcement, with little systematic response on the announcement day itself. After March 2022, however, this pattern changes markedly. As shown in Figures 4, the 10-year Treasury yield exhibits a large and statistically significant decline on the FOMC announcement day, in contrast to its negligible average response in the earlier period. Moreover, this day 0 decline in long-term yields largely unfolds during the post-meeting press conference (Acosta et al., 2025).

Consistent with recent evidence that press conferences have become the dominant source of monetary policy news in the tightening cycle, yield movements on day 0 frequently reflect revisions to market interpretations that occur after the release of the FOMC statement. In particular, during several meetings in 2022 and 2023, initially hawkish signals in the statement were followed by declines in long-term yields over the course of the press conference, suggesting that market participants revised their assessment of the Fed's policy stance as being less hawkish than initially inferred. As a consequence, the three-day event window around FOMC meetings no longer captures the increasing trend in long-term yields during the tightening cycle from 2022 to 2023.

3.4 Model-based Yield Decomposition: Term Premium

To gain a more comprehensive understanding of the pattern between long-term and short-term yield changes around FOMC meetings, we extend our analysis to include daily term premia and expected short-rate yield changes at different maturities from Adrian et al. (2013) in Table 2[14]. The results in Panel A of Table 2 show that the significant yield decline on day -1 is primarily driven by the term premium component. Specifically, the 10-year term premium (TP10) decreases by 0.71 basis points on the day before the FOMC meeting, with a t-statistic of -2.34, accounting for the majority of the 0.79 basis point drop in the 10-year yield (UST10). Meanwhile, the corresponding change in the 10-year expected short rate (EH10) is a statistically insignificant -0.08 basis points. A similar pattern is observed at the

[14]We also repeat the same analysis using the term premium calculated by Kim and Wright (2005), and the results are similar.

5-year and 2-year maturities: term premium components (TP5 and TP2) show moderate declines of 0.59 and 0.33 basis points, respectively, while the changes in expected short-rate yields (EH5 and EH2) are negligible and statistically insignificant.

The yield decline is strongest at the 10-year horizon and becomes weaker for shorter maturities, reinforcing the notion that the pre-FOMC drift is a long-term phenomenon. These findings suggest that the pre-FOMC yield decline is primarily driven by adjustments in term premia rather than shifts in expectations about the short-rate path. We perform a robustness check by excluding the financial crisis from 2008 to 2009 in Table A2. Excluding the financial crisis, the pre-FOMC yield change of the 10-year (2-year) bond is around -0.7 (-0.01) basis points, smaller than in the full sample, while the 10-year term premium decreases by 0.79 basis points, larger in magnitude than the full-sample decline of -0.71 basis points. This evidence suggests that the yield decrease during the financial crisis is linked to short-term yields rather than the term premium.

Moreover, the standard deviations reported in Panel B reveal a clear divergence in volatility patterns across maturities and components on the day before FOMC announcements. Specifically, the standard deviation of the 10-year term premium drops to 4.77 basis points on day -1, lower than its average of 5.20 basis points and also below its previous level of around 4.8 basis points, indicating reduced volatility in the long-term risk compensation component. In contrast, the volatility of expected short-rate components increases on day -1, reaching 4.72 basis points for the 2-year expected short-rate component, higher than its full-sample average. Similarly, short-term yields such as the current-month federal funds futures rate (FF1) also exhibit elevated volatility (6.48 bps on FOMC[-1] vs. 3.62 bps on average), consistent with the idea that short-end rates are more sensitive to the flow of monetary policy information, resulting in more price fluctuations and higher volatility. This contrasting pattern supports the interpretation that, in the short end of the curve, new information about the Fed's policy stance is actively incorporated into prices, leading to increased volatility. In contrast, the decline in long-term yield volatility–mostly in the term premium component–is consistent with a reduction in uncertainty ahead of the FOMC announcement, a mechanism we examine more directly below.

Figure 5 decomposes the cumulative 10-year yield changes around FOMC announcements into term-premium (TP) and expected short-rate (EH) components. Panel (a) shows that the persistent yield decline on day -1 is driven almost entirely by a reduction in TP. This dominance becomes even more striking when viewed over the long sample from 1994 to 2025: the pre-announcement window accumulates a steady downward drift in the term premium, while the expected short-rate component drops mostly around the financial crisis. Panel (d) provides an informative benchmark by decomposing yield changes over all trading days. In the full sample, both TP and EH contribute meaningfully to long-term yield dynamics,

suggesting that TP and EH are both important drivers of long-term yield changes over the full sample.

Panel (b) reveals a sharp contrast between day -1 and day 0: the yield reaction on the announcement day is dominated by changes in expected short rates. This finding is consistent with the "long-run Fed guidance" channel emphasized in Hillenbrand (2025), where new information released at the FOMC meeting shifts expectations about future short-rate paths and hence the level of long-term yields. A further intriguing observation arises when comparing Panels (a) and (c). The post-announcement window (day +1) exhibits a similar pattern to day -1, with a continued TP-driven decline. The fact that TP declines before and after the announcement but not during it is puzzling, because it suggests that the forces driving the risk-premium channel are temporarily overshadowed when the Fed reveals new information. Understanding why the TP mechanism pauses precisely at the announcement remains an open question and points to a subtle interaction between information effects and uncertainty resolution yet to be fully explained.

Together, these results highlight the different drivers of yield changes across the curve: expected short-rate components respond predominantly on the announcement day, reflecting the immediate policy decision, whereas term premia adjust earlier, reflecting shifts in risk premiums. These results suggest that the short end is primarily influenced by information arrival and policy expectations, while the long end incorporates an additional risk dimension – particularly the resolution of uncertainty and the associated decline in term premia.

4 The Risk Premium Channel

We show that the positive pre-FOMC returns on U.S. Treasuries occur earlier than in equity, specifically, on the day before the FOMC announcement. To understand the mechanism behind this pre-FOMC drift, we investigate its underlying drivers. This pre-FOMC window offers a unique lens into risk and return in long-term bonds, which are closely linked to macroeconomic and policy uncertainty.

A key feature of the pre-FOMC period is the sharp disconnect between long- and short-term yields, observed only on the day before the announcement. This disconnect is difficult to reconcile with a simple target-rate expectation channel. The 3-month-ahead federal funds futures rate (FF4), which captures near-term expectations about the federal funds rate, does not move significantly on day -1. This evidence does not rule out event-level learning about monetary policy; rather, it suggests that an unconditional drift in expected target-rate changes is unlikely to be the main explanation for the persistent positive returns on long-term Treasuries. We therefore focus on the component of long-term yields that should respond

to compensation for bearing FOMC-related uncertainty: the term premium. The significant pre-FOMC return in long-term Treasuries points to a risk-premium channel, under which investors are compensated for holding long-duration bonds ahead of policy announcements.

To shed further light on the risk-premium channel, we build our hypothesis on the two-risk model of Hu et al. (2022), which attributes the pre-announcement drift to the resolution of heightened uncertainty prior to the announcement. Central to the model is the incorporation of an impact uncertainty, which controls the market impact of the announcement shock. To the extent that market participants are highly uncertain about an impending announcement, it is reflected in the model via a volatile impact uncertainty, which in turn drives up the premium for impact uncertainty. Upon the resolution of the heightened uncertainty prior to the announcement, the risk premium for impact uncertainty is also realized, giving rise to the pre-announcement drift.

At the heart of Hu et al. (2022) is the accumulation of heightened uncertainty and its subsequent resolution prior to the announcement. The model, however, is silent on exactly what kind of uncertainty is resolved. This prompts the question: what specific risks do investors need to be compensated for when holding long-term Treasury bonds prior to FOMC meetings? As highlighted by Cochrane et al. (2005), it is crucial to understand the macroeconomic risks underlying the factor risk premia. Taking advantage of the fact that the risk involved in bond pricing is substantially less complex than that in equity pricing, we are able to identify the macro and policy uncertainties that give rise to the pre-FOMC drift in long-term bonds.

4.1 Heightened Uncertainty and Subsequent Resolution

Important to the heightened uncertainty channel is the mechanism of uncertainty resolution, which takes place during the pre-announcement window and in turn gives rise to the premium for heightened uncertainty (i.e., the pre-announcement drift). Focusing on the daily changes in market uncertainty leading up to FOMC announcements in Table 4, we show that uncertainty in the U.S. Treasury market is resolved earlier than uncertainty in the U.S. equity market.

Table 4 examines the dynamics of market-based uncertainty measures surrounding FOMC announcements and highlights a sharp contrast between the equity and bond markets. Consistent with Hu et al. (2022), equity-market uncertainty builds up ahead of the announcement: the VIX rises significantly on day -2 and does not decline on day -1, when the Treasury-market drift is realized. The resolution of equity-market uncertainty instead occurs primarily on the announcement day, as the VIX declines sharply on day 0. This timing mismatch indicates that the VIX captures the resolution of uncertainty relevant for the

equity-market pre-FOMC drift, but not the earlier resolution in the Treasury market.

We therefore turn to the MOVE index, which measures the market's expectation of near-term volatility in the Treasury market. MOVE declines mildly on day -1, and the decline becomes stronger after removing the component that comoves with equity-market volatility. To separate Treasury-market implied volatility from this equity-related component, we construct an *orthogonalized MOVE* index ($\text{MOVE}^{\perp}$). Specifically, we regress the daily level of MOVE on the daily level of VIX and define $\text{MOVE}^{\perp}$ as the residual from this regression. In the event-window analysis, we use changes in this residual, such as $\Delta\text{MOVE}^{\perp}$ from day -2 to day -1, to measure Treasury-specific uncertainty resolution around FOMC announcements. The orthogonalized MOVE index declines significantly on day -1, precisely when long-term Treasury yields and term premia fall.

This timing difference suggests that uncertainty in the Treasury market is resolved earlier than uncertainty in the equity market. In particular, the decline in $\text{MOVE}^{\perp}$ on day -1 indicates that bond investors begin to price in the resolution of policy-related uncertainty ahead of the FOMC announcement, while equity-market uncertainty resolves later than Treasury-market uncertainty. The fact that the pre-FOMC drift in long-term yields aligns closely with the decline in bond-specific uncertainty reinforces the interpretation that the pre-FOMC drift reflects a risk-premium channel rather than pure monetary-policy information arriving on the FOMC announcement day.

To examine whether the resolution of Treasury-market uncertainty is reflected in term premia, we regress changes in the 10-year term premium from day -2 to day -1 on changes in the orthogonalized MOVE index over the same window. The relationship is both economically and statistically meaningful. A one-point decline in orthogonalized MOVE is associated with a 0.33 basis-point decline in the 10-year term premium and accounts for 7% of the variation in pre-FOMC term-premium changes. This result implies that larger reductions in Treasury-market uncertainty are associated with larger declines in term premia, consistent with the uncertainty-resolution interpretation of the pre-FOMC Treasury drift.

The top panel of Figure 6 plots term premium changes against orthogonalized MOVE changes to illustrate the positive relationship more clearly. The y-axis for the 10-year term premium is inverted so that declining yields, which correspond to positive bond excess returns, move upward in the same direction as equity returns. We further highlight some FOMC meetings to illustrate the mechanism.

The August 9, 2011 FOMC meeting provides one example. On the day before the FOMC meeting, orthogonalized MOVE sharply declined as investors anticipated accommodative monetary policy following severe financial-market stress and the U.S. sovereign rating downgrade by S&P on August 5. The FOMC ultimately announced its explicit forward-guidance commitment to keep the federal funds rate near zero "at least through mid-2013," a surprise

that removed substantial uncertainty surrounding the near-term policy path. Consistent with our mechanism, this early resolution of uncertainty was accompanied by a large drop in the term premium on day -1, generating significant positive pre-FOMC returns in long-term Treasuries.

By contrast, the September 16, 2008 FOMC meeting, held immediately after the Lehman Brothers bankruptcy, provides an example where uncertainty did not resolve ahead of the announcement. Despite intense market attention, investors faced unprecedented uncertainty regarding systemic risk and the scope of the Federal Reserve's intervention. The orthogonalized MOVE index remained elevated and even increased going into day -1, reflecting heightened uncertainty and unresolved concerns about financial stability. Correspondingly, the term premium did not exhibit the same pre-FOMC decline observed in more typical resolution episodes. These contrasting cases reinforce our interpretation: when uncertainty resolves in advance of the announcement, as in August 2011, the term premium falls and a strong pre-FOMC drift in the bond market emerges; when uncertainty remains unresolved, as in September 2008, the mechanism is muted.

For comparison, the lower panel conducts an analogous analysis in the equity market and reveals a similarly significant negative relationship between pre-FOMC VIX changes and pre-FOMC equity returns, measured from day -1 to five minutes before the announcement. This is a well-documented phenomenon in previous literature (Ai et al., 2021; Hu et al., 2022): a decrease in VIX is accompanied by an increase in stock returns, especially during the pre-announcement period. The two illustrative events discussed above also manifest clearly in equities. Ahead of the August 9, 2011 FOMC meeting, equity-market uncertainty declined sharply as investors anticipated accommodative policy support, generating a strong pre-FOMC rally in the S&P 500. In contrast, prior to the September 16, 2008 meeting following Lehman Brothers' bankruptcy, uncertainty escalated rather than dissipated, and the pre-FOMC equity return was negative.

Together, these results indicate that in both U.S. Treasury and equity markets, greater resolution of market-specific uncertainty prior to the FOMC announcement is associated with larger pre-FOMC drifts. The evidence therefore supports the view that the pre-announcement drift reflects a premium for resolving heightened uncertainty, realized specifically in the narrow window leading into the FOMC decision.

