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Non-monetary news in Fed announcements: Evidence from the corporate bond market*

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Abstract

When the Federal Reserve tightens monetary policy, do the prices of riskier assets fall relative to safer assets? Or, do investors interpret policy tightening as a signal that economic fundamentals are stronger than they previously believed, thus leading riskier assets to outperform? We present evidence that the latter of these two forces empirically dominates within the U.S. corporate bond market. Following an unanticipated monetary policy tightening, riskier corporate bonds outperform safer corporate bonds, demonstrating the importance of an informational, or non-monetary, component within monetary policy announcements.

JEL Classifications: E40, E52, G12, G14

Keywords: Monetary policy, corporate bonds, non-monetary news, Federal Reserve information effect, reaching for yield.

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Introduction

Announcements by the Federal Reserve about monetary policy may also convey information about the central bank's assessment of economic fundamentals. That is, the announcement of tighter monetary policy potentially reveals that the Federal Reserve is more optimistic about the economic outlook or has a more upbeat assessment regarding the distribution of risks. If the Federal Reserve has some influence over private-sector beliefs about economic fundamentals, then a tighter stance of monetary policy might be partly interpreted as a signal of good news. In other words, monetary policy announcements may also contain "non-monetary" information about the state of the economy. The presence of such non-monetary information has substantial implications for the transmission of monetary policy and raises practical issues regarding monetary policy design and Federal Reserve communications strategies.

A growing body of research has argued that Federal Reserve policy announcements indeed contain such a non-monetary component. The relative importance of this component, however, remains a topic of debate. On the one hand, Campbell et al. (2012) and Nakamura and Steinsson (2018) argue that the Federal Reserve has substantial influence over private-sector beliefs about economic fundamentals—a phenomenon known as the "Fed information effect."[1] They present evidence that, following a surprise tightening in monetary policy, professional economic forecasters revise their own output forecasts in a more optimistic direction—exactly the opposite direction to that predicted by traditional economic theory, but supportive of a Fed information effect.[2] Cieslak and Schrimpf (2019) and Jarociński and Karadi (2020) also present evidence emphasizing the importance of a non-monetary news and central bank information effects

[1] Alternatively, Campbell et al. (2012) refer to this as "Delphic forward guidance."

[2] Building on the work of Romer and Romer (2000), Nakamura and Steinsson (2018) argue that the Fed has an informational advantage relative to the private sector. A weaker version of the hypothesis is that the Fed merely has *some influence* over private-sector beliefs about the underlying economy.

(described further below).[3] On the other hand, Bauer and Swanson (2023) and Karnaukh and Vokata (2022) argue that the findings of Nakamura and Steinsson (2018) and Campbell et al. (2012) can be explained by an omitted variable, with both the Fed and professional forecasters responding to the same incoming economic news.

In this paper, we examine the importance of non-monetary news in Federal Reserve announcements through the lens of the $9 trillion U.S. corporate bond market.[4] Specifically, we examine the cross-section of corporate bond returns based on credit risk in reaction to Federal Open Markets Committee (FOMC) policy announcements. Our focus on asset price responses substantially reduces concerns about omitted variable bias raised by Bauer and Swanson (2023) and Karnaukh and Vokata (2022), since asset prices are expected to reflect all relevant macroeconomic news just prior to the FOMC release. Moreover, our study sheds light on the important relationship between monetary policy and investor demand for risky assets.

If a surprise monetary policy tightening predominantly conveys pure monetary policy information and relatively little non-monetary news, then riskier corporate bonds are expected to underperform compared to safer bonds in response. One reason is that risker firms are more likely to default when faced with higher borrowing costs. Moreover, riskier firms are likely to be disproportionately impacted by a reduction in aggregate demand brought about by tighter monetary policy. Additionally, tighter monetary policy may lead investors to demand higher compensation for bearing risk and reduce incentives to "reach for yield." These channels will all

[3] Other studies finding support for the informational role of central banks include Lunsford (2020), Golez and Matthies (2023), Campbell et al. (2016), Andrade and Ferroni (2021), Miranda-Agrippino and Ricco (2021), Bu, Rogers, and Wu (2021), Lakdawala and Schaffer (2019), and Kerssenfischer (2022).
[4] Authors' calculation of the total amount of U.S. corporate bonds outstanding as of May 2023.

lead riskier corporate bonds to underperform in response to news purely about tighter monetary policy.

In contrast, if the announcement of tighter monetary policy reveals good economic news—whether it be news of higher expected growth or positive news regarding the distribution of risks—then riskier corporate bonds, which are more sensitive to the overall strength of the economy and to risk premia, should outperform safer ones in response. Moreover, if news of tighter policy is indeed a positive signal about the economy, then this may lead to a reduction in the premium that investors demand for holding riskier debt. This would benefit riskier corporate bonds more. We refer to the combined effects, encompassing both news about the expected outlook as well as news about the distribution of risks which may affect risk premia, as non-monetary news.[5]

Overall, we present robust evidence that non-monetary news is indeed important in explaining the corporate bond market's reaction to monetary policy announcements. We find that on average following an unanticipated tightening of monetary policy, returns on corporate bonds with higher credit risk significantly outperform relative to safer corporate bonds.

We measure shocks to the stance of monetary policy as changes in 2-year nominal Treasury yields on FOMC announcement days, following Hanson and Stein (2015). Changes in the 2-year nominal yield capture both surprise changes to the current federal funds rate as well as changes to the Federal Reserve's "forward guidance" on the expected future path of policy over the next several quarters. In fact, the forward guidance component drives our results. We find that a steeper expected path of monetary policy—as measured by increases in the spread between the

[5] In contrast, Golez and Matthies (2023) refer to FOMC communications that jointly affect either the expected outlook or risk premia as the "Fed information effect." The distinction, however, is semantic.

2-year yield and the current federal funds rate—is interpreted by the corporate bond market as a positive signal about the economy, with riskier bonds outperforming. Our results suggests that the non-monetary news component of monetary policy surprises reflect both changing views about the outlook as well as changes in risk premia, although we cannot parse the contributions of these two components with a high degree of confidence.

To measure corporate bond returns, we use secondary market trading data from the Trade Reporting and Compliance Engine (TRACE), from August 2002 to May 2023. Using transaction-level data based on actual traded prices is an important contribution of our analysis, as it bypasses problems associated with relying on quoted or stale prices for bonds that may not actually trade. We link TRACE to data on bond characteristics from the Mergent Fixed Income Securities Database (FISD), giving us a sample of over 400,000 bond returns on FOMC meeting dates, consisting of over approximately 35,000 unique corporate bonds.

The granularity of this data allows us to control for a host of bond characteristics, and thus isolate specifically how a bond's riskiness, as measured by its credit rating, affects its returns on FOMC announcement days. Our regressions include fixed effects that ensure that we compare the price reactions of bonds that have the same time-to-maturity but different levels of credit risk, while also controlling for industry effects and callability features. Focusing on the cross-section of corporate bond returns is therefore an important contribution of our analysis, as it allows for particularly clean identification of the non-monetary component in FOMC communications.