4.2 Macroeconomic Attention Indices: Unemployment Rate

A natural question arises as to whether the pre-FOMC drift is systematically linked to the state of the real economy. Given the central role of labor-market conditions in driving policy accommodation, we study how the pre-FOMC drift co-moves with unemployment,

one of the key determinants of monetary policy under the Federal Reserve's dual mandate. We compute the pre-FOMC drift in the bond market using CRSP 10-year Treasury returns, translating yield movements into return space, and smooth the series using an EWMA method to highlight its cyclical variation. The upper panel of Figure 7 shows that the pre-FOMC drift in the bond market increases sharply when unemployment is elevated, including during the 2001 recession, the Global Financial Crisis, and the onset of the COVID-19 pandemic.

To find high-frequency evidence, we adopt the macro attention index (MAI) proposed by Fisher et al. (2022) as a proxy for uncertainty regarding macro fundamentals. The MAI is derived from news articles in prominent publications such as the New York Times and Wall Street Journal, offering novel metrics of attention to various macroeconomic risks, including unemployment and monetary policy. Consistent with endogenous information acquisition, Fisher et al. (2022) observe that investors' attention to monetary policy rises roughly three days before scheduled FOMC announcements and show that high pre-announcement attention to monetary policy predicts high announcement-date stock market returns.

One advantage of using the MAI as a proxy for attention or uncertainty lies in its close connection to different macroeconomic fundamentals. Compared with the uncertainty measures extracted from capital markets (e.g., the option-implied VIX and MOVE indices), the MAI indices offer topic-specific granularity since each MAI is associated with a specific category of macroeconomic news, enabling researchers to isolate which dimensions of the economy (e.g., labor markets or monetary policy) are driving investor sentiment. For example, an increase in the unemployment MAI indicates heightened uncertainty with respect to labor-market conditions.

We examine whether this attention measure for unemployment becomes more tightly linked to its underlying macroeconomic fundamental, the unemployment rate, around FOMC meetings. To do so, we match daily unemployment MAI with the contemporaneous monthly unemployment rate, given that the unemployment rate is a monthly series. Although the current month's employment data will not be released until the following month, the content of the information (i.e., labor market conditions) is already taking place contemporaneously. We also use the unemployment rate from the previous month as a robustness check, and the results are similar.

Column (1) in Table 5 examines the contemporaneous relationship between unemployment MAI and the unemployment rate. When the contemporaneous unemployment rate is elevated, the unemployment MAI also experiences a significant increase, with an R-squared of around 15%. This is consistent with the findings in Fisher et al. (2022) that employment attention intensifies in response to higher unemployment rates and increases more when it is associated with bad news.

We further explore whether this relationship strengthens in the days leading up to FOMC meetings, given the increased focus on labor market conditions during this period. Our findings, illustrated in column (2) of Table 5, reveal a significantly positive interaction term between the unemployment rate and the FOMC[-3] at a 1% significance level.[15] This indicates an amplification in the sensitivity of the unemployment MAI to the unemployment rate three days before the FOMC announcement. The interaction term suggests an additional coefficient of 0.09 on top of the baseline estimate of 0.21, implying a stronger connection between labor market fundamentals and investor attention during this specific window. Supporting this, we calculate the Pearson correlation: the average correlation between unemployment MAI and the unemployment rate is around 0.39 on normal days, but increases to 0.57 three days prior to FOMC announcements. The observed pattern is visually presented in the lower panel of Figure 7, where the unemployment MAI three days before the FOMC announcements closely mirrors the contemporaneous unemployment rate. Furthermore, this distinct co-movement is uniquely observed three days before the FOMC announcements, with no similar patterns detected in other FOMC windows, as evidenced by the analysis in columns (3) through (6) in Table 5.[16]

4.3 The Pre-FOMC UST under High Unemployment MAI

As highlighted in Lucca and Moench (2015) and Mueller et al. (2017), market uncertainty plays a central role in explaining pre-FOMC returns in equity and exchange rate markets. We investigate whether heightened labor-market attention helps account for the pre-FOMC yield decline in U.S. Treasury markets, in the spirit of the risk-premium channel used to explain pre-FOMC equity returns (Hu et al., 2022). Given the intensified co-movement between the unemployment MAI and the unemployment rate, we explore whether the unemployment MAI three days before FOMC meetings can serve as a proxy for heightened macroeconomic uncertainty and help explain the pre-FOMC drift in long-term yields. Fisher et al. (2022)

[15] This inference is robust to more conservative standard-error adjustments. For the interaction term between the unemployment rate and FOMC[-3], the t-statistic is 2.84 using Newey-West standard errors with 22 trading-day lags and 2.78 using standard errors clustered by calendar month; both remain significant at the 1% level.

[16] We also repeat the same analysis for the monetary MAI. While we find a positive contemporaneous relationship between monetary MAI and the unemployment rate, the association is weaker. Specifically, a rise in the unemployment rate leads to a statistically significant, but modest increase in monetary MAI, with a low R-squared of just 0.47%. More importantly, unlike the unemployment MAI, the monetary MAI does not exhibit a stronger correlation with macro fundamentals in the pre-FOMC window, except for a marginally significant coefficient on day -2. Although the monetary MAI shows a steady upward trend leading into FOMC meetings, it does not display the same heightened sensitivity to labor market conditions as the unemployment MAI. This contrast underscores the distinctive responsiveness of the unemployment MAI to macroeconomic information in the days preceding FOMC announcements.

construct the MAI by gauging the percentage of articles on a given day with content related to the macroeconomic fundamentals of interest. Their fundamental assumption posits that editorial efforts are driven by the readers' demand for different types of macroeconomic information, thereby driving changes in attention. Moreover, investors' attention is closely related to the macroeconomy and underlying market volatility, which helps us identify the source of the uncertainty behind the pre-FOMC drift.

Reported in Table 6 are the results of explaining the pre-FOMC UST drift by the unemployment MAI three days before FOMC announcements. HMAI is a dummy variable equaling 1 if the unemployment MAI three days before FOMC announcements is above its median value. The first column in Panel A shows that the yield change of the 10-year zero-coupon Treasury bond (UST10[-1]) decreases by an additional 1.42 basis points on average, significant at the 5% level, from day -2 to day -1 before FOMC meetings when the previous unemployment MAI is high. By contrast, when uncertainty is below median, the pre-FOMC change in the 10-year yield is no longer significant. These results are consistent with a risk-premium interpretation in which the pre-FOMC drift is concentrated in periods of heightened attention to labor-market conditions. This pattern holds true for the one-year forward rate beginning 9 years ahead (FUST10[-1]), exhibiting a significant additional drop of 1.94 basis points, and for the 10-year term premium (TP10[-1]), showing a significant additional decrease of 1.80 basis points one day before FOMC meetings when the preceding unemployment MAI is high.

When examining the impact of heightened unemployment attention on pre-FOMC short-term yields, we observe a decreasing effect from long-term to short-term yields. The HMAI dummy is no longer significant in explaining changes in the 2-year zero-coupon yield (UST2[-1]) and forward rate (FUST2[-1]), while it remains significant in differentiating 2-year term premium (TP2[-1]) changes one day before FOMC meetings. Specifically, when the unemployment MAI three days before FOMC meetings is high, the 2-year term premium decreases by an additional 1.20 basis points.

To further capture the accumulation of heightened uncertainty, an important component in the model of Hu et al. (2022), we also trace the change of unemployment MAI from day -5 to -3 relative to the FOMC announcement in Panel B of Table 6. Identifying the precise timing of uncertainty buildup is inherently challenging, as it may differ substantially across announcements (Hu et al., 2022). In our empirical tests, we measure the unemployment MAI build-up (ΔUMAI) over a two-day accumulation period from day -5 to day -3, given that the unemployment MAI starts increasing on average from five days before FOMC announcements. The result in Panel B shows that the build-up of the unemployment MAI predicts a larger pre-FOMC long-term yield decline. The coefficient for ΔUMAI is statistically significant, and the economic magnitude is large. A one-standard-deviation increase in

ΔUMAI is associated with an extra pre-FOMC reduction of 0.70 basis points in the 10-year yield and 0.86 basis points in the term premium component of the 10-year yield. Overall, consistent with the prediction of the two-risk model of Hu et al. (2022), increased macro uncertainties, as captured by both the level of the unemployment MAI and its change, are predictive of the pre-FOMC reduction in long-term yields. We also test the robustness of using the unemployment MAI to explain pre-FOMC yield changes by excluding the financial crisis in Table A2 and find that the results are similar.

Moreover, our approach also allows us to identify the nature of the uncertainty. Contrary to unemployment MAI, the uncertainty proxied by the monetary MAI in Panel C does not have any impact on pre-FOMC bond pricing, whether at the long or short end. Both economically and statistically, the impact of unemployment MAI is more pronounced than that of monetary MAI, particularly in explaining pre-FOMC UST at the long end. This finding suggests that while uncertainty naturally increases in anticipation of FOMC announcements, it is heightened uncertainty with respect to macro fundamentals such as the unemployment rate that drives the risk premium in long-term bonds.

As reported in Panel A of Table 3, there is reduced co-movement between long- and short-term yield changes one day before FOMC announcements. Building on this, we investigate whether this disconnect is more pronounced during periods of heightened macro uncertainty in Panel B of Table 3. We categorize FOMC meetings into high- and low-MAI groups separately based on whether the unemployment MAI three days before FOMC announcements is above or below its median value. We then repeat the same regression setting as in Panel A. The finding in column (4) of Panel B shows a significant additional drop of 1.48 basis points, compared with normal days, in the 10-year yield before FOMC meetings with high unemployment MAI. Furthermore, the interaction term in column (6) between FF4 and FOMC[-1] is -0.40, significant at the 1% level, confirming that the disconnect between long-term and short-term yield changes before FOMC announcements is indeed associated with higher macro attention to the unemployment rate. This pattern vanishes for FOMC meetings associated with low unemployment MAI, as indicated in Panel C.

We show earlier that a large fraction of the secular decline in long-term yields occurs before scheduled FOMC meetings. More importantly, we find that this pre-FOMC yield decline is concentrated in meetings preceded by elevated unemployment MAI. This evidence complements the forward-guidance interpretation in Hillenbrand (2025): while FOMC announcements may shape the long-run path of interest rates through guidance, the fact that a sizable component of the decline is realized before the announcement points to an additional pre-announcement channel. The sorting evidence suggests that this channel is linked to heightened attention to labor-market conditions, rather than only to information released at the announcement itself.

4.4 The Pre-FOMC Drift in Bond and Equity

4.4.1 Market-Based Uncertainty Measures for Bond and Equity

While the premium for heightened uncertainty drives the pre-FOMC drift in both bond and equity markets, the exact content of uncertainty may differ. We next investigate the differences and the shared common component between pre-FOMC UST and SPX, providing a more comprehensive view of the pre-FOMC drift in both markets. We examine distinct sources of uncertainty under the risk premium prior to FOMC meetings by first using traditional market-based uncertainty measures such as the VIX index extracted from the option market. As documented in Lucca and Moench (2015) and Mueller et al. (2017), the VIX index, as a proxy for market uncertainty, emerges as a pivotal factor in explaining pre-FOMC returns in stock and exchange-rate markets. To test its relationship with the pre-FOMC drift, we use the VIX index on day -3 to explain the pre-FOMC drift, similar to our use of the MAI index.

We compare the explanatory power of option-extracted uncertainty measures for the pre-FOMC drift in bond and stock markets in Table 7 by regressing the pre-FOMC drift on the lagged VIX index. The results presented in column (1) of Table 7 reveal that option-extracted uncertainty measures can explain the pre-FOMC drift in the stock market, but not the drift in the long-term Treasury bond market, showing the different sources of uncertainty under the risk premium in pre-FOMC SPX and UST.

The VIX level is positively and statistically significantly correlated with pre-FOMC SPX returns, which is well documented in Lucca and Moench (2015). A one-standard-deviation increase in the VIX level results in a significant increase of 24.01 basis points in pre-FOMC stock returns, with an R-squared of 14.52%, which is substantial for a predictive regression of equity returns at this high frequency. However, the VIX level fails to explain the pre-FOMC drift in the Treasury bond market. The coefficient on the pre-FOMC UST10 is estimated to be negative 0.17 basis points, which is statistically insignificant.

The VIX index has no predictability for the pre-FOMC drift in long-term yields, indicating that when it comes to pre-FOMC pricing, the risk that matters most for the equity market is not as important for the bond market. The converse is also true. While the heightened uncertainty in the bond market can be best captured by the unemployment MAI, it is unimportant in explaining the pre-FOMC drift in equity. The unemployment MAI level in column (2) of Table 7 can explain the pre-FOMC UST but not the pre-FOMC SPX. The contrasting explanatory power of option-extracted uncertainty measures versus MAI indexes reveals the different sources of the risk premium in pre-FOMC drifts in stock and bond markets.

In addition to the option-extracted uncertainty measures, we also find that the increase

in monetary MAI from day -5 to day -3 helps explain the pre-FOMC stock returns in column (3) of Panel B. A larger increase in attention to monetary policy is associated with higher pre-FOMC stock returns, which is similar to the result in Fisher et al. (2022) that pre-announcement monetary attention positively predicts excess market returns on the FOMC announcement date.