We further validate that non-monetary news within FOMC announcements is indeed the most plausible explanation for our findings, using tests inspired by Cieslak and Schrimpf (2019) and Jarociński and Karadi (2020). These authors present strong evidence that an informational or non-monetary component is likely to be present when interest rates and stock returns move in the same direction following FOMC meetings. In contrast, instances when interest rates and stock returns move in opposite directions are indicative of standard monetary easing or tightening decisions. Our results are driven by instances in which interest rates and stock returns move in the same direction following FOMC meetings, thus providing further evidence that non-monetary news is the most plausible explanation for our findings.

2. Relation to the literature

Our paper is related to the literature studying the response of financial markets to monetary policy announcements. In the case of the Treasury market, notable contributions include Cochrane and Piazzesi (2002), Gürkaynak, Sack, and Swanson (2005), Hanson and Stein (2015), and Nakamura and Steinsson (2018).

Studies focusing on the reaction in equity markets include Bernanke and Kuttner (2005), Ozdagli and Velikov (2020), and Gürkaynak, Karasoy-Can, and Lee (2022). In a recent paper, Golez and Matthies (2023) provide evidence in support of a non-monetary component within FOMC announcements by focusing on the response of short-term dividend strips on the S&P 500 index. Ozdagli and Velikov (2020) study the reaction to FOMC announcements in the cross-section of stock returns. Although not the focus of their paper, their results are arguably consistent with the presence of non-monetary news in FOMC announcements. Specifically, they show that riskier stocks (i.e., those with higher average returns) react more positively to contractionary monetary policy surprises (whereas typical monetary effects would predict the opposite).[6]

[6] In the Online Appendix, we examine the reaction of stocks with different credit risk to monetary policy surprises. We find that the stock prices of riskier firms outperform those of safer firms following a surprise monetary policy tightening when Treasury yields and S&P 500 returns move in the same direction, that is, in FOMC announcements identified by Cieslak and Schrimpf (2019) and Jarociński and Karadi (2020) as more likely to convey significant non-monetary news.

Our paper is most closely related to studies that have examined the credit market reaction to monetary policy surprises, though these studies differ in important respects from our own. Guo, Kontonikas and Maio (2020) examine the relation between monetary policy surprises and corporate bond returns based on credit rating, finding that lower rated corporate bond indices exhibit more negative returns in response to surprise monetary tightening. There appear to be two key differences between Guo, Kontonikas and Maio (2020) and our paper. First, their sample begins in 1989, whereas ours begins in 2002, when the TRACE data first become available. Given that the FOMC only began issuing statements after every policy meeting in mid-1999, it is possible that non-monetary effects were less important prior to that—i.e., the first decade of the sample used by the Guo, Kontonikas and Maio (2020).[7] The second key difference is that Guo, Kontonikas and Maio (2020) conduct their analysis using corporate bond indices that are only available at the monthly frequency. In contrast, we use transaction-level data and a more standard daily event-study window to home in on the effects specifically attributable to FOMC statement releases.

In our Online Appendix, Table A1, we have evaluated corporate bond returns over an extended window, ending up to 25 trading days (5 weeks) after the release of the FOMC statement. We find that riskier corporate bonds significantly outperform safer corporate bonds for two days after a surprise monetary tightening. Beyond that window, the coefficient estimates are not statistically significant, as markets are buffeted with all sorts of additional news as time progresses. We also find that about 3 weeks after the FOMC statement release, the coefficient of interest flips sign in some specifications (but is not statistically significant), which is

[7] From 1994 to mid-1999, the FOMC only issued statements if it changed the current federal funds rate. Prior to 1994, the FOMC did not issue statements following its policy meetings.

directionally closer to the results in Guo, Kontonikas, and Maio (2020). We hypothesize that the release of other news occurring several weeks after the FOMC statement might explain this result. Indeed, the FOMC Minutes are released 3 weeks after the FOMC statement. As we show in the Online Appendix, Table A2, there is a negative association between the reaction of Treasury yields following the release of the FOMC statement and the reaction in response to subsequent release of the FOMC Minutes. Differences in the window for computing returns thus help explain why our findings differ from those of Guo, Kontonikas, and Maio (2020).

Also related to our paper, Anderson and Cesa-Bianchi (2024) examine the differential response of corporate credit spreads to monetary policy shocks based firm leverage, but they focus on shocks to the current federal funds rate, whereas our results emphasize the importance of forward guidance in capturing the effects of non-monetary news.[8] Other papers have also relied purely on surprise changes to the current federal funds rate, including Cenesizoglu and Essid (2012) and Javadi, Nejadmalayeri and Krehbiel (2017).

Palazzo and Yamarthy (2022) study the reaction of credit default swaps (CDS) around FOMC statement releases. They find that CDS spreads of riskier firms widen relative to those of less risky firms in response to contractionary monetary policy shocks, which appears the opposite of what we find for corporate bond returns.[9] We reconcile these respective findings in the Online Appendix, section A.2.2. and Tables A4 and A5, by showing that, for a consistent sample of firms across securities, the CDS reaction is driven by the pure monetary component (i.e., after removing non-monetary effects) of FOMC announcements, while the corporate bond reaction is driven by the non-monetary component. As we have noted, the effects we find in the

[8] The authors' research question is different from ours in that they focus on the effects of pure monetary news.
[9] That is, we find that riskier corporate bonds outperform safer corporate bonds in response to surprise monetary tightening, which means that spreads on riskier corporate bonds narrow relative to safer bonds.

corporate bond market are driven by the subset of meetings where Treasury yields and stock returns move in the same direction around FOMC statement releases, consistent with FOMC statements containing non-monetary news. In contrast, we find that the CDS reaction is driven by the subset of meetings where Treasury yields and stock returns move in opposite directions, consistent with instances in which the standard monetary policy news dominates.

While theoretical arbitrage arguments suggest that CDS and corporate bond spreads should move very closely, Bai and Collin-Dufresne (2019) show that the CDS-bond basis exhibits substantial volatility, both in the time-series and in the cross-section of firms. Moreover, they show that the CDS-bond basis has increased notably since 2007 and become more volatile. These findings suggest that CDS and corporate bonds may not have identical risk exposures and may not have identical reactions to all news.

Finally, Gertler and Karadi (2015) examine the reaction of credit spreads to monetary policy surprises, finding that credit spreads widen in response to tighter policy.[10] Unlike our paper, Gertler and Karadi (2015) do not rely on the cross-section of the corporate bond returns, which makes the two sets of results not directly comparable. That said, results we report in our Online Appendix (Table A3) suggest that the different conclusions may reflect in part differences in the time samples. Gertler and Karadi's sample (January 1991 to June 2012) is more tilted towards the pre-1999 period during which the FOMC did not issue statements after each meeting. When we run regressions analogous to those in Table 1 of Gertler and Karadi (2015) but using our sample, we find results that are directionally consistent with our baseline estimates.[11]

[10] See also Gilchrist, López-Salido, and Zakrajšek (2015), who restrict their analysis to the investment-grade segment of the corporate bond market.
[11] See also Ramey (2016), who examines the robustness of the VAR results in Gertler and Karadi (2015).