4.4.2 Macro and Financial Uncertainty Indexes for Bond and Equity

In addition to examining the distinct components between pre-FOMC UST and SPX captured by the market-based uncertainty measures, we further explore the shared component between the two. To do so, we adopt the macro and financial uncertainty indexes of Jurado et al. (2015). These indexes differ from option-extracted uncertainty measures in that they focus on capturing the unpredictability of the economy from the perspective of economic agents. Jurado et al. (2015) leverages a data-rich environment by incorporating a large set of macroeconomic and financial indicators to estimate uncertainty as the conditional volatility of a purely unforeseeable component of future values of economic variables. The macro uncertainty index is measured as a common component in the time-varying volatilities of forecast errors across a large number of macroeconomic series such as real activity, prices, and financial conditions, while financial uncertainty is based solely on financial market data. We follow this uncertainty-index framework, with the interpretation of uncertainty dynamics also related to Ludvigson et al. (2021).

We match each FOMC meeting with the 1-month-ahead forecast of macro and financial uncertainty from the previous month, given the monthly frequency of the data, and examine their relationship with the pre-FOMC drift in the bond and stock markets, as shown in Table 7. Column (5) in Panel A and Panel B reveals that when macro uncertainty increases in the previous month, the yield on 10-year Treasury bonds decreases significantly from day -2 to day -1 before the FOMC meeting, and the SPX index rises significantly in anticipation of the FOMC announcement. Column (4) further demonstrates that financial uncertainty outperforms macro uncertainty in explaining the pre-FOMC drift in both the bond and stock markets, as indicated by higher R-squared values, consistent with its focus on financial market data.

A key distinction between financial uncertainty and other uncertainty measures discussed in the previous section, such as the unemployment MAI or VIX level, is that financial uncertainty captures the common risk component underlying the pre-FOMC drift in both the bond and stock markets. The unemployment MAI can explain the pre-FOMC UST but has no predictability for the pre-FOMC SPX, while option-extracted uncertainty measures can explain the pre-FOMC SPX but fail to predict the pre-FOMC UST. By contrast, financial

uncertainty captures the common risk component, where higher financial uncertainty leads to larger pre-FOMC returns in both markets.

However, the risk premium reflected in financial uncertainty is not unique to the unemployment MAI or VIX. When controlling for the unemployment MAI, financial uncertainty loses its explanatory power for pre-FOMC UST yields, as shown in column (6) of Panel A in Table 7. Similarly, financial uncertainty loses its explanatory power for pre-FOMC SPX returns after accounting for the VIX level and ΔMAI Monetary in Panel B.

4.4.3 Predicting the Pre-FOMC SPX Using Pre-FOMC UST

Given that financial uncertainty captures the common component of risk in the pre-FOMC drift, we further examine this relationship by using the pre-FOMC drift in bonds to predict that in equities. This approach allows us to investigate the shared risk component, as the pre-FOMC drift in bonds is realized on day -1, whereas in equities, it is observed afterward from 4:00 pm on day -1 to five minutes before the announcement release time. By analyzing yield movements in the U.S. Treasury market, we shed some light on the puzzling stock market movements before FOMC announcements.

We first regress the pre-FOMC SPX on yield changes at different maturities on day -1 in Table 8 to assess potential predictability. The results indicate that the 10-year zero-coupon yield change at day -1 (UST10[-1]) can predict the following stock return before the announcement, which is significant at the 5% level. Moreover, the predictive power increases when using the one-year forward rate beginning 9 years ahead (FUST10[-1]) and the 10-year term premium (TP10[-1]). A one-basis-point decrease in FUST10[-1] (TP10[-1]) is associated with an approximately 1.82 (2.43) basis point increase in pre-FOMC stock returns. When FUST10[-1] (TP10[-1]) and the VIX level are included together, the coefficient of FUST10[-1] (TP10[-1]) drops to around -1.41 (-2.15) basis points and remains significant at the 5% level. This shows that the VIX level does not subsume the additional explanatory power coming from the long-term yield decline. The predictive power of UST10[-1] and FUST10[-1] emphasizes the term premium component of long-term yield changes and can predict the pre-FOMC SPX, which is mainly driven by stock risk premia.

Given that we find the pre-FOMC change in 10-year yield is significant only when uncertainty with respect to labor-market conditions is above the median, we sort the FOMC meetings into two groups in Panel B of Table 8: a high-MAI group on the left, including meetings with above-median unemployment MAI three days before the FOMC announcements, and a low-MAI group on the right, comprising the rest. The predictability of long-term yield such as UST10[-1] on pre-FOMC SPX is evident only when the previous unemployment MAI is high.

In the high-MAI group, a one-basis-point decrease in the 10-year zero-coupon yield one day before FOMC announcements predicts about a 2.6-basis-point increase in the pre-FOMC return in the S&P 500 index after controlling for the VIX level. When examining the predictability of different components of the 10-year yield for pre-FOMC SPX, we find that it is the term premium component that predicts the following return. This pattern underscores the distinctive role of the heightened uncertainty channel associated with long-term Treasury yields before FOMC meetings, where long-term bonds contain a larger term-premium component coming from elevated macro fundamental uncertainty risks preceding the announcements.

In the low-MAI group, the point estimate indicates that the 10-year Treasury yield change is not significant in predicting the pre-FOMC SPX. The differential predictability of UST10[-1] for pre-FOMC SPX in the high- and low-MAI groups further underscores the uncertainty channel behind the pre-FOMC drift in long-term yields. The persistently high positive pre-FOMC stock return is attributed to the resolution of heightened uncertainty before FOMC announcements (Hu et al., 2022). The observation that the yield change of long-term Treasury bonds one day before FOMC announcements can predict the following stock return in the high-MAI sample suggests that one source of uncertainty comes from heightened attention to the unemployment rate, which leads to a decrease in long-term yields and then results in a higher pre-FOMC stock return.

5 Conclusions

In this paper, we find positive and significant returns on long-term Treasury bonds by zooming in on the day before FOMC announcements. Unlike the pre-FOMC drift in the stock market, which is examined over the 24-hour window prior to announcements, the drift in the UST market occurs one day before FOMC announcements, from day -2 to day -1. Varying across the yield curve, we find that this significant reduction in yields is unique and robust only for long-term bonds and that the magnitude of the pre-FOMC yield decline decreases as maturity gets shorter. Over the 24-hour window that ends at the market close of the day before the FOMC announcement, the 10-year zero-coupon bond yield drops by a significant 0.79 basis points, compared with a full-sample average of -0.04 basis points. Over the same pre-FOMC window, the 2-year bond yield drops by an insignificant 0.25 basis points while the 3-month-ahead federal funds futures rate increases by 0.33 basis points.

Our result on the pre-FOMC drift in long-term bonds complements the finding in Hillenbrand (2025) that a three-day window around FOMC announcements accounts for an important component of the secular decline in long-term interest rates. Varying the event

window to other days surrounding FOMC announcements before March 2022, we find that the pre-FOMC yield decline is significant only over the day -2 to day -1 window, while the announcement-day yield change is negative but insignificant. This narrower timing helps reconcile our evidence with prior work that did not detect a Treasury drift in announcement-day or broader pre-announcement windows. Because the pre-FOMC drift is realized before the FOMC announcement, it is distinct from the forward-guidance channel emphasized by Hillenbrand (2025) and points to an additional pre-announcement component of the long-run decline in yields.

The evidence is consistent with a risk-premium interpretation in which investors require compensation for bearing uncertainty before FOMC announcements. By leveraging the relative simplicity of bond versus equity risk, we examine which macro and policy uncertainties are associated with the pre-FOMC drift in long-term bonds. To proxy for macro uncertainty, we use the macro attention index (MAI) developed by Fisher et al. (2022). We show that unemployment MAI, rather than monetary-policy MAI, predicts the pre-FOMC decline in long-term yields. The 10-year Treasury yield decreases by an additional 1.42 basis points, significant at the 5% level, from day -2 to day -1 before FOMC meetings when the unemployment MAI at day -3 is above its median. By contrast, monetary-policy MAI has little explanatory power for pre-FOMC bond pricing. This contrast suggests that the relevant pre-FOMC uncertainty in long-term bonds is tied more closely to macro fundamentals, especially labor-market conditions, than to attention to monetary policy itself.

While the pre-FOMC drift in both bond and equity markets is driven by the premium for heightened uncertainty, the exact content of uncertainty differs. For equities, heightened uncertainty is effectively captured by the VIX index, where the R-squared of regressing the pre-FOMC SPX on lagged VIX is 14.52%. Interestingly, the VIX index has no predictability for the pre-FOMC drift in long-term yields, indicating that, when it comes to pre-FOMC pricing, the risk that matters for the equity market is not important for the bond market. The converse is also true. While the heightened uncertainty in the bond market can be best captured by the unemployment MAI, it is unimportant in explaining the pre-FOMC drift in equity. However, we do find a shared component between the two pre-FOMC drifts. When the macro and financial uncertainty indexes proposed by Ludvigson et al. (2021) increase in the previous month, the yield on 10-year Treasury bonds decreases significantly from day -2 to day -1 before the FOMC meeting, and the SPX index rises significantly in anticipation of the FOMC announcement.

Moreover, the timing evidence suggests that uncertainty-related pricing appears first in the long-term bond market and is followed by the pre-FOMC drift in equities. This connection between pre-FOMC UST and SPX is concentrated in periods of heightened macro uncertainty. For instance, when unemployment MAI is above its median, a one-basis-point

decrease in the 10-year yield before the FOMC predicts about a 2.6-basis-point increase in the S&P 500's pre-FOMC return, and this relation remains significant after controlling for the VIX level. In contrast, the predictive relationship dissipates when unemployment MAI is low, consistent with an uncertainty-related channel behind the pre-FOMC drift in long-term yields. Importantly, we show that the predictive power arises primarily from the term premium component, rather than from the expected short-rate component.

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Table 1: Summary Statistics

Pre-FOMC: Day -1							Other						
	Obs	Mean	Std	Min	Median	Max		Obs	Mean	Std	Min	Median	Max
Panel A: Yield Change													
UST10	250	-0.79	5.20	-23.37	-0.51	15.42	UST10	7570	-0.01	5.98	-53.85	-0.17	33.11
UST5	250	-0.63	5.21	-36.85	0.01	15.11	UST5	7570	-0.02	6.00	-47.26	-0.01	32.57
UST2	250	-0.25	4.93	-45.23	0.00	23.12	UST2	7570	-0.03	5.38	-52.98	0.05	37.49
FF4	250	0.33	4.45	-20.50	0.00	36.50	FF4	7570	-0.03	3.46	-52.50	0.00	40.00
FUST10	250	-0.96	5.97	-28.74	-0.70	20.50	FUST10	7570	-0.01	6.67	-44.74	-0.22	52.35
FUST5	250	-0.95	6.15	-23.07	-0.73	19.40	FUST5	7570	-0.01	7.05	-69.55	-0.20	36.09
FUST2	250	-0.55	6.03	-46.98	-0.28	25.78	FUST2	7570	-0.02	7.01	-50.03	0.06	44.49
TP10	250	-0.71	4.77	-23.89	-0.46	14.14	TP10	7570	0.00	5.21	-41.10	-0.12	41.14
TP5	250	-0.59	3.57	-17.35	-0.59	10.68	TP5	7570	0.00	3.97	-33.06	-0.15	32.06
TP2	250	-0.33	3.00	-20.39	-0.28	8.08	TP2	7570	0.00	3.30	-42.50	-0.07	38.27
EH10	250	-0.08	3.56	-32.69	0.10	12.00	EH10	7570	-0.02	3.74	-40.76	0.05	30.41
EH5	250	-0.04	4.42	-41.32	0.16	15.70	EH5	7570	-0.02	4.54	-52.33	0.05	37.13
EH2	250	0.08	4.72	-45.46	0.15	19.94	EH2	7570	-0.02	4.51	-59.40	0.06	38.74
Panel B: Uncertainty Measures													
Pre-FOMC: Day -3							**Other**						
	Obs	Mean	Std	Min	Median	Max		Obs	Mean	Std	Min	Median	Max
MAI Urate	250	0.04	0.94	-1.21	-0.11	4.65	MAI Urate	7571	0.11	0.95	-1.21	-0.07	6.18
MAI Monetary	250	0.17	1.15	-1.87	-0.03	5.45	MAI Monetary	7571	0.18	1.31	-1.87	-0.02	10.60
VIX Index	250	19.73	8.07	9.36	17.78	79.13	VIX Index	7571	19.84	8.04	9.14	18.11	82.69
MOVE Index	250	92.43	30.16	42.48	90.09	239.40	MOVE Index	7571	91.55	28.85	36.62	89.80	264.60
Pre-FOMC: Previous Month							**Other**						
	Obs	Mean	Std	Min	Median	Max		Obs	Mean	Std	Min	Median	Max
Macro Uncertainty	250	0.65	0.12	0.53	0.62	1.24	Macro Uncertainty	127	0.66	0.12	0.53	0.62	1.21
Financial Uncertainty	250	0.92	0.18	0.63	0.90	1.50	Financial Uncertainty	127	0.92	0.19	0.63	0.90	1.55

This table reports summary statistics for pre-FOMC drift in the Treasury market, measured in basis points from day -2 to day -1 before scheduled FOMC meetings, and for the non-FOMC sample, which excludes the day before scheduled FOMC meetings. UST10, UST5, and UST2 are daily changes in 10-, 5-, and 2-year zero-coupon Treasury yields, and FF4 is the change in the 3-month-ahead federal funds futures rate. FUST10, FUST5, and FUST2 are daily changes in one-year forward rates starting nine, four, and one years ahead. TP10, TP5, and TP2 are 10-, 5-, and 2-year term premia. Daily changes in Panel A are computed after merging all daily series onto the common trading-day sample, so the first common-sample observation is excluded from Panel A change statistics. Panel B reports daily uncertainty measures observed three days before FOMC announcements and monthly macro and financial uncertainty measures observed in the previous month. MAI Urate and MAI Monetary are daily Macro Attention Index (MAI) measures for the unemployment rate and monetary policy, respectively. Macro and financial uncertainty are monthly series. The sample period runs from September 1994 to December 2025.