Overall, our findings indicate that, with the introduction of longer FOMC statements (in the late 1990s) and FOMC press conferences (in the 2010s), the probability that FOMC announcements provide non-monetary news is arguably higher in more recent samples. As a result, studies that rely on earlier samples may be less likely to detect significant non-monetary news in FOMC announcements, in contrast with our study.

3. Data and sample

3.1. Monetary policy surprises

Our empirical strategy first hinges on measuring surprise changes in the stance of monetary policy. Following prior studies, we rely on the fact that a great deal of monetary policy news is revealed with the release of FOMC statements following interest rate decisions, which occurs at eight regularly scheduled committee meetings per year. The statement details not only the committee's decision as to the current level of the federal funds rate, but also characterizes economic and financial conditions, thus giving market participants important clues about the expected path of future policy (Gürkaynak, Sack, and Swanson, 2005).[12] To capture changes in the overall stance of monetary policy, and in particular in the forward guidance component of FOMC communications, we adopt the approach of Hanson and Stein (2015). Specifically, in our main tests we use changes in the nominal 2-year Treasury yield on FOMC announcement dates to proxy for changes in the expected path of the federal funds rate over the next several quarters. Our data on Treasury yields are from the updates to Gürkaynak, Sack, and Wright (2007) and Gürkaynak, Sack, and Wright (2010), published by the Federal Reserve.

[12] Since mid-1999, the FOMC has released a statement at the end of every meeting. Our analysis only covers this period since the corporate bond market data commence in 2002.

Following Hanson and Stein (2015), for the FOMC announcement on day *t*, our baseline measure of monetary policy surprise is the change in the 2-year nominal yield over a *t*-1 to *t*+1 day window. Hanson and Stein (2015) argue that using a two-day window is preferable to a potentially shorter window (that ends, for example, on day *t*) because the full market reaction might not be instantaneous; rather, it may take time for markets to digest the full information content of a given announcement. Consistent with this approach, Gürkaynak, Sack, and Swanson (2005) find that it takes the market relatively more time to incorporate news about the future path of rates contained in FOMC announcements, even though information about the current target rate is very quickly incorporated. Since most of the FOMC statements in our sample are released at 2:15 p.m., ending the window on date *t* would give only about an hour to capture the Treasury market reaction based on end-of-day quotes, which might not be adequate.[13] Moreover, starting in 2011, the Federal Reserve Chair began conducting regular press conferences following committee meetings, during which market participants could glean additional information, thus further bolstering the rationale for using a two-day window.[14]

A *t*-1 to *t*+1 window also corresponds with an appropriate time frame over which to compute corporate bond returns in our case, allowing us to use the same window to measure the reactions in both the Treasury and corporate bond markets. Due to illiquidity in the corporate bond market (see, e.g., Bao, Pan, and Wang, 2011; Goldstein and Hotchkiss, 2020), an alternative approach of confining our analysis only to bonds that trade late in the afternoon on day *t* would be overly restrictive. Still, we show that our findings are robust to measuring changes in Treasury yields

[13] In addition, Fleming and Remolona (1999) show that price formation in the Treasury market is gradual following major announcements, with elevated trading volume and volatility lasting 90 minutes or more.
[14] Press conferences by the Chair, with prepared remarks and a question-and-answer session with the media, commence at 2:30 p.m. and typically last about one hour. (From 2013 onwards, all FOMC statements have been released at 2:00 p.m.) From 2011-2018, press conferences were held after every other FOMC meeting; starting in 2019, press conferences are held after every meeting.

using a high-frequency window starting 15 minutes before and ending 45 minutes after the FOMC announcement.

Our sample consists of 165 scheduled FOMC meeting dates from August 2002 (the first meeting for which corporate bond market data are available) to May 2023.[15] Table 1 presents summary statistics of relevant interest rate changes around FOMC meetings. The table reports interest rate changes for both the baseline *t*-1 to *t*+1 daily window as well as a high frequency window used for robustness. As shown in the first row, the average FOMC meeting is associated with little change in the stance of monetary policy—the mean change in the 2-year yield is approximately zero. However, there is notable variation from meeting to meeting: the standard deviation of the change in the 2-year yield is 8 bps. The remaining rows show summary statistics for the other interest rate changes that we consider in the analysis, including surprise changes in the current federal funds rate, as implied by federal funds futures contracts,[16] changes in the spread between 2-year Treasury yields and the current federal funds rate, and changes in real interest rates based on Treasury Inflation Protected Securities (TIPS) yields. Overall, summary statistics appear similar for both the *t*-1 to *t*+1 daily window and the high-frequency window.

3.2. Corporate bond market data

For secondary market corporate bond trading data, we use the regulatory version of TRACE provided by the Finance Industry Regulatory Authority (FINRA) for the period August 2002 to

[15] In addition to excluding unscheduled meetings, we exclude one outlier meeting on Sept. 16, 2008, which occurred one day after the bankruptcy of Lehman Brothers. We examine unscheduled meetings in the Online Appendix.

[16] For details, see Kuttner (2001) and Gürkaynak, Sack, and Swanson (2005). In computing surprise changes in the current federal fund rate using our standard daily window, we drop instances where a new month starts sometime between day *t*-1 and day *t*+1, which results in a slightly smaller sample of FOMC meetings. This condition ensures that surprise federal funds rate changes over *t*-1 to *t*+1 window are calculated based on the same current-month futures contract, thus avoiding month-end noise associated with transitions to a new front-end contract.

May 2023.[17] TRACE contains transaction-level data on corporate bond trades from which we compute volume-weighted average daily prices. Importantly for our empirical strategy, TRACE allows us to compute secondary market returns for bonds that trade on both day *t*-1 and day *t*+1 around a given FOMC meeting. Given concerns about illiquidity in the corporate bond market, with many bonds trading infrequently, an alternative approach of relying only on bond quotes could be problematic, as stale quotes may not reflect the most up-to-date information at the time of the FOMC meeting. Focusing on secondary market returns based on executed trades bypasses this issue, because the actual prices at which corporate bonds trade will reflect up-to-date information. Moreover, our results are robust to restricting the sample to trades greater than $100,000 and by estimating weighted regressions based on each bond's volume traded, suggesting that our baseline results are not driven by less liquid bonds with low trading volumes.

We merge TRACE with Mergent FISD to obtain information on bond characteristics such as the maturity date, coupon rate, coupon type, credit rating, bond option features and issuer characteristics. We include only corporate bonds with fixed coupon payments issued by U.S. firms and denominated in U.S. dollars that have between 2 and 30 years to maturity. We exclude convertible, perpetual, exchangeable, and preferred securities. In addition, we remove primary market transactions and cancelled trades, and adjust transaction records that been subsequently corrected or reversed. To remove extreme values, we drop trades that deviate from their median daily price by a factor of 10. From the cleaned transaction-level data we compute volume-weighted average daily prices for each bond.[18] We then trim the daily price data at the 0.5^{th} and 99.5^{th} percentiles to remove the influence of outliers. From this set of bond trades, we compute

[17] All our results, however, can be obtained using the enhanced version of TRACE.
[18] In robustness tests we impose further filters, such as excluding trades that have not been publicly disseminated and dropping agency trades, interdealer trades and trades less than $100,000.

individual bond returns using a t-1 to t+1 day window around FOMC announcement dates, which are winsorized at the 0.5th and 99.5th percentiles. Finally, to compute a bond's credit rating, we assign a numerical value from 1 to 21 for each notch of a given credit agency's ratings scale (with higher values indicating worse ratings, such that AAA=1, AA+=2, AA=3, and so on through to C=21), and then take the average across the S&P, Moody's, and Fitch.[19]

Table 2 presents summary statistics of corporate bond returns around FOMC meetings and corporate bond prices, as measured the day before an FOMC meeting. Panel A shows the full sample, while Panels B and C shows sample statistics for policy tightening and easing, respectively. As shown, there is notable variation in the cross-section of corporate bond returns around FOMC meetings, which we exploit in our analysis.

4. Empirical methodology

We run regressions of the following general form:

$$(1) \qquad Ret_{i,t} = \beta \Delta 2yr\_Ty_t \times Credit\_Risk_{i,t} + \gamma Credit\_Risk_{i,t} + \alpha_{t,m} + \alpha_{t,j} + \alpha_{t,c} + \varepsilon_{i,t},$$

where $Ret_{i,t}$ is the return on corporate bond i using a t-1 to t+1 day window around an FOMC statement released on date t; $\Delta 2yr\_Ty_t$ is the change in the 2-year nominal Treasury yield around the FOMC statement release; $Credit\_Risk_{i,t}$ is the bond's average credit rating at the time of the meeting, with higher values indicating riskier bonds (a unit increase means a one notch worse credit rating—e.g., BBB to BBB-); $\alpha_{t,m}$, $\alpha_{t,j}$, and $\alpha_{t,c}$ are fixed effects interacting each FOMC meeting with, respectively, a bond's years-to-maturity,[20] the bond issuer's SIC2 industry, and an indicator variable for whether a bond is callable; $\varepsilon_{i,t}$ is the idiosyncratic error

[19] In the Online Appendix, we report similar results when using broader, more discrete, rating categories.
[20] Specifically, we compute the bond's time-to-maturity and round to the nearest year, creating a separate fixed effect for each year to maturity, each of which is then interacted with the meeting fixed effects.

term. Standard errors are two-way clustered by FOMC meeting and by firm.

We are interested in the sign of the β coefficient. If $\beta > 0$, then bonds with higher credit risk outperform after monetary policy tightening ($\Delta 2yr\_Ty > 0$), while bonds with higher credit risk underperform following monetary easing ($\Delta 2yr\_Ty < 0$). This would be consistent with an informational, or non-monetary, component dominating the market reaction to monetary policy surprises. Conversely, if $\beta < 0$, then riskier bonds outperform following monetary policy easing and underperform following tightening. In other words, $\beta < 0$ would indicate that some combination of standard monetary policy news and reaching for yield effects are together the dominant forces that best explain the cross-sectional reaction to FOMC announcements.

Having fixed effects for each FOMC meeting interacted with bond and issuer characteristics in equation (1) allows us to isolate the price reaction specifically attributable to credit risk, and thus cleanly test the hypotheses of interest, while removing the potentially confounding influence of other factors that may affect bond returns. In particular, the meeting-by-years-to-maturity fixed effects, $\alpha_{t,m}$, which involve a separate fixed effect for each year to maturity, flexibly control for changes in the term structure of interest rates. Analogously, the meeting-by-industry fixed effects, $\alpha_{t,j}$, control for potentially differential industry-level responses from meeting to meeting, while the meeting-by-call-option fixed effects control for potential changes in the value of a bond's call option. In essence, after adjusting for industry effects and callability, our regressions always compare the price reactions of corporate bonds that have the same time-to-maturity but different levels of credit risk.

5. Results

5.1. Baseline results

Table 3 presents our main findings. Column 1 runs the baseline specification in equation (1) and shows that bonds with higher credit risk outperform following a monetary policy tightening. In particular, for a hypothetical 100 bp rise in the 2-year nominal yield around an FOMC announcement, a one-notch decrease in a bond's credit rating (e.g., moving from a rating of BBB to BBB-) is associated with a 0.2 percent higher return. In other words, riskier corporate bonds outperform following contractionary monetary policy surprises and underperform following expansionary monetary policy surprises—consistent with a non-monetary component in FOMC statement releases, but the opposite of that predicted by alternative explanations.

The following calculation provides a sense of the estimated magnitudes, expressed in terms of spreads. Suppose 2-year Treasury yields rise by 25 bps following an FOMC announcement. Consider two bonds whose ratings differ by 10 notches—e.g., a bond rated AA+ and a bond rated BB. Over our sample, the average duration of bonds with these ratings is about 5.[21] This implies that, for a surprise 25 bp increase in 2-year Treasury yields, the yield spread between the BB rated bond and the AA+ rated bond would narrow by about 10 bps (=0.2*0.25*10/5). We would characterize this magnitude as moderately sized. It is also worthwhile to recall that our estimates measure the extent to which non-monetary news dominates over and above other forces—namely, standard monetary policy news and reaching for yield effects, which would push in the opposite direction.

Columns 2 and 3 address the concern that there may be differences in duration between bonds with higher versus lower credit risk, even after including fixed effects that hold constant the time-to-maturity. Our aim is to rule out a potential "coupon effect," since bonds with higher

[21] The average duration of the Intercontinental Exchange (ICE) AA corporate bond index was about 6, while the average duration of the ICE BB corporate bond index was about 5.

coupon rates will, all else equal, have lower durations, and thus lower price sensitivities to changes in risk-free interest rates. In column 2, we control for this possibility by including in the regression an additional term that interacts the corporate bond's coupon rate with the meeting-by-years-to-maturity fixed effects. Doing so directly controls for the coupon rate in a way that allows for possibly differential effects for each meeting-by-years-to-maturity grouping. In column 3, we use the same set of fixed effects as in column 1 but "duration-adjust" the return on each corporate bond by subtracting from the corporate bond return the return on a synthetic risk-free security with the same cash flows as the underlying corporate bond.[22] The results in columns 2 and 3 are qualitatively similar to those in column 1, indicating that the coupon effect cannot explain our findings.