Table 2: Average Daily Yield Changes around FOMC Announcements

Panel A: Average Daily Yield Changes

	10-Year Maturity			5-Year Maturity			2-Year Maturity			Fed Funds Futures		
	UST10	TP10	EH10	UST5	TP5	EH5	UST2	TP2	EH2	FF7	FF4	FF1
FOMC[-7]	-0.25	-0.3	0.05	-0.15	-0.22	0.07	-0.19	-0.26	0.07	-0.71	-0.29	-0.06
	[-0.64]	[-1.00]	[0.22]	[-0.38]	[-0.91]	[0.23]	[-0.49]	[-1.34]	[0.23]	[-1.47]	[-1.00]	[-0.41]
FOMC[-6]	-0.31	-0.44	0.13	-0.16	-0.34	0.18	0	-0.25	0.25	0.3	0.25	-0.15
	[-1.00]	[-1.60]	[0.56]	[-0.49]	[-1.66]	[0.66]	[0.00]	[-1.38]	[0.88]	[0.99]	[0.92]	[-0.70]
FOMC[-5]	0.36	0.27	0.09	0.36	0.28	0.07	0.21	0.25	-0.04	-0.13	-0.05	0.17
	[1.03]	[0.89]	[0.47]	[1.08]	[1.25]	[0.31]	[0.75]	[1.52]	[-0.16]	[-0.54]	[-0.36]	[1.73]
FOMC[-4]	0.31	0.08	0.22	0.36	0.09	0.27	0.33	0.05	0.28	0.24	-0.05	-0.22
	[0.84]	[0.28]	[1.02]	[0.98]	[0.38]	[1.03]	[0.96]	[0.23]	[1.09]	[0.81]	[-0.26]	[-1.93]
FOMC[-3]	0.07	-0.1	0.17	0.19	-0.03	0.22	0.38	0.18	0.21	0.09	-0.17	-0.17
	[0.18]	[-0.34]	[0.79]	[0.51]	[-0.12]	[0.83]	[1.10]	[0.85]	[0.82]	[0.31]	[-0.95]	[-1.20]
FOMC[-2]	0.49	0.26	0.23	0.48	0.19	0.29	0.46	0.12	0.34	0.47	0.33	0.29
	[1.30]	[0.86]	[1.14]	[1.28]	[0.78]	[1.18]	[1.41]	[0.61]	[1.40]	[1.54]	[1.40]	[1.30]
FOMC[-1]	**-0.79**	**-0.71**	-0.08	-0.63	**-0.59**	-0.04	-0.25	-0.33	0.08	0.28	0.33	0.5
	[-2.39]	**[-2.34]**	[-0.35]	[-1.91]	**[-2.61]**	[-0.14]	[-0.81]	[-1.74]	[0.26]	[0.90]	[1.16]	[1.23]
FOMC[0]	-0.78	-0.17	-0.62	-0.96	-0.22	-0.75	-0.75	-0.01	-0.74	-0.6	-0.28	0.1
	[-1.83]	[-0.46]	[-1.90]	[-2.05]	[-0.80]	[-1.90]	[-1.80]	[-0.04]	[-1.95]	[-1.71]	[-1.00]	[0.40]
FOMC[1]	-0.53	-0.4	-0.13	-0.33	-0.12	-0.22	-0.36	0.12	-0.48	-0.55	-0.43	-0.33
	[-1.12]	[-0.85]	[-0.47]	[-0.76]	[-0.34]	[-0.62]	[-0.96]	[0.47]	[-1.38]	[-1.56]	[-1.69]	[-0.91]
All days	-0.04	-0.02	-0.02	-0.04	-0.02	-0.02	-0.03	-0.01	-0.02	-0.03	-0.02	-0.01
	[-0.58]	[-0.36]	[-0.42]	[-0.59]	[-0.41]	[-0.41]	[-0.55]	[-0.35]	[-0.40]	[-0.50]	[-0.46]	[-0.23]

Panel B: Standard Deviations of Daily Yield Changes

	UST10	TP10	EH10	UST5	TP5	EH5	UST2	TP2	EH2	FF7	FF4	FF1
FOMC[-7]	6.04	4.74	3.77	6.32	3.79	4.59	6.18	3.09	4.65	7.64	4.54	2.4
FOMC[-6]	4.91	4.31	3.55	5.19	3.29	4.35	4.8	2.83	4.46	4.72	4.26	3.34
FOMC[-5]	5.44	4.71	3.03	5.19	3.58	3.7	4.5	2.6	3.8	3.83	2.4	1.56
FOMC[-4]	5.77	4.78	3.47	5.85	3.72	4.19	5.37	3.1	4.06	4.69	3.16	1.84
FOMC[-3]	5.76	4.76	3.42	5.84	3.69	4.12	5.52	3.34	3.97	4.65	2.87	2.27
FOMC[-2]	5.98	4.8	3.2	5.87	3.8	3.87	5.16	3.04	3.85	4.83	3.71	3.55
FOMC[-1]	5.2	4.77	3.56	5.21	3.57	4.42	4.93	3	4.72	4.85	4.45	6.48
FOMC[0]	6.77	5.75	5.15	7.45	4.32	6.22	6.61	3.51	6.02	5.54	4.38	4.15
FOMC[1]	7.54	7.46	4.48	6.94	5.45	5.49	5.93	4.07	5.52	5.52	4.04	5.68
All days	5.95	5.2	3.74	5.98	3.96	4.54	5.37	3.29	4.51	4.74	3.5	3.62

Panel A reports average daily changes, in basis points, and Panel B reports the corresponding standard deviations for Treasury yields, term premia, expected short-rate components, and federal funds futures around FOMC windows. FOMC[-i] denotes the i-th trading day before a scheduled FOMC announcement. UST10, UST5, and UST2 are daily changes in 10-, 5-, and 2-year zero-coupon Treasury yields. TP10, TP5, and TP2 are 10-, 5-, and 2-year term premia. EH10, EH5, and EH2 are changes in the 10-, 5-, and 2-year expected short-rate components. FF7, FF4, and FF1 are changes in the 6-month-ahead, 3-month-ahead, and current-month federal funds futures rates. T-statistics are reported in brackets. The sample period runs from September 1994 to December 2025.

Table 3: The Disconnect between Long- and Short-Term Yields

Dependent Variable: Change in 10-Year Yield (ΔUST10)										
Sorting Variable = Unemployment MAI on Day -3										
Panel A: Full Sample				**Panel B: High-MAI Sample**				**Panel C: Low-MAI Sample**			
	(1)	(2)	(3)		(4)	(5)	(6)		(7)	(8)	(9)
Const	-0.01	-0.03	0	Const	-0.02	-0.03	0	Const	-0.04	-0.03	-0.03
	[-0.21]	[-0.44]	[0.08]		[-0.23]	[-0.44]	[0.05]		[-0.57]	[-0.44]	[-0.42]
FOMC[-1]	-0.77**		-0.91***	HFOMC[-1]	-1.48***		-1.65***	LFOMC[-1]	-0.04		-0.06
	[-2.30]		[-2.83]		[-2.93]		[-3.30]		[-0.09]		[-0.18]
FF4		0.62***	0.64***	FF4		0.62***	0.64***	FF4		0.62***	0.62***
		[16.26]	[16.06]			[16.26]	[16.33]			[16.26]	[16.00]
FF4*FOMC[-1]			-0.28*	FF4*HFOMC[-1]			-0.40***	FF4*LFOMC[-1]			-0.03
			[-1.94]				[-2.73]				[-0.16]
R-sqrd (%)	0.05	13.34	13.56	R-sqrd (%)	0.1	13.34	13.67	R-sqrd (%)	0	13.34	13.34
N	7823	7823	7823	N	7823	7823	7823	N	7823	7823	7823

This table reports the relationship between changes in long-term and short-term yields. The dependent variable is the daily change in the 10-year zero-coupon Treasury yield. FOMC[-1] equals one on the trading day before a scheduled FOMC announcement and zero otherwise. FF4 is the change in the 3-month-ahead federal funds futures rate. Scheduled FOMC meetings are sorted by unemployment MAI three days before the announcement; the high-MAI sample contains meetings with above-median unemployment MAI, and the low-MAI sample contains the remaining meetings. HFOMC[-1] equals one on the trading day before a scheduled FOMC announcement with high unemployment MAI, and LFOMC[-1] equals one on the trading day before a scheduled FOMC announcement with low unemployment MAI. The sample period runs from September 1994 to December 2025. ***Significant at 1%, **significant at 5%, *significant at 10%. T-statistics are reported in brackets and are computed using Newey-West (1987) standard errors with four lags.

Table 4: Resolution of Uncertainty around FOMC Announcements

	ΔVIX	ΔMOVE	$\Delta\text{MOVE}^{\perp}$	ΔUST10	ΔTP10
const	0.01	0.06	0.05	0.01	0.04
	[0.42]	[1.17]	[0.83]	[0.11]	[0.53]
FOMC[-7]	-0.12	-0.36	-0.13	-0.26	-0.34
	[-0.99]	[-1.34]	[-0.46]	[-0.65]	[-1.08]
FOMC[-6]	0.14	-0.39*	-0.65**	-0.32	-0.47*
	[1.30]	[-1.76]	[-2.55]	[-1.00]	[-1.68]
FOMC[-5]	-0.05	0.19	0.28	0.35	0.23
	[-0.43]	[0.68]	[0.89]	[0.98]	[0.75]
FOMC[-4]	-0.18**	0.76**	1.11***	0.3	0.05
	[-2.44]	[2.56]	[3.51]	[0.80]	[0.15]
FOMC[-3]	0.05	0.01	-0.09	0.06	-0.14
	[0.50]	[0.05]	[-0.34]	[0.16]	[-0.45]
FOMC[-2]	0.25***	0.37	-0.12	0.48	0.23
	[2.78]	[1.42]	[-0.43]	[1.25]	[0.73]
FOMC[-1]	0.06	-0.48*	-0.60**	-0.79**	-0.74**
	[0.51]	[-1.72]	[-2.29]	[-2.35]	[-2.40]
FOMC[0]	-0.48***	-2.57***	-1.63***	-0.79*	-0.2
	[-3.86]	[-8.57]	[-4.90]	[-1.81]	[-0.55]
FOMC[1]	0.07	0.28	0.15	-0.54	-0.44
	[0.54]	[0.92]	[0.40]	[-1.12]	[-0.92]
N	7814	7814	7814	7814	7814
R-sqrd (%)	0.39	1.37	0.69	0.19	0.13

This table reports average changes in the VIX, MOVE, and orthogonalized MOVE ($\text{MOVE}^{\perp}$) indices around FOMC announcements, together with changes in the 10-year zero-coupon Treasury yield and the 10-year term premium. The orthogonalized MOVE index is constructed as the residual from a regression of the MOVE index on the VIX index. The sample period runs from September 1994 to December 2025. ***Significant at 1%, **significant at 5%, *significant at 10%. T-statistics are reported in brackets and are computed using Newey-West (1987) standard errors with four lags.

Table 5: The Unemployment MAI and Unemployment Rate

	Dependent Variable = Unemployment MAI					
	(1)	(2)	(3)	(4)	(5)	(6)
Urate	0.21***	0.20***	0.21***	0.21***	0.21***	0.21***
	[27.94]	[27.47]	[27.78]	[27.82]	[27.66]	[28.07]
FOMC[-3]		-0.54***				
		[-3.06]				
FOMC[-2]			0.02			
			[0.11]			
FOMC[-1]				0.19		
				[1.04]		
FOMC[0]					-0.06	
					[-0.32]	
FOMC[1]						0.50**
						[2.00]
FOMC[-3]×Unemployment		0.09***				
		[2.68]				
FOMC[-2]×Unemployment			0.03			
			[1.04]			
FOMC[-1]×Unemployment				-0.05		
				[-1.43]		
FOMC[0]×Unemployment					0.02	
					[0.78]	
FOMC[1]×Unemployment						0.002
						[0.04]
Const	-1.07***	-1.06***	-1.07***	-1.08***	-1.07***	-1.09***
	[-25.77]	[-25.23]	[-25.68]	[-25.68]	[-25.56]	[-26.31]
R-sqrd (%)	15.28	15.37	15.4	15.31	15.31	16.12
N	8129	8129	8129	8129	8129	8129

This table reports the relationship between the unemployment rate and the Macro Attention Index (MAI) for unemployment. The dependent variable is the daily unemployment MAI level. Unemployment is the contemporaneous unemployment rate for the current month, which is released in the following month. FOMC[-i] equals one on the i-th trading day before a scheduled FOMC announcement and zero otherwise. The sample period runs from September 1994 to December 2025. ***Significant at 1%, **significant at 5%, *significant at 10%. T-statistics are reported in brackets and are computed using Newey-West (1987) standard errors with four lags.