5.2. Results by sub-period

In Table 4, we examine how our results vary by sub-period. Column 1 starts by examining the pre-pandemic period (August 2002 through to December 2019). The results are even stronger for this subsample, with a highly significant coefficient estimate of about 0.3, compared to 0.2 for the overall sample. In contrast, column 2 shows that we do not find statistically significant effects during the post-pandemic period (January 2020 to May 2023). We note that our sample does not include the announcement of unprecedented interventions by the Federal Reserve in the corporate bond market and other markets during March 2020 in response to the COVID-19 pandemic, as these announcements did not occur during scheduled FOMC meetings. (We examine unscheduled FOMC meetings separately in the Online Appendix.) Still, the lack of

[22] Specifically, we compute the price of the synthetic risk-free security using the Treasury yield curve estimated by Gürkaynak, Sack, and Wright (2007). We then subtract this synthetic price from the price of the underlying corporate bond and calculate returns over the *t*-1 to *t*+1 window using these adjusted prices. The procedure is analogous to that used in Gilchrist and Zakrajšek (2012) to compute duration-matched corporate bond spreads.

significance post-pandemic may reflect the elevated market turbulence and uncertainty early in this period. Moreover, starting in early 2022, the Federal Reserve embarked on an aggressive monetary policy tightening cycle to combat elevated inflation. It is therefore perhaps not surprising that any potential non-monetary component within FOMC communications is overwhelmed by the standard effect of policy tightening surprises during this period.

The next three columns examine the role of the 2008-2009 financial crisis. Column 3 excludes the financial crisis (July 2008 through to June 2009). In column 4, we consider only the period prior to the financial crisis (pre-July 2008), while in column 5 we consider the period after the financial crisis but prior to the pandemic (July 2009 to December 2019). Our results are stable across these specifications, indicating that the non-monetary news component within Federal Reserve policy announcements has been prominent in the reaction of corporate bond prices during different economic environments and FOMC communication approaches.

In the Online Appendix, we also run our main regression separately for each FOMC meeting, which provides a convenient visualization of our results.

5.3. Forward guidance, risk premia, and alternative monetary policy surprises

To shed light on the possible sources of non-monetary news, Table 5 considers the effect of changes in other interest rates—apart from 2-year nominal yields—around FOMC announcements.

Columns 1 and 2 consider the effects of changes in 1- and 2-year instantaneous forward rates, respectively. Forward rates provide a measure of the forward guidance implicit in Federal Reserve policy announcements. A rise in forward rates indicates more policy tightening over the medium-term than previously expected. The regressions show that riskier corporate bonds outperform when 1- or 2-year forward rates rise around FOMC announcements. This outperformance by riskier corporate bonds indicates that the corporate bond market interprets the steeper path of policy as positive economic news (about the expected outlook or risk premia), which demonstrates the importance of non-monetary news in FOMC statements.

Column 3 provides further support for this idea. In this regression, we return to the 2-year nominal yield, and decompose it into two terms: (i) the surprise change in the current federal funds rate, as implied by federal funds futures contracts; and (ii) the surprise change in the spread between the 2-year yield and the current federal funds rate. The latter provides a measure of the change in the expected future path of monetary policy over the medium-term, excluding the component due to surprise changes in the current federal funds rate. Interestingly, the regression reveals that our baseline results cannot be explained by shocks the current federal funds rate. Compared to our baseline estimates, the coefficient associated with the surprise federal funds rate change is not statistically significant and has the opposite sign.[23] Rather, our baseline findings are driven entirely by surprise changes in the spread between the 2-year yield and the current fed funds rate, which likely reflects forward guidance. This suggests that the presence of non-monetary news in FOMC statements as interpreted by the corporate bond market is best captured by changes in the expected path of interest rates over the medium-term, as opposed to changes in the current federal funds rate. Specifically, a steeper expected path of monetary policy over the next several quarters is interpreted by the corporate bond market as good economic news, with risky corporate bonds earning higher returns.

[23] Indeed, the negative sign is consistent with other studies that have examined the corporate bond market response to shocks to the current federal funds rate, such as Cenesizoglu and Essid (2012), Javadi, Nejadmalayeri, and Krehbiel (2017), and Anderson and Cesa-Bianchi (2024).

In recent years there have been relatively few sizeable shocks to the current federal funds rate around FOMC meetings. For one, shocks to the federal funds rate were particularly muted during the prolonged effective lower bound period. Moreover, heading into a given FOMC meeting, market participants in recent years arguably have a reasonably accurate idea about the FOMC's likely decision with respect to the current federal funds rate, as this is often hinted at beforehand through speeches and other communications. Our findings indicate, therefore, that news about the trajectory of future monetary policy on FOMC announcement days, rather than decisions concerning the current federal funds rate, convey more important information to corporate bond market participants about the economic outlook or the distribution of risks. In this sense, our results echo the findings of Gürkaynak, Sack, and Swanson (2005), who argue that focusing only on federal funds rate shocks, while ignoring forward guidance, misses a very important part of the overall effect of Federal Reserve policy announcements. This contrasts our study with others that have examined the response of asset prices to monetary policy surprises, but only in the context of federal fund rate shocks.

Column 4 in Table 5 extends the previous regression using the change in the 10-year minus 2-year Treasury yield as an explanatory variable. A steepening of the Treasury yield curve, as measured by the change in the 10-year minus 2-year yield, is generally indicative of positive economic news. That is, a steeper yield curve may reflect some combination of stronger expected growth, resulting in higher expected policy rates, or a more favorable distribution of risks, which would lower hedging demand for 10-year Treasuries and raise their yields relative to 2-year yields through lower term premia. The results show that when the yield curve steepens around FOMC announcements, riskier corporate bonds outperform, consistent with the importance of non-monetary news in FOMC communications. Work by Hansen, McMahon, and Tong (2019) suggests that perceptions about uncertainty and risk impact long-term Treasury yields more than shorter-term yields. Our findings therefore provide suggestive evidence that some of the non-monetary news in FOMC announcements reflects changes to the distribution of risks and to risk premia, not only news about the expected economic outlook.

Our findings supporting the importance of non-monetary news in FOMC announcements are unlikely to be explained entirely by shocks to risk premia, however. As we show in the Online Appendix (Table A11), following a surprise tightening, the relative default rate of riskier corporate bonds compared with less risky bonds decreases the subsequent quarter. This suggests that an unexpected policy tightening indeed provides a positive signal about the expected credit outlook.[24]

In column 5, we decompose the change in the 2-year nominal yield into the change in the 2-year real interest rate, as measured by the 2-year TIPS yield, and the corresponding change in the implied breakeven inflation rate (the difference between the nominal and real rates). Decomposing nominal yields into a real rate and an inflation compensation term reveals that riskier corporate bonds outperform safer bonds following an increase in the 2-year real interest rate, similar to the results in Table 3 for the performance following an increase in the 2-year nominal interest rate. Moreover, an increased possibility of higher inflation following FOMC announcements, as proxied for by a rise in breakeven inflation compensation, is also associated with outperformance by riskier corporate bonds. For most of the period that we consider, higher expected inflation was generally regarded as good economic news. That is, our sample covers the

[24] It is difficult to precisely disentangle, to a satisfactory degree of confidence, the exact contribution of news about the expected outlook from news about the distribution of risks. In practice, these two components will likely be highly correlated. Our tests of non-monetary news within Fed announcements do not hinge on precisely disentangling these two components. As long as a rise in rates signals good economic news—whether it be positive news about the expected outlook, or positive news about the distribution of risks that results in lower risk premia—then riskier corporate bonds should outperform in reaction to a rise in rates, which is what we find.

entire post-financial-crisis decade during which persistently low inflation coinciding with tepid economic growth was a large concern. This was not so during the post-pandemic period. However, as was shown in Table 4, our results are driven by the pre-pandemic period. In this context, market expectations of higher inflation following an FOMC announcement would likely signal positive economic news. When that occurs, riskier corporate bonds outperform.

In Table 6, for robustness, we compute changes in interest rates around FOMC meetings using a high-frequency window starting 15 minutes before the FOMC statement release and ending 45 minutes after.[25] The significantly narrower window has the advantage of providing arguably tighter identification of surprise changes in the stance of monetary policy, even though this approach may prevent the full information content of the FOMC statement from being incorporated in Treasury yields, as argued by Hanson and Stein (2015) and the Treasury market microstructure literature.

Columns 1 and 2 of Table 6 consider the effects of high-frequency changes in 6- and 8-quarter-ahead Eurodollar futures rates, respectively. Eurodollar futures contracts have the advantage of being relatively liquid, which is why they are often used by market participants to gauge changes in medium-term expectations of monetary policy.[26] The results indicate that an increase in Eurodollar futures rates around FOMC statement releases is associated with a statistically significant outperformance by risker corporate bonds, consistent our baseline results, although the estimated coefficients are a bit smaller.

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[25] Intraday data, at the 5-minute frequency, are from Bloomberg. In a few cases earlier in the sample period, there are missing values at the exact 15-minute pre-announcement mark and 45-minute post-announcement mark. In these instances, for the pre-announcement datapoint, we take the nearest non-missing value that is before the 15-minute pre-announcement mark, while for the post-announcement datapoint, we take the nearest non-missing value that is after the 45-minute post-announcement mark.

[26] Hausman and Wongswan (2011) and Guo, Kontonikas, and Maio (2020) also use changes in Eurodollar futures rates to proxy for changes in medium-term monetary policy expectations around FOMC announcements.

The result in Column 3 shows that the high-frequency change in 2-year Treasury yields has a coefficient of the same sign and similar magnitude as the Eurodollar futures rates and is statistically significant at the 10 percent level. In column 4, we decompose the high-frequency change in the 2-year Treasury yield into two terms: (i) the surprise change in the current federal funds rate, as implied by federal funds futures contracts; and (ii) the surprise change in the spread between the 2-year yield and the current federal funds rate. The results are similar to the analogous test shown in Table 5, column 3, which uses the daily t-1 to t+1 window. In particular, our results cannot be explained by surprise changes in the current federal funds rate since its coefficient estimate using the high-frequency window continues to be statistically insignificant and opposite in sign to our main findings. Rather, we find that non-monetary news is reflected in surprise changes in the spread between the 2-year Treasury yield and the current federal funds rate, as this continues to be the main driver of our results even if it is measured using a high-frequency window. In other words, a steepening of the expected medium-term path of monetary policy following FOMC announcements is interpreted by the corporate bond market as a positive signal about the economy, with riskier corporate bonds earning higher returns—consistent with the importance of non-monetary news in FOMC communications.

Column 5 includes as a regressor the high-frequency change the change in the 10-year minus 2-year yields. Just as for the daily window (Table 5, column 4), we find that when the yield curve steepens following FOMC announcements, riskier corporate bond outperform.

5.4. Information shocks based on the comovement of stock returns and Treasury yields

In this section, we follow the approach of Cieslak and Schrimpf (2019) and Jarociński and Karadi (2020) to identify the non-monetary component of FOMC announcements. These authors present compelling evidence that non-monetary news is likely to be present when interest rates and stock returns move in the same direction following FOMC meetings, with these cases accounting for about one third of observations. For example, if a surprise monetary tightening reveals positive news about the economic outlook or the distribution of risks, we would expect both Treasury yields and stock price indexes to rise following the FOMC announcement. Analogously, a decline in both interest rates and stock indexes following a surprise monetary easing would imply negative news about the economic outlook or the distribution of risks.

In contrast, instances when interest rates and stock returns move in opposite directions may be interpreted as more standard easing or tightening decisions that reflect the perceived hawkishness or dovishness of monetary policy. In these cases, a surprise monetary policy tightening would lower the present value of future dividends, resulting in lower stock prices, while increasing Treasury yields. Analogously, a surprise monetary policy easing would increase the present value of future dividends, increasing stock prices, while lowering Treasury yields.

Following this logic, in Table 7 we report results by splitting the sample based on whether the S&P 500 index and 2-year Treasury yields move in the same or opposite direction around FOMC statement releases. The first two columns present the sample split of our baseline specification (Table 3, column 1), using the *t*-1 to *t*+1 window to measure the change in the 2-year Treasury yield and the change in the S&P 500 index. Column 1 reveals that essentially all of our baseline result is driven by instances where stock returns and Treasury yields move in the same direction following FOMC announcements. In these instances, a rise in Treasury yields following the FOMC announcement coincides with both rising stock prices and outperformance by riskier corporate bonds—indicating that the rise in rates signals positive news about the economic outlook or risk premia. In contrast, when stock returns and Treasury yields move in opposite directions, shown in column 2, the relevant coefficient estimate is essentially zero.

Overall, these findings provide further strong support that a non-monetary component in FOMC announcements is indeed the most plausible explanation for our overall findings. That is, the average effect that we estimated in Table 3, column 1, is entirely explained by episodes in which we can be confident that FOMC statements largely reflect non-monetary news as opposed to purely monetary news. To be clear, our results do not imply that the monetary news in FOMC announcements is unimportant, but rather that this is not always the dominant type of news conveyed by FOMC announcements in all markets.

Columns 3 and 4 repeat the same regressions as columns 1 and 2, except that the change in 2-year Treasury yields and the change in the S&P 500 index is measured using the high-frequency window from Table 6. In other words, these regressions provide a sample split of the result in Table 6, column 3. Similar to the results for the wider window, all of the reaction in corporate bond returns from our result in Table 6, column 3, is driven by instances in which stock returns and Treasury yields move in the same direction following FOMC announcements. In these cases, the surprise move in interest rates in response to the FOMC announcement is more likely to reflect non-monetary news rather than pure monetary policy news.

In columns 5 and 6 we decompose the high-frequency change in the 2-year Treasury yield into two terms: (i) the surprise change in the current federal funds rate, as implied by federal funds futures contracts; and (ii) the surprise change in the spread between the 2-year yield and the current federal funds rate. Columns 5 and 6 therefore provide a sample split of the result in Table 6, column 4.

Column 5 reveals that, when stock returns and Treasury yields move in the same direction (likely indicating non-monetary news within FOMC statements), all of the reaction in corporate bond returns can be explained by changes in the spread between 2-year Treasury yields and the current federal funds rate. In these instances, when rates rise following the FOMC statement, stock returns are positive and riskier corporate bonds outperform, indicating positive non-monetary news—and this news is best captured by changes in the expected path of interest rates over the medium-term, as opposed to changes in the current federal funds rate. Surprise changes in the current federal funds rate appear to have little effect in these instances, with a smaller and statistically insignificant coefficient estimate.