Table 6: Predicting Pre-FOMC Yield Changes

	UST10[-1]	FUST10[-1]	TP10[-1]	EH10[-1]	UST2[-1]	FUST2[-1]	TP2[-1]	EH2[-1]
Panel A: $\Delta\text{Yield}_{-1} = a + b\,\text{HMAI}_{-3} + \epsilon_{-1}$								
Const	-0.08	0.01	0.19	-0.27	0.03	-0.1	0.27	-0.24
	[-0.17]	[0.02]	[0.64]	[-0.68]	[0.05]	[-0.16]	[1.26]	[-0.44]
HMAI	-1.42**	-1.94***	-1.80***	0.38	-0.56	-0.9	-1.20***	0.64
	[-2.02]	[-2.71]	[-3.30]	[0.77]	[-0.78]	[-1.03]	[-3.34]	[0.98]
R-sqrd (%)	1.86	2.66	3.58	0.29	0.32	0.56	4	0.46
N	250	250	250	250	250	250	250	250
Panel B: $\Delta\text{Yield}_{-1} = \alpha + b\,(\text{UMAI}_{-3} - \text{UMAI}_{-5}) + \epsilon_{-1}$								
	UST10[-1]	FUST10[-1]	TP10[-1]	EH10[-1]	UST2[-1]	FUST2[-1]	TP2[-1]	EH2[-1]
Const	-0.73**	-0.88**	-0.64**	-0.09	-0.22	-0.49	-0.27	0.05
	[-2.25]	[-2.20]	[-2.06]	[-0.41]	[-0.71]	[-1.41]	[-1.40]	[0.16]
ΔUMAI	-0.70**	-1.02***	-0.86***	0.16	-0.4	-0.68**	-0.74***	0.33*
	[-2.24]	[-2.92]	[-3.27]	[0.96]	[-1.64]	[-2.08]	[-4.47]	[1.68]
R-sqrd (%)	1.79	2.95	3.24	0.21	0.67	1.28	6.06	0.5
N	250	250	250	250	250	250	250	250
Panel C: $\Delta\text{Yield}_{-1} = a + b\,\text{UMAI}_{-3} + c\,\text{MMAI}_{-3} + \epsilon_{-1}$								
	UST10[-1]	FUST10[-1]	TP10[-1]	EH10[-1]	UST2[-1]	FUST2[-1]	TP2[-1]	EH2[-1]
Const	-0.79**	-0.92**	-0.66**	-0.14	-0.31	-0.57	-0.29	-0.02
	[-2.45]	[-2.35]	[-2.18]	[-0.59]	[-0.97]	[-1.58]	[-1.55]	[-0.07]
UMAI	-0.95***	-1.46***	-1.18***	0.23	-0.29	-0.46	-0.65***	0.36
	[-2.78]	[-3.39]	[-3.31]	[0.97]	[-0.92]	[-1.26]	[-3.88]	[1.17]
MMAI	0.23	-0.02	-0.08	0.31	0.41	0.24	-0.14	0.55*
	[0.77]	[-0.07]	[-0.35]	[1.45]	[1.27]	[0.60]	[-0.70]	[1.74]
R-sqrd (%)	2.9	5.2	5.44	1.51	1.07	0.63	4.69	2.6
N	250	250	250	250	250	250	250	250

This table reports time-series regressions of pre-FOMC yield changes on Macro Attention Index (MAI) measures for unemployment and monetary policy. UMAI (MMAI) is the unemployment (monetary policy) MAI level on day -3. HMAI equals one if UMAI is above its median value and zero otherwise. ΔUMAI is the change in unemployment MAI from day -5 to day -3. UST10[-1] (UST2[-1]) is the daily change in the 10-year (2-year) yield from day -2 to day -1. TP and EH denote the term-premium and expected short-rate components, respectively. FUST10 and FUST2 are daily changes in one-year forward rates starting nine and one years ahead. The sample period runs from September 1994 to December 2025. ***Significant at 1%, **significant at 5%, *significant at 10%. T-statistics are reported in brackets and are computed using Newey-West (1987) standard errors with four lags.

Table 7: Predicting Pre-FOMC Drift with Uncertainty Measures

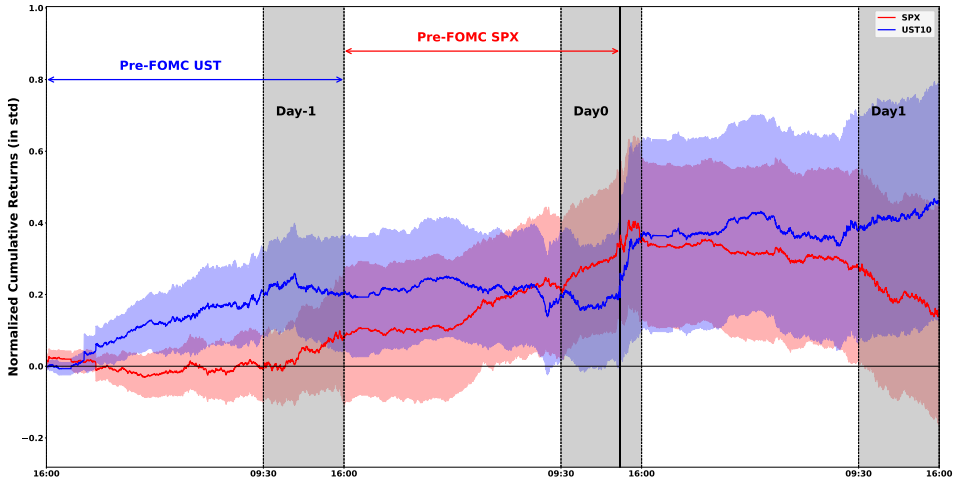
Panel A: Pre-FOMC UST10						
	(1)	(2)	(3)	(4)	(5)	(6)
VIX level	-0.17					
	[-0.40]					
UMAI		-0.85***				-0.73**
		[-2.68]				[-2.13]
ΔMMAI			-0.55*			
			[-1.70]			
Financial Uncertainty				-0.64**		-0.45
				[-2.14]		[-1.38]
Macro Uncertainty					-0.52*	
					[-1.83]	
Const	-0.79**	-0.79**	-0.79**	-0.79**	-0.79**	-0.79**
	[-2.40]	[-2.50]	[-2.36]	[-2.44]	[-2.40]	[-2.53]
R-sqrd (%)	0.1	2.66	1.13	1.51	0.99	3.36
N	250	250	250	250	250	250
Panel B: Pre-FOMC SPX						
	(1)	(2)	(3)	(4)	(5)	(6)
VIX level	24.01***					19.91***
	[4.75]					[3.25]
UMAI		1.66				
		[0.29]				
ΔMMAI			6.46*			7.38**
			[1.86]			[2.21]
Financial Uncertainty				20.74***		6.25
				[3.72]		[1.02]
Macro Uncertainty					19.93***	
					[3.12]	
Const	26.84***	26.84***	26.84***	26.84***	26.84***	26.84***
	[6.74]	[5.24]	[5.15]	[6.15]	[6.14]	[6.55]
R-sqrd (%)	14.52	0.07	1.05	10.84	10	16.52
N	250	250	250	250	250	250

The pre-FOMC change in the 10-year yield is measured from the close of day -2 to the close of day -1, whereas the pre-FOMC return on the S&P 500 is measured from the close of day -1 to five minutes before the FOMC announcement. The option-implied VIX index is measured at the close of day -3 and standardized to have mean zero and variance one. UMAI is the unemployment MAI level on day -3, and ΔMMAI is the change in monetary policy MAI from day -5 to day -3. The macro uncertainty index captures the common component in the time-varying volatilities of h-step-ahead forecast errors across a wide range of macroeconomic series, including real activity, prices, and financial variables (Ludvigson et al., 2021). The financial uncertainty index is based solely on financial market data. Macro (Financial) Uncertainty is the previous month's uncertainty level before the FOMC meeting, measured at the 1-month-ahead forecast horizon. The sample period runs from September 1994 to December 2025. ***Significant at 1%, **significant at 5%, *significant at 10%. T-statistics are reported in brackets and are computed using Newey-West (1987) standard errors with four lags.

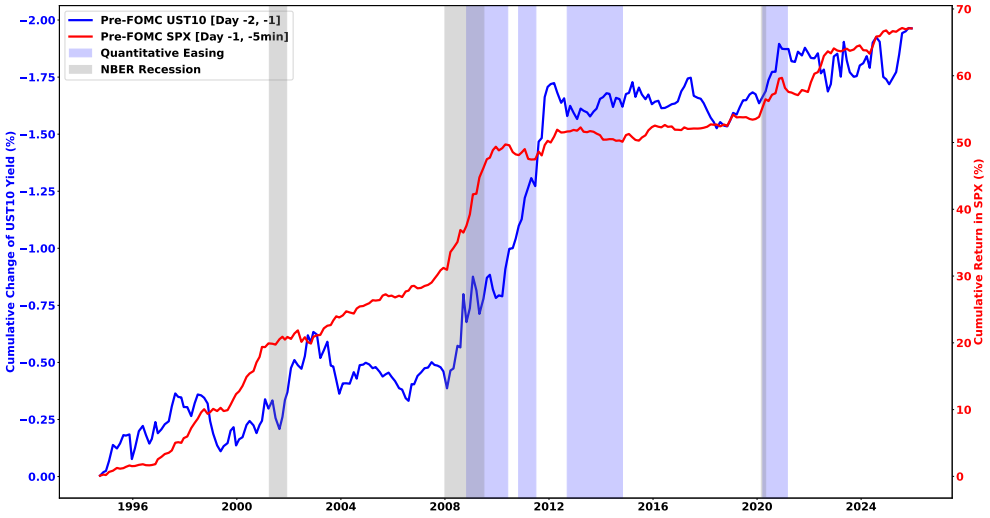
Table 8: Predicting Pre-FOMC SPX by Pre-FOMC UST

Dependent Variable = Pre-FOMC S&P 500 Returns (basis points)							
Panel A: Full Sample							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
const	25.48***	27.23***	25.12***	26.89***	25.08***	-31.89***	-30.96***
	[5.00]	[5.29]	[4.87]	[5.22]	[4.94]	[-3.20]	[-3.06]
UST10[-1]	-1.73**						
	[-2.12]						
FF4[-1]		-1.27					
		[-1.18]					
TP10[-1]			-2.43**			-2.15**	
			[-2.41]			[-2.32]	
EH10[-1]				0.67			
				[0.46]			
FUST10[-1]					-1.82**		-1.41**
					[-2.29]		[-2.08]
VIX level						2.90***	2.86***
						[4.88]	[4.77]
R-sqrd (%)	2.02	0.8	3.36	0.14	2.96	17.15	16.28
N	250	250	250	250	250	250	250
Panel B: Sorted by UMAI							
	High-MAI FOMC Sample				**Low-MAI FOMC Sample**		
	(1)	(2)	(3)		(4)	(5)	(6)
Const	-44.91***	-44.00***	-40.18***		-19.92	-20.09	-19.84
	[-3.21]	[-3.29]	[-2.69]		[-1.03]	[-1.04]	[-1.05]
UST10[-1]	-2.56***				-0.4		
	[-2.70]				[-0.44]		
TP10[-1]		-3.09***				-0.32	
		[-3.04]				[-0.32]	
EH10[-1]			1.79				-0.29
			[0.93]				[-0.19]
VIX level	3.28***	3.18***	3.23***		2.47**	2.48**	2.46**
	[4.22]	[4.21]	[3.92]		[2.09]	[2.10]	[2.13]
R-sqrd (%)	21.32	23.04	18.02		9.54	9.46	9.46
N	125	125	125		125	125	125

This table reports regressions of pre-FOMC S&P 500 returns on pre-FOMC Treasury-market variables. The pre-FOMC S&P 500 return is measured from 4:00 pm ET on the pre-FOMC day to five minutes before the FOMC announcement. UST10[-1] is the daily change in the 10-year yield from day -2 to day -1. FF4 is the change in the 3-month-ahead federal funds futures rate. FUST10[-1] is the daily change in the one-year forward rate starting nine years ahead. TP10[-1] is the 10-year term premium, and EH10[-1] is the 10-year expected short-rate component. Panel A reports full-sample results, and Panel B reports results sorted by unemployment MAI. The high-MAI sample contains FOMC announcements with above-median unemployment MAI three days before the announcement, and the low-MAI sample contains the remaining announcements. T-statistics are reported in brackets and are computed using Newey-West (1987) standard errors with four lags. The sample period runs from September 1994 to December 2025.



(a) Average returns on 10-year Treasury note futures and the S&P500 around FOMC meetings



(b) Time series of pre-FOMC drift in 10-year Treasury yield and S&P500

Figure 1: Pre-FOMC Drift in Bond and Equity Markets. The upper panel shows average cumulative bond and stock returns over three-day windows, normalized by their respective daily standard deviations. The blue line reports returns on 10-year Treasury note futures, and the red line reports returns on the S&P 500 index. The shaded areas denote pointwise 95% confidence bands around the average returns. The sample period for Panel A runs from January 2004 to June 2025. The solid vertical line is set at 2:15 pm ET. The lower panel shows the time series of cumulative pre-FOMC drift in the 10-year Treasury yield over the FOMC[-1] window in blue. The pre-FOMC drift in the S&P 500 index is accumulated from the close of day -1 to five minutes before the FOMC announcement. The sample period for Panel B runs from September 1994 to December 2025.