Column 6 considers the case when stock returns and 2-year Treasury yields move in opposite directions around FOMC statement releases (likely indicating news about the perceived hawkishness or dovishness of monetary policy or the traditional monetary component of FOMC announcements). In this case, the coefficient estimates are statistically insignificant for both surprise changes in the federal funds rate and the spread between 2-year Treasury yields and the current federal funds rate. The coefficient estimate for surprise changes in the current federal funds rate, -0.3 percent, is much more negative than in column 5, even if it is imprecisely estimated. The negative sign of the coefficient suggests that surprise changes in the current federal funds rate are likely to reflect more standard expansionary or contractionary monetary policy news, which mirrors our findings in earlier tables. In addition, the coefficient for changes in the spread between 2-year Treasury yields and the current federal funds rate remains positive, although it is notably smaller than in column 5 and is statistically insignificant. This indicates that the non-monetary news is much weaker in cases where stock returns and 2-year yields move in opposite directions. Moreover, since the signs of the coefficients in this specification go in opposite directions, this suggests that the two effects offset each other, which would explain why we obtain a coefficient of roughly zero in column 4.

5.5. Robustness tests: illiquidity and an alternative measure of credit risk

Table 8 presents key robustness tests, using the *t*-1 to *t*+1 daily return window for comparability with the baseline specification in Table 3.

The regressions in columns 1 and 2 suggest that our results are not explained by bond illiquidity. In column 1, we compute corporate bond returns using value-weighted prices from disseminated trades only, excluding agency and interdealer trades, and trades under $100,000. Thus, when we exclude smaller trades, the estimated effects are roughly unchanged. In column 2, we run weighted least squares regressions, using each bond's total dollar trading volume on day *t*-1 and day *t*+1 as weights. The relevant coefficient estimate is similar to the baseline specification and remains highly statistically significant. This gives us further confidence that our baseline results are not driven by less liquid bonds with low trading volumes.

In column 3, we show that our results are robust to considering a market-based alternative measure of a bond's credit risk. Specifically, for each bond, we compute the "log discount" on the day before the FOMC announcement as the log difference (multiplied by 100) between the price of a synthetic Treasury security with the same cash flows as the underlying corporate bond and the corporate bond itself.[27] Riskier corporate bonds are discounted by more relative to comparable-duration Treasury securities. Similar to Table 3, the results in column 3 indicate that corporate bonds that are riskier earn significantly higher returns following a surprise monetary policy tightening. The coefficient estimate implies that for a 100 bp rise in the 2-year nominal yield on FOMC announcement days, a one percentage point larger discount is associated with roughly a 0.1 percent higher return.

[27] We winsorize this measure at the 1st and 99th percentiles. The mean log discount is 16%, the median is 12%, the standard deviation is 15%, the 1st percentile is 1%, and the 99th percentile is 88%.

In the Online Appendix (Table A9), we consider further robustness tests by including a bond fixed effect in the regression, excluding the lowest rated bonds, and by examining the symmetric effects of interest rate rises versus cuts.

6. Conclusions

This paper examines whether the Federal Reserve, in conducting monetary policy, also influences investor beliefs about the fundamentals of the underlying economy. According to this view, the announcement of tighter monetary policy reveals to investors that the Federal Reserve is more confident about the economic outlook, or has a more favorable assessment of the distribution of risks, than was previously believed. News of tighter monetary policy might then, on net, be interpreted as a signal of good news. This would lead riskier securities to outperform safer securities in response to tighter monetary policy, as the prices of riskier securities are more sensitive to the strength of the overall economy and to risk premia.

We study the importance of such non-monetary news within FOMC announcements through the lens of the $9 trillion U.S. corporate bond market, comparing the reaction of riskier versus safer securities.

The empirical relevance of non-monetary news in FOMC announcements is a subject of vigorous debate. In a recent contribution, Bauer and Swanson (2023) argue that evidence in favor of non-monetary news based on revisions to surveys of professional forecasters around FOMC meetings could be explained by omitted variables, with both the Fed and professional forecasters responding to the same incoming information. We contribute to this literature by focusing on asset price reactions on short windows around FOMC announcements, which largely reduce concerns about omitted variables. To test for the importance of non-monetary news, we exploit the cross-section of corporate bond returns. In a related approach, Golez and Matthies (2023) provide evidence in support of a non-monetary component of FOMC announcements by focusing on the response of short-term dividend strips on the S&P 500 index.

Overall, we present highly robust evidence that non-monetary effects are important in explaining the corporate bond market's reaction to FOMC announcements. We find that following an unanticipated rise in interest rates in reaction to FOMC statements, corporate bonds with higher credit risk outperform relative to safer corporate bonds.

Our findings are explained by shocks to the forward guidance component of monetary policy announcements, as opposed to surprise changes in the current federal funds rate. Specifically, a steeper expected path of monetary policy—as measured by increases in the spread between the 2-year Treasury yield and the current federal funds rate, and reflective of forward guidance—is interpreted by the corporate bond market as a positive signal, with riskier bonds outperforming. Moreover, our results are driven by instances in which interest rates and stock returns move in the same direction in reaction to FOMC announcements. This indicates that non-monetary news within FOMC announcements is indeed the most plausible explanation for our findings.

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Table 1: Summary statistics of interest rate changes around FOMC meetings

This table presents summary statistics of various interest rates changes around FOMC meetings for both the daily *t*-1 to *t*+1 window and the high frequency window, 15 minutes before to 45 minutes after the statement release. Interest rate data are from the updates to Gürkaynak, Sack, and Wright (2007) and Gürkaynak, Sack, and Wright (2010), and from Bloomberg. Interest rate changes are in percentage points. The sample consists of 165 scheduled FOMC meeting from August 2002 to May 2023. For surprise changes in the current federal fund rate using the daily window, we drop instances where a new month starts sometime between day *t*-1 and day *t*+1, which results in a slightly smaller sample of 147 FOMC meetings. This condition ensures that surprise federal funds rate changes over *t*-1 to *t*+1 window are calculated based on the same current-month futures contract, thus avoiding month-end noise associated with transitions to a new front-end contract.

				Percentile:				
	Obs.	Mean	S.d.	Min.	10th	50th	90th	Max.
Change, *t*-1 to *t*+1:								
2-year nominal	165	-0.01	0.08	-0.41	-0.10	-0.01	0.09	0.28
1-year nominal forward rate	165	-0.01	0.11	-0.54	-0.11	-0.01	0.10	0.41
2-year nominal forward rate	165	-0.01	0.12	-0.48	-0.14	-0.01	0.16	0.36
Fed funds rate	147	0.00	0.04	-0.22	-0.02	0.00	0.02	0.14
Slope, 2-year minus fed funds	147	-0.01	0.09	-0.45	-0.09	0.00	0.09	0.22
Slope, 10-year minus 2-year	165	-0.01	0.09	-0.39	-0.10	0.00	0.10	0.21
2-year TIPS	165	-0.03	0.16	-0.93	-0.20	-0.02	0.14	0.29
2-year inflation compensation	165	0.03	0.14	-0.20	-0.09	0.01	0.13	0.93
Change, high frequency:								
2-year nominal	165	-0.01	0.06	-0.17	-0.09	0.00	0.05	0.18
Eurodollar, 6-quarter-ahead	165	-0.01	0.08	-0.33	-0.12	0.00	0.07	0.26
Eurodollar, 8-quarter-ahead	165	-0.01	0.08	-0.32	-0.10	0.00	0.08	0.24
Fed funds rate	165	0.00	0.03	-0.20	-0.02	0.00	0.03	0.13
Slope, 2-year minus fed funds	165	0.00	0.06	-0.22	-0.07	0.00	0.06	0.21
Slope, 10-year minus 2-year	165	0.00	0.04	-0.20	-0.04	0.00	0.05	0.11