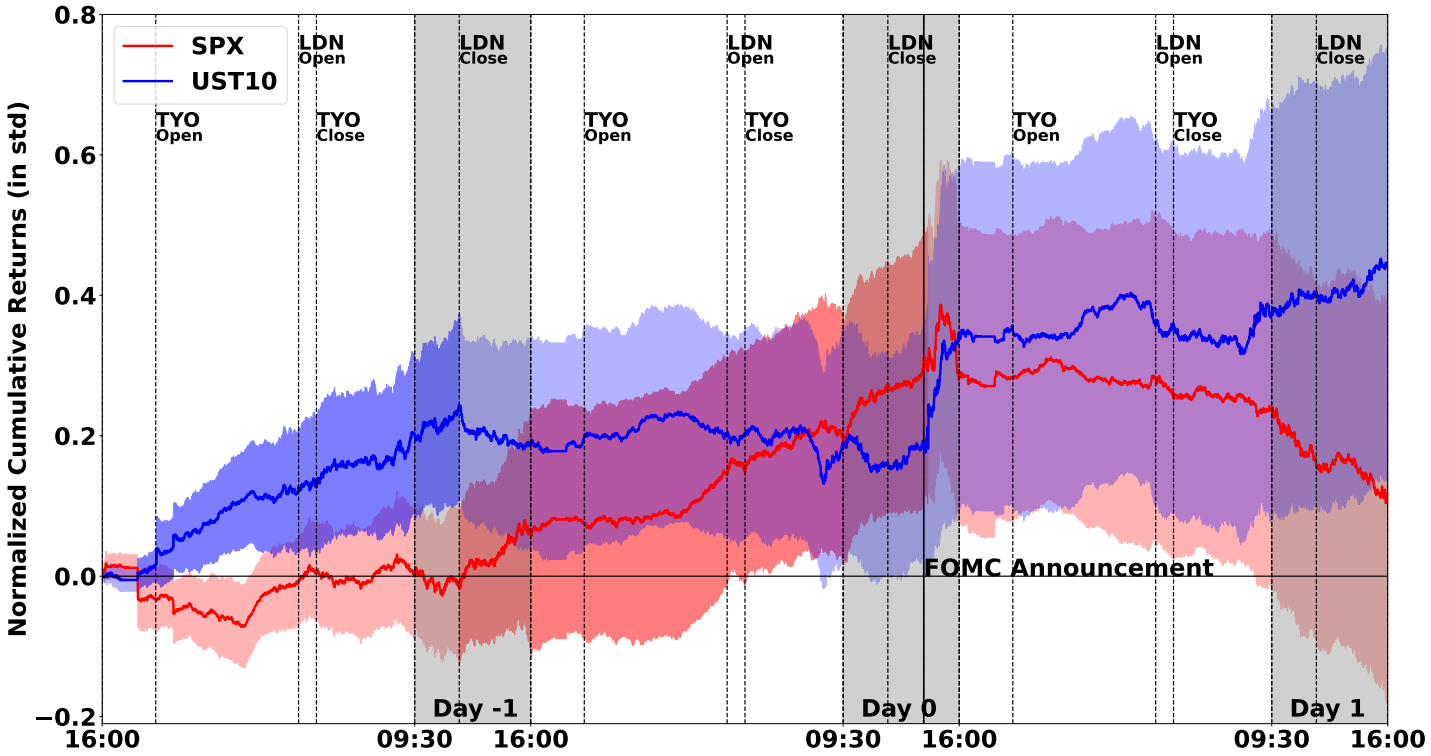


Figure 2: Pre-FOMC Drift around the Clock. The figure shows average cumulative bond and stock returns over three-day windows, normalized by their respective daily standard deviations. The blue line reports returns on 10-year Treasury note futures, and the red line reports returns on the S&P 500 index. The shaded areas denote pointwise 95% confidence bands around the average returns. Tokyo markets open at 19:00 ET and close at 4:00 ET, while London markets open at 3:00 ET and close at 12:00 ET. The sample period runs from January 2004 to June 2025. The solid vertical line is set at 2:15 pm ET.

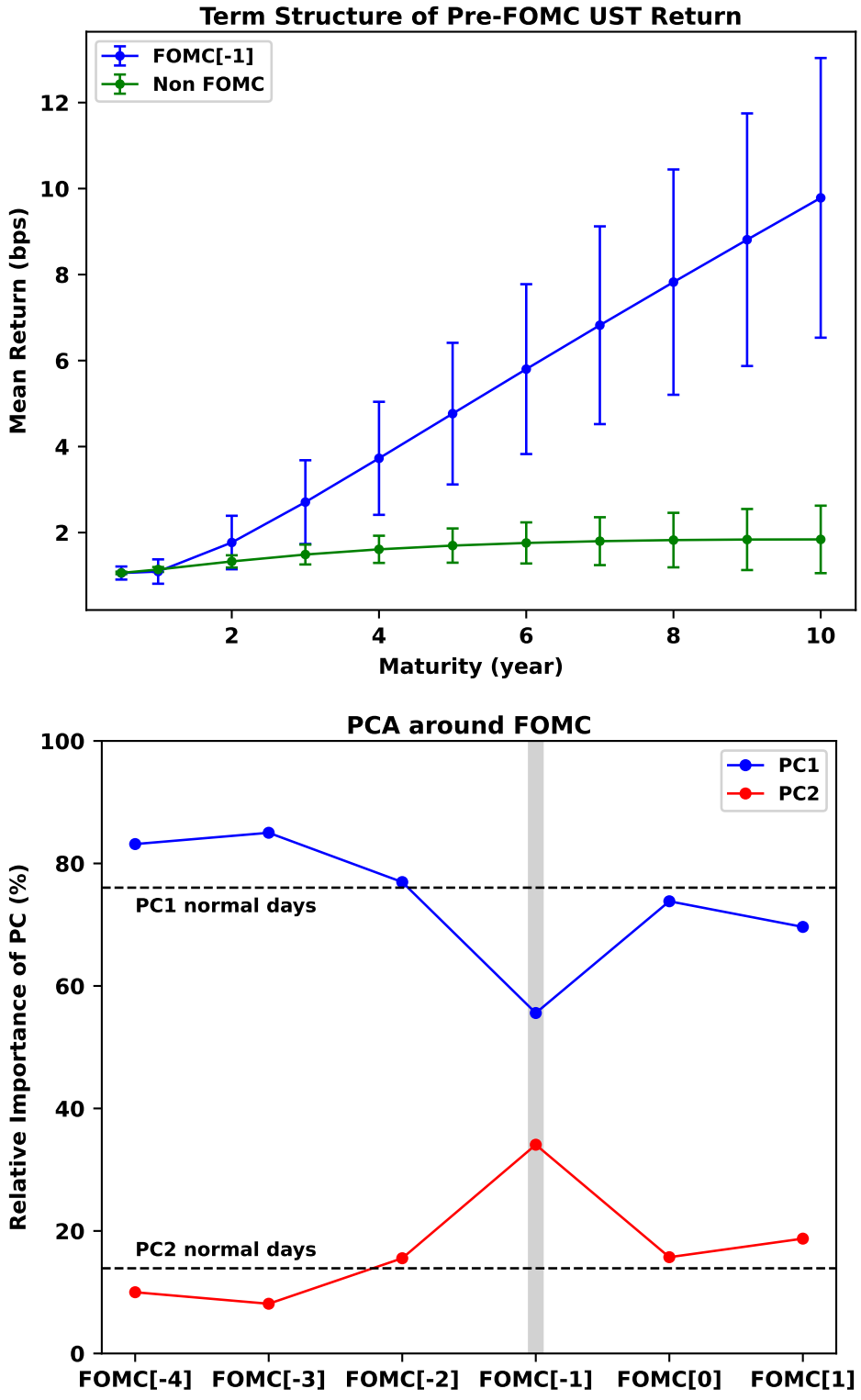


Figure 3: Term Structure of the Yield Curve. The upper panel plots the term structure of Treasury returns on normal days in green and on the day before scheduled FOMC meetings in blue. The lower panel reports principal component analysis of the covariance matrix of yield changes in 2-year, 5-year, and 10-year Treasury yields and current-month and 3-month-ahead fed funds futures. The figure reports the relative importance of PC1 and PC2 around FOMC announcements. The horizontal dashed line is the corresponding principal component benchmark for all trading days. The sample period runs from September 1994 to December 2025.

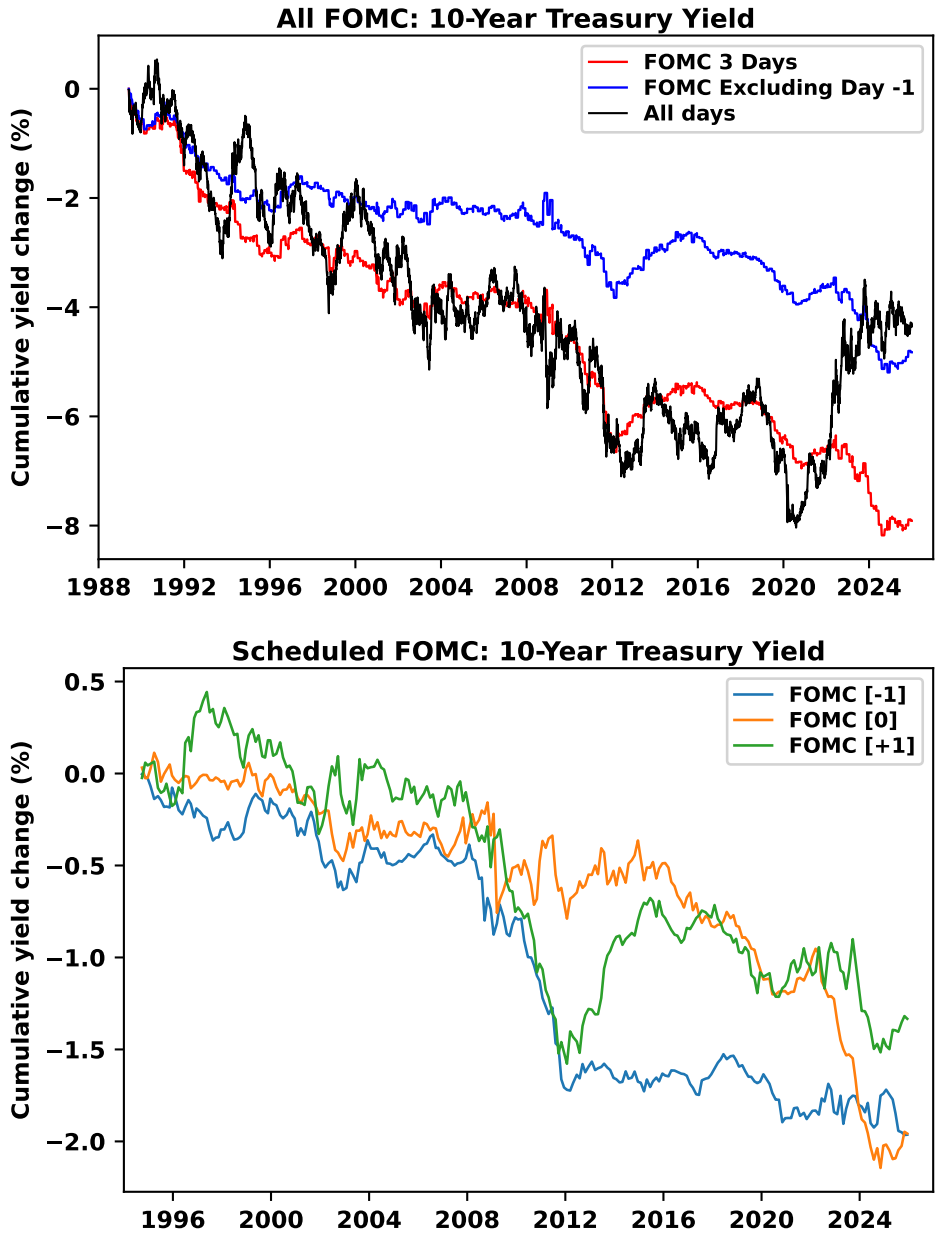
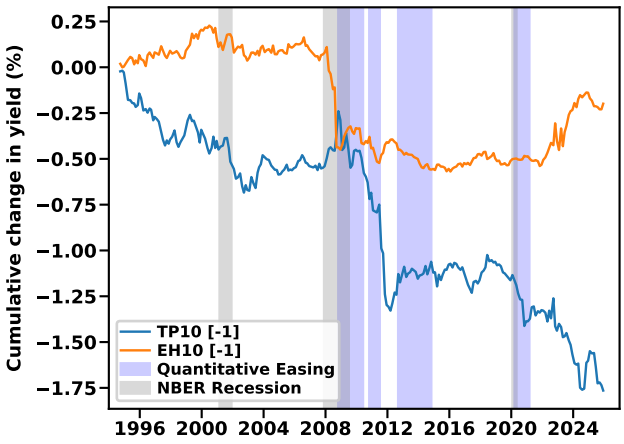
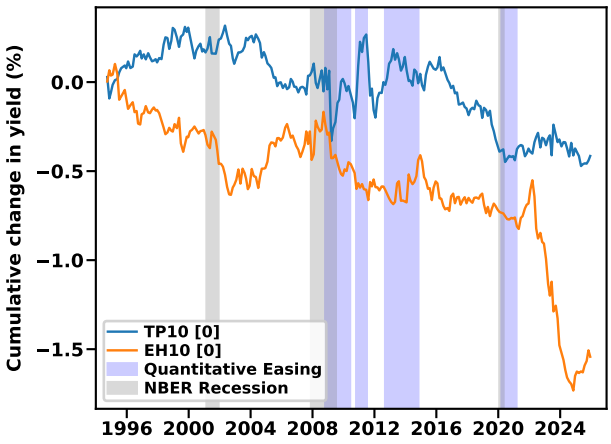


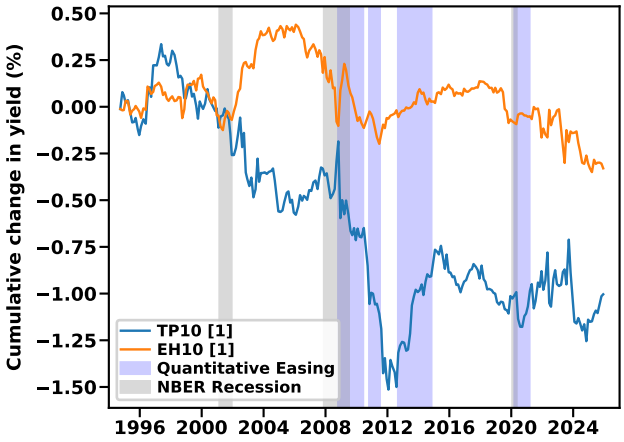
Figure 4: The Decline in Long-Term Interest Rates around FOMC Meetings. The figure documents that a three-day window around FOMC meetings captures the secular decline in the 10-year U.S. Treasury yield. Panel A includes scheduled and unscheduled FOMC meetings, while Panel B includes only scheduled FOMC meetings. For each FOMC meeting, this three-day window covers the day before the meeting, the FOMC day, and the day after the meeting. The gray line shows the actual evolution of the 10-year U.S. Treasury yield. The red line plots the hypothetical time series obtained by accumulating changes in the 10-year U.S. Treasury yield over the three-day FOMC window. The blue line corresponds to the two-day window that excludes the pre-FOMC window. Panel B separates the three-day window around scheduled FOMC meetings into pre-FOMC, FOMC, and post-FOMC windows using different colors. The sample period runs from June 1989 to December 2025 for Panel A and from September 1994 to December 2025 for Panel B.



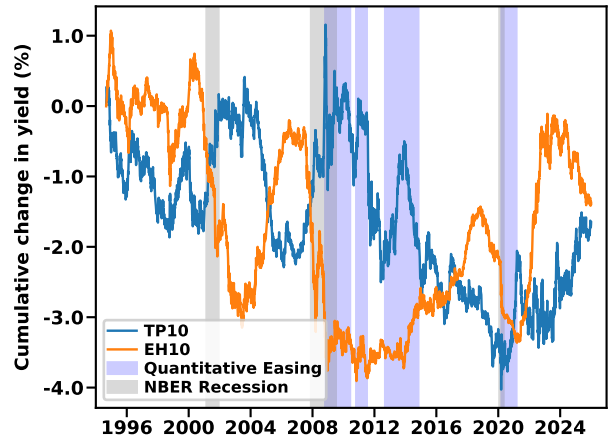
(a) FOMC[-1]



(b) FOMC[0]



(c) FOMC[+1]



(d) All Days

Figure 5: Yield Decomposition of the Three-Day FOMC Window. The figure decomposes the 10-year yield change into term-premium and expected short-rate components for the pre-FOMC, FOMC, and post-FOMC windows in Panels (a)–(c). Panel (d) plots the time series of the term-premium and expected short-rate components for all days from September 1994 to December 2025.

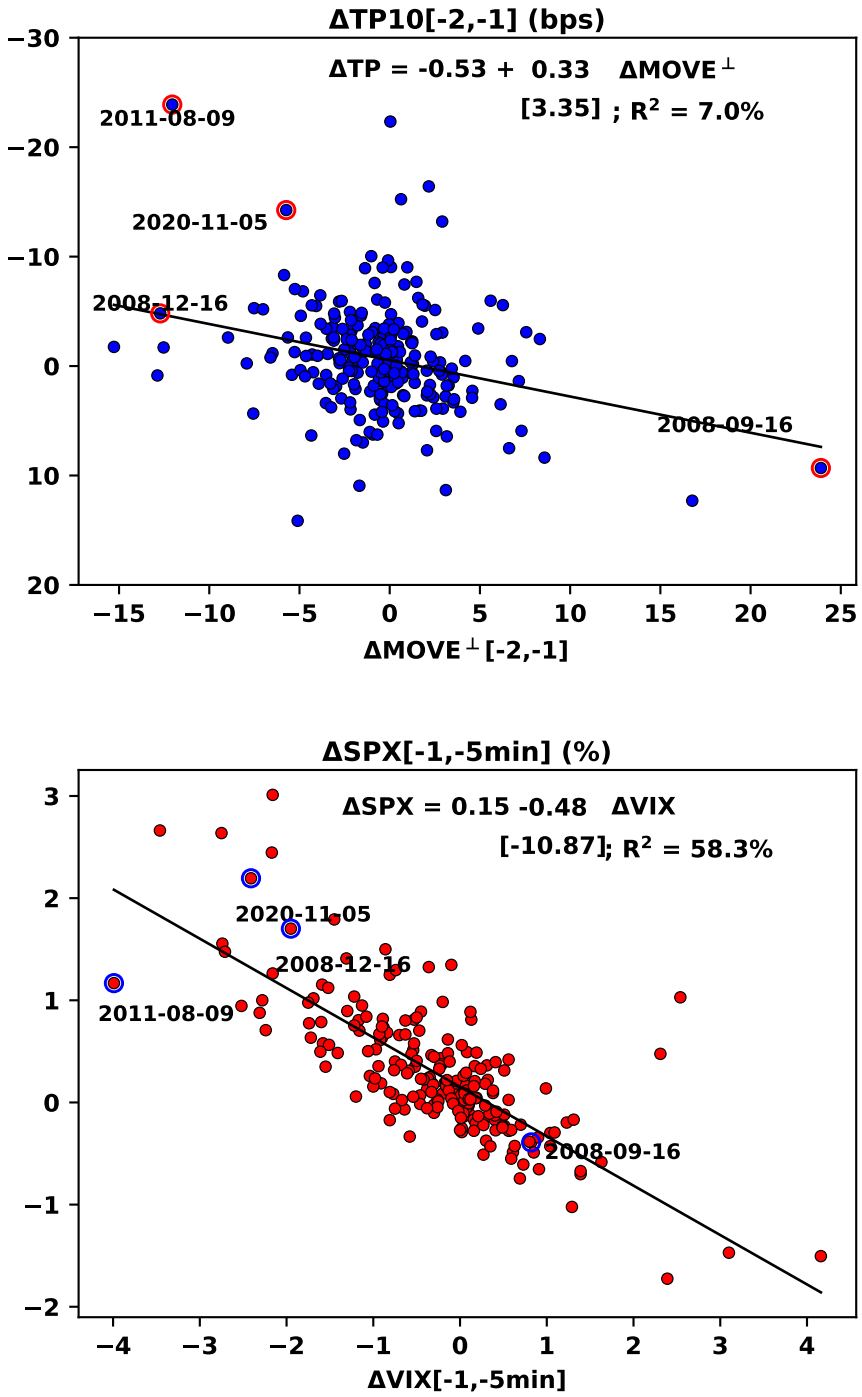


Figure 6: Uncertainty Resolution and Pre-FOMC Drift. The upper panel plots the change in the orthogonalized MOVE index on day -1 on the horizontal axis and the corresponding change in the 10-year term premium on the vertical axis. The vertical axis is inverted so that reductions in yields, which imply positive returns, appear as upward movements. The lower panel plots the change in the VIX index from the close of day -1 to five minutes before the announcement on day 0 on the horizontal axis and the corresponding return on the S&P 500 index on the vertical axis. The sample period runs from September 1994 to December 2025 for the upper panel and from September 1994 to June 2022 for the lower panel.

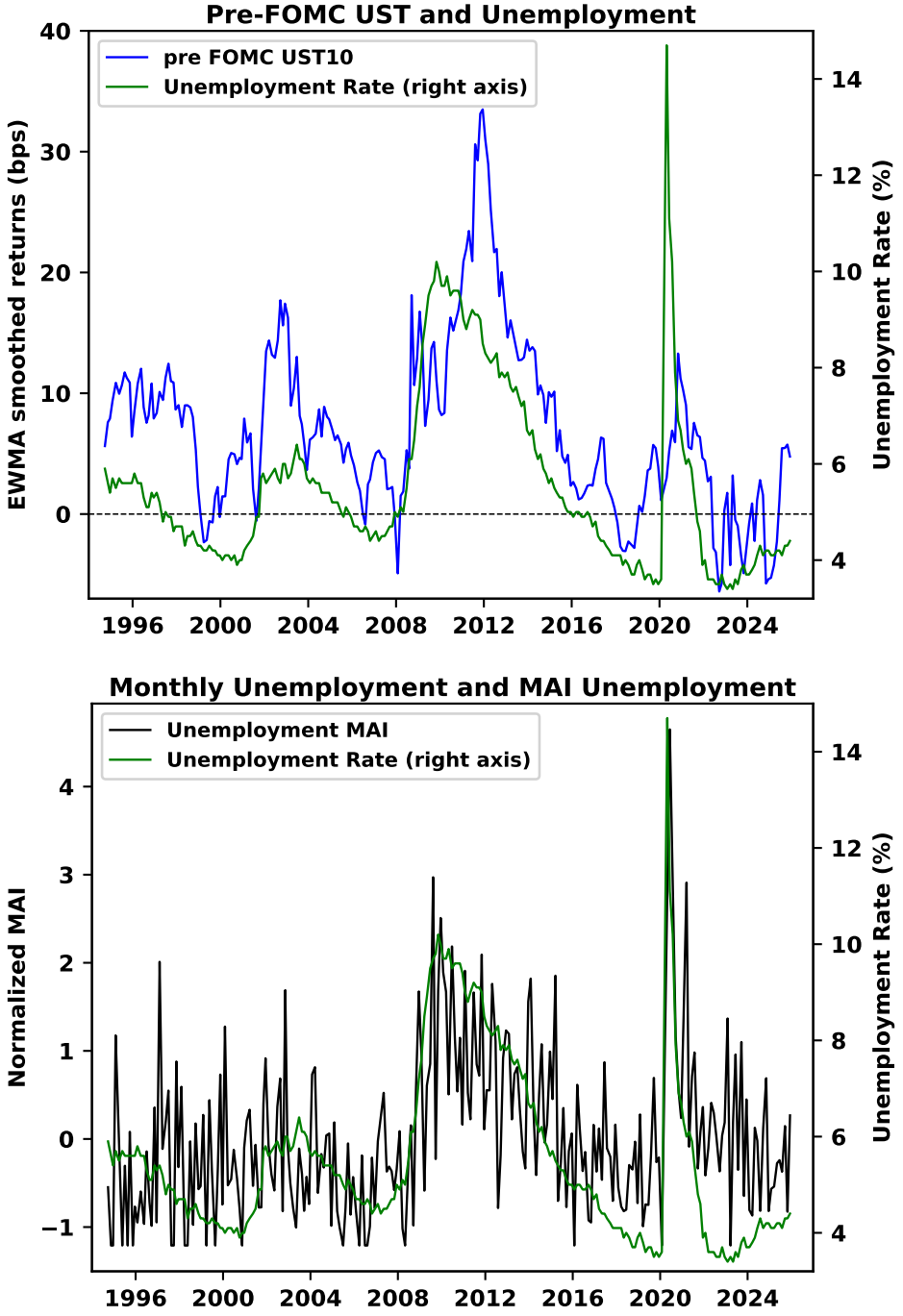


Figure 7: Time Series of MAI, Pre-FOMC Drift, and the Unemployment Rate. Panel A plots the unemployment rate together with the pre-FOMC 10-year Treasury yield drift, smoothed using an EWMA with a decay factor of approximately 0.94. Panel B plots the unemployment-related MAI three days before FOMC announcements in black and the next publicly available unemployment rate after FOMC meetings in green. The sample period runs from September 1994 to December 2025.

Internet Appendix

A Monetary Policy Shocks

An important alternative interpretation of the pre-FOMC Treasury drift is that it may reflect advance information about the upcoming FOMC decision or conventional monetary policy shocks. A large literature studies the effects of monetary policy by using high-frequency asset-price changes in tight windows around FOMC announcements (Bernanke and Kuttner, 2005; Hanson and Stein, 2015). Kuttner (2001) constructs policy surprises from federal funds futures, and subsequent work uses short-window reactions in interest-rate futures, Treasury securities, and equity markets to isolate policy shocks. This approach is useful because it measures the unexpected component of monetary policy at the time of the announcement.

The pre-FOMC drift, however, occurs before this announcement window. The key question is therefore whether the day–1 Treasury yield movement simply forecasts the subsequent FOMC decision or the high-frequency policy shock observed at the announcement. This is also closely related to the puzzle in Lucca and Moench (2015): the pre-FOMC equity drift is not explained by standard monetary policy surprises. To examine this possibility, Table A1 regresses the actual federal funds target-rate decision and high-frequency announcement-window asset-price responses from the USMPD Statements data (Acosta et al., 2025) on UST10[-1].

Across the federal funds decision, the Eurodollar response, Treasury responses, and the S&P 500 response, the coefficient on UST10[-1] is small and statistically insignificant. The evidence indicates that the pre-FOMC UST10 yield change does not forecast the FOMC decision or standard policy-shock measures. This empirical evidence supports the interpretation that the pre-FOMC Treasury drift in the long-term bond is not simply trading on the upcoming monetary policy decision.

Table A1: Predicting Monetary Policy Shocks with Pre-FOMC UST

	FOMC Announcement Window [-10min,+20min]					
	Fed Decision	Eurodollar 1Q	TNOTE 2Y	TNOTE 5Y	TNOTE 10Y	S&P 500
const	1.43	-0.41*	-0.36	-0.44	-0.24	-1.11
	[0.59]	[-1.77]	[-1.27]	[-1.5]	[-0.9]	[-0.38]
ΔUST10[-1]	0.04	-0.004	0.06	0.05	-0.02	0.29
	[0.16]	[-0.07]	[1.08]	[0.79]	[-0.36]	[0.46]
R-sqrd (%)	0.01	0.002	0.46	0.27	0.06	0.1
N	250	250	250	250	250	239

This table reports regressions of FOMC announcement-window monetary policy shocks and asset-price responses on the pre-FOMC 10-year Treasury yield change. The monetary policy shock variables are from (Acosta et al., 2025) and are measured over the [-10min,+20min] FOMC announcement window. UST10[-1] is the close-to-close 10-year Treasury yield change from day -2 to day -1 before scheduled FOMC announcements. Independent variables are multiplied by 100 and expressed in basis points. The FOMC sample is from September 1994 to December 2025. The S&P 500 response is available in (Acosta et al., 2025) from 1996. ***Significant at 1%, **significant at 5%, *significant at 10%. Reported in square brackets are t-statistics computed using Newey-West (1987) standard errors with 4 lags.

B Robustness Checks

We next report robustness checks for the pre-FOMC Treasury drift in Table A2. Panel A shows that the average pre-FOMC yield decline is not limited to a particular monetary-policy cycle. Panel B controls for quantitative easing and tightening episodes, together with unemployment MAI. Panel C shows that the main pattern remains after excluding the 2008–2009 crisis period.

We also extend our sample back to 1980 using the daily yield data in Figure 8. Following Lucca and Moench (2015), we assume that the decision in the pre-1994 sample becomes public one day after the FOMC meeting, defined as day 0 in the plot. After 1994, day 0 is the actual announcement day, which is the second day of the two-day FOMC meetings. The blue line is the 10-year constant maturity yield from the Federal Reserve Board website, and the red line is the actual transaction yield of the 10-year on-the-run Treasury from CRSP. We obtain Treasury auction data from the U.S. Treasury Department and compute the on-the-run Treasury yield according to each auction.[17] The findings are consistent for both constant maturity yield and on-the-run Treasury yield, revealing a decline in the 10-year Treasury yield leading up to the FOMC announcement, specifically from day -2 to day -1. The decline in the 10-year on-the-run Treasury yield also suggests that the pre-FOMC drift in the Treasury market is unlikely due to any market microstructure or liquidity events.

[17]The earliest auction data are from 1980, so we start plotting yield changes around FOMC from 1980 using the on-the-run Treasury yield.

Table A2: The Robustness Check

Panel A: Monetary Policy Cycle							
	UST10[-1]	FUST10[-1]	TP10[-1]	UST2[-1]	FUST2[-1]	TP2[-1]	FF4[-1]
Const	-0.29	-0.73	-0.52	0.31	-0.09	-0.27	1.08
	[-0.77]	[-1.60]	[-1.56]	[1.02]	[-0.21]	[-0.78]	[1.59]
Dummy Easing	-0.75	-0.36	-0.29	-0.86	-0.7	-0.08	-1.18
	[-1.26]	[-0.50]	[-0.52]	[-1.65]	[-1.10]	[-0.20]	[-1.64]
R2	0.47	0.08	0.08	0.68	0.31	0.02	1.59
N	250	250	250	250	250	250	250
Panel B: QE and QT							
	UST10[-1]	FUST10[-1]	TP10[-1]	UST2[-1]	FUST2[-1]	TP2[-1]	FF4[-1]
Const	-0.78**	-1.00**	-0.82**	-0.2	-0.5	-0.44*	0.36
	[-2.13]	[-2.19]	[-2.20]	[-0.56]	[-1.27]	[-1.92]	[0.99]
QE1	-0.1	-0.58	0.23	-0.33	-0.21	0.16	-0.5
	[-0.07]	[-0.24]	[0.12]	[-0.35]	[-0.16]	[0.19]	[-1.08]
QE2	-2.23	-1.45	0.003	-1.94***	-3.15***	-0.001	-0.57
	[-1.43]	[-0.64]	[0.001]	[-3.00]	[-2.82]	[-0.001]	[-1.38]
QE3	0.84	1.92**	1.79***	-0.16	0.13	1.18***	-0.47
	[1.28]	[2.16]	[2.63]	[-0.40]	[0.23]	[2.81]	[-1.20]
QT	0.32	0.35	0.47	0.38	0.58	0.72	0.1
	[0.35]	[0.37]	[0.62]	[0.46]	[0.51]	[0.94]	[0.22]
MAI Urate	-0.87**	-1.46***	-1.27***	-0.13	-0.32	-0.71***	0.22
	[-2.28]	[-3.18]	[-3.30]	[-0.36]	[-0.75]	[-4.03]	[0.82]
R2	3.29	6.06	6.25	0.57	1.12	5.57	0.23
N	250	250	250	250	250	250	250
Panel C: Excluding 2008-2009							
	UST10[-1]	FUST10[-1]	TP10[-1]	UST2[-1]	FUST2[-1]	TP2[-1]	FF4[-1]
Mean	-0.7	-0.92	-0.79	-0.01	-0.33	-0.35	0.51
	[-2.25]	[-2.50]	[-2.69]	[-0.03]	[-0.99]	[-1.84]	[1.87]
N	234	234	234	234	234	234	234
	UST10[-1]	FUST10[-1]	TP10[-1]	UST2[-1]	FUST2[-1]	TP2[-1]	FF4[-1]
Const	-0.70**	-0.92**	-0.79***	-0.01	-0.34	-0.36*	0.51*
	[-2.29]	[-2.37]	[-2.66]	[-0.04]	[-1.20]	[-1.80]	[1.80]
MAI Urate	-1.12***	-1.38***	-1.12***	-0.52**	-0.79***	-0.64***	-0.05
	[-3.53]	[-3.25]	[-3.15]	[-2.31]	[-2.74]	[-3.69]	[-0.24]
R2	4.48	4.93	4.99	1.44	1.91	3.77	0.01
N	234	234	234	234	234	234	234

This table reports robustness checks for the pre-FOMC Treasury drift. Panel A compares FOMC meetings across monetary-policy cycles. The tightening cycle is defined as the period from the first rate hike until the Federal Reserve cuts the target rate; the easing cycle is the remaining sample, and Dummy Easing equals one for meetings in the easing cycle. Panel B controls for QE1, QE2, QE3, QT, and unemployment MAI. Panel C excludes the 2008–2009 crisis period. The sample period is from September 1994 to December 2025. ***Significant at 1%, **significant at 5%, *significant at 10%. Reported in square brackets are t-statistics computed using Newey-West (1987) standard errors with 4 lags.

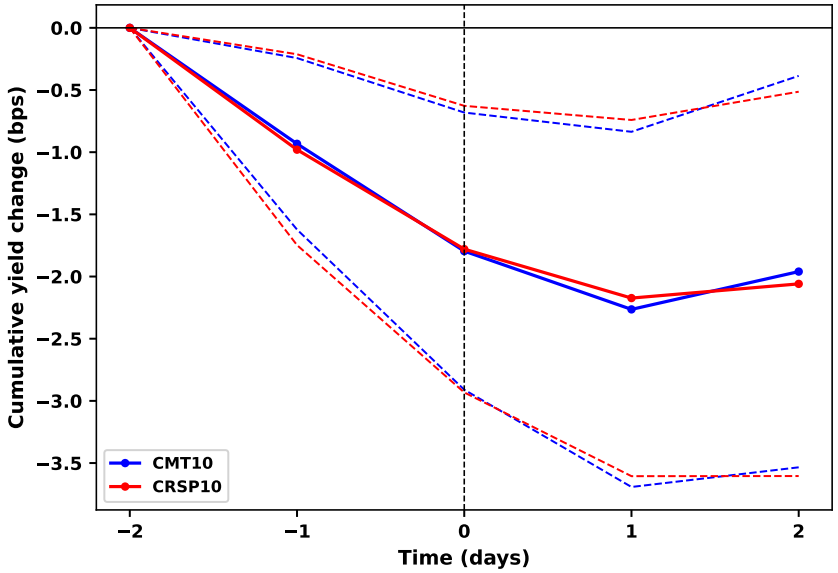


Figure 8: Daily Yield Changes around FOMC. The figure shows the average cumulative 10-year Treasury yield change over a three-day window. The blue line is the 10-year constant maturity yield from the Federal Reserve Board website, and the red line is the actual transaction yield of the 10-year on-the-run Treasury from CRSP. The dashed lines are pointwise 95% confidence bands around the average yield change. The sample period is from January 1980 to December 2025.

C Predicting Post-FOMC UST: Information Channel

There is co-movement between pre-FOMC UST10 and post-FOMC UST10 in the lower panel of Figure 4, where the post-FOMC yield follows the pre-FOMC yield closely except during the period from 2012 to 2016. We examine this predictability in Table A3 by regressing the post-FOMC yield on the pre-FOMC yield. In the full sample, the pre-FOMC yield change one day before FOMC announcements predicts the post-FOMC yield one day after across the yield curve. A one-basis-point increase in UST10[-1] predicts an approximately 0.18-basis-point increase in UST10[1] and a 0.15-basis-point increase in UST2[1]. The evidence based on UST2[-1] is weaker in the full sample after extending the sample through 2025.

We show evidence of a risk-premium channel when unemployment MAI is high three days before FOMC announcements: a one-basis-point decrease in UST10[-1] predicts about a 2.6-basis-point increase in the pre-FOMC drift in the stock market. Next, we further investigate pre-FOMC UST when unemployment MAI is low. Similarly, we categorize FOMC meetings into two groups in Table A3: a low-MAI group, including meetings with below-median unemployment MAI three days before FOMC announcements, and a high-MAI group comprising the rest. The predictability of pre-FOMC yield changes such as UST10[-1] for post-FOMC UST is evident only when unemployment MAI three days before FOMC meetings is low. In the low-MAI group, a one-basis-point increase in UST10[-1] leads to a 0.33 (0.40)-basis-point increase in UST10[1] (UST2[1]), with an R-squared of about 4% (8%). In contrast, the point estimate indicates that the 10-year Treasury yield change, in the univariate regression setting, is not significant in predicting post-FOMC UST in the high-MAI group.

In contrast to the risk-premium channel under high unemployment MAI, we find an information channel when unemployment MAI is low, under which pre-FOMC UST can predict post-FOMC UST. The updated sample suggests that this information channel is reflected primarily in the propagation from long-term pre-FOMC yields to post-FOMC yield changes. It further strengthens the disconnection we document in the paper on the day before FOMC announcements. When unemployment MAI is high, long-term yields behave differently from short-term yields through the risk-premium channel and are predictive of the pre-FOMC SPX. When unemployment MAI is low, long-term yields are aligned with the post-FOMC yield response through the information channel.

Table A3: Predicting Post-FOMC UST: Sort by MAI Urate

	Full Sample				Low MAI				High MAI			
	UST10[1]	UST5[1]	UST2[1]	FF4[1]	UST10[1]	UST5[1]	UST2[1]	FF4[1]	UST10[1]	UST5[1]	UST2[1]	FF4[1]
const	-0.39	-0.19	-0.24	-0.41	-0.05	0.06	-0.15	-0.39	-0.90	-0.70	-0.57	-0.50**
	[-0.86]	[-0.43]	[-0.60]	[-1.59]	[-0.09]	[0.12]	[-0.30]	[-0.83]	[-1.46]	[-1.20]	[-1.20]	[-2.24]
UST10[-1]	0.18**	0.18**	0.15*	0.09*	0.33**	0.43***	0.40**	0.16	0.06	0.00	-0.02	0.04
	[2.19]	[2.14]	[1.70]	[1.65]	[2.44]	[3.17]	[2.11]	[1.15]	[0.67]	[0.00]	[-0.25]	[0.67]
R2	1.55	1.80	1.76	1.52	4.39	7.51	8.07	2.28	0.22	0.00	0.05	1.10
N	250	250	250	250	125	125	125	125	125	125	125	125
	UST10[1]	UST5[1]	UST2[1]	FF4[1]	UST10[1]	UST5[1]	UST2[1]	FF4[1]	UST10[1]	UST5[1]	UST2[1]	FF4[1]
const	-0.50	-0.29	-0.30	-0.45*	-0.07	0.02	-0.19	-0.41	-0.92	-0.65	-0.51	-0.49**
	[-1.08]	[-0.64]	[-0.74]	[-1.67]	[-0.14]	[0.04]	[-0.38]	[-0.86]	[-1.47]	[-1.09]	[-1.03]	[-2.24]
UST2[-1]	0.12	0.18*	0.22	0.15	0.11	0.23	0.30	0.15	0.14	0.08	0.05	0.15
	[1.39]	[1.66]	[1.45]	[1.51]	[0.87]	[1.51]	[1.43]	[0.98]	[0.94]	[0.58]	[0.34]	[1.47]
R2	0.62	1.69	3.31	3.48	0.70	3.24	6.83	2.88	0.47	0.22	0.13	5.99
N	250	250	250	250	125	125	125	125	125	125	125	125

The high MAI Urate sample contains FOMC announcements with above-median MAI Urate three days before the announcements, and the low MAI Urate sample contains the remaining announcements. The dependent variables are post-FOMC yield changes on day +1. UST10[-1] and UST2[-1] are daily yield changes from day -2 to day -1 before the FOMC announcement. Likewise for other maturities and other FOMC windows. FF4 is the yield change of the 3-month-ahead federal funds futures contract. The sample period is from September 1994 to December 2025. ***Significant at 1%, **significant at 5%, *significant at 10%. Reported in square brackets are the respective t-statistics, computed using standard errors that are Newey-West (1987) adjusted with 4 lags.