Table 2: Summary statistics of corporate bond returns around FOMC meetings

This table shows descriptive statistics for individual corporate bond returns and prices for the sample of 165 scheduled FOMC meetings from August 2002 to May 2023 (with FOMC announcement dates corresponding to date *t*). Daily prices are computed as the volume-weighted average daily trading price for each bond using data from TRACE and are reported as of the day prior to the respective FOMC announcement (date *t*-1). Individual bond returns are calculated using a *t*-1 to *t*+1 day window around each FOMC meeting. The table shows both raw corporate bond returns and "adjusted"-returns, which subtract from the raw corporate bond return the return on a synthetic risk-free security with the same cash flows as the underlying corporate bond. Panel A shows the full sample, while Panels B and C split the sample depending on whether monetary policy tightens or eases, respectively, as measured by the directional change in the 2-year nominal Treasury yield around each FOMC meeting.

Panel A: Full sample

				Percentile:				
	Obs.	Mean	S.d.	Min.	10th	50th	90th	Max.
Return, %, *t*-1 to *t*+1	474,771	0.12	1.33	-6.10	-1.07	0.06	1.38	6.95
Return-Adj., %, *t*-1 to *t*+1	474,771	0.05	1.35	-13.68	-1.12	0.03	1.23	11.52
Price, $, *t*-1	474,771	102.1	12.0	53.5	89.6	102.1	114.8	135.7

Panel B: Policy tightening, Δ2yr_Ty > 0

				Percentile:				
	Obs.	Mean	S.d.	Min.	10th	50th	90th	Max.
Return, %, *t*-1 to *t*+1	199,515	-0.08	1.37	-6.10	-1.31	-0.12	1.17	6.95
Return-Adj., %, *t*-1 to *t*+1	199,515	0.25	1.38	-13.68	-0.85	0.13	1.53	11.52
Price, $, *t*-1	199,515	102.8	11.9	53.5	91.1	102.7	115.6	135.7

Panel C: Policy easing, Δ2yr_Ty < 0

				Percentile:				
	Obs.	Mean	S.d.	Min.	10th	50th	90th	Max.
Return, %, *t*-1 to *t*+1	275,256	0.27	1.29	-6.10	-0.85	0.19	1.49	6.95
Return-Adj., %, *t*-1 to *t*+1	275,256	-0.09	1.31	-10.72	-1.28	-0.04	0.98	9.91
Price, $, *t*-1	275,256	101.6	12.0	53.5	88.7	101.8	114.2	135.7

Table 3: Corporate bond returns around FOMC meetings by credit risk

This table presents the results of estimating equation (1), which examines how returns on corporate bonds with different levels of credit risk react to surprise changes in the stance of monetary policy around FOMC announcements from August 2002 to May 2023. The dependent variable is the return on an individual corporate bond from one day before to one day after an FOMC announcement. Δ2yr_Ty is the corresponding change in the 2-year nominal Treasury yield around FOMC announcement days. Credit_Risk is an index of the individual bond's average credit rating at the time of the announcement (a unit increase means a one notch worse credit rating—e.g., BBB to BBB-). Column 1 is our baseline specification, which includes fixed effects interacting each FOMC meeting with a bond's years-to-maturity (i.e., a separate fixed effect for every year-to-maturity to control for changes in the term structure of interest rates), the bond issuer's SIC2 industry, and an indicator variable for whether a bond is callable. Column 2 additionally includes an interaction term of the coupon rate with the Meeting*Years-to-maturity fixed effects. In column 3, the return is "duration-adjusted" by subtracting from the corporate bond return the return on a synthetic risk-free security with the same cash flows as the underlying corporate bond, giving us a spread-like measure of corporate bond returns. Standard errors, shown in parentheses underneath the coefficient estimates, are two-way clustered by FOMC meeting and by firm. *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1) Ret.	(2) Ret.	(3) Ret.-Adj.
Δ2yr_Ty*Credit_Risk	0.212***	0.156**	0.190***
	(0.060)	(0.061)	(0.059)
Credit_Risk	0.009*	0.014***	0.010**
	(0.005)	(0.005)	(0.005)
Meeting*Years-to-maturity FE	✓	✓	✓
Meeting*SIC2 FE	✓	✓	✓
Meeting*Callable FE	✓	✓	✓
Meeting*Years-to-maturity FE*Coupon		✓	
Observations	474,771	474,771	474,771
Adjusted R^2	0.228	0.248	0.249

Table 4: Sample splits by time period

This table examines whether our baseline estimates in Table 3 (column 1) vary by sub-period. The dependent variable is the return on individual corporate bonds around FOMC meetings during the relevant sub-period. Column 1 considers the pre-pandemic period (August 2002 to December 2019), while column 2 considers the post-pandemic period (January 2020 to May 2023). Column 3 excludes the financial crisis (July 2008 through to June 2009) from pre-pandemic period. Column 4 considers only the period prior to the financial crisis (pre-July 2008). Column 5 considers the period after the financial crisis (post-June 2009) but before the pandemic (pre-2020). All other variables are defined as in Table 3. Standard errors, shown in parentheses underneath the coefficient estimates, are two-way clustered by FOMC meeting and by firm. *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	Pre-pandemic	Post-pandemic	Pre-Pandemic, Ex-crisis	Pre-crisis	Post-crisis, Pre-Pandemic
	(1)	(2)	(3)	(4)	(5)
	Ret.	Ret.	Ret.	Ret.	Ret.
Δ2yr_Ty*Credit_Risk	0.292***	0.130	0.299***	0.263**	0.337**
	(0.077)	(0.083)	(0.084)	(0.116)	(0.129)
Credit_Risk	0.012**	-0.002	0.009	0.008	0.009
	(0.006)	(0.013)	(0.005)	(0.009)	(0.007)
Meeting*Years-to-maturity FE	✓	✓	✓	✓	✓
Meeting*SIC2 FE	✓	✓	✓	✓	✓
Meeting*Callable FE	✓	✓	✓	✓	✓
Observations	353,453	121,318	340,931	81,196	259,735
Adjusted R^2	0.189	0.421	0.182	0.119	0.219

Table 5: Corporate bond returns by credit risk using other interest rate changes

This table considers the effect of different interest rate changes around FOMC announcement days. The dependent variable is the return on individual corporate bonds from one day prior to one day after FOMC announcements from August 2002 to May 2023. Columns 1 and 2 examine the effect of surprise changes in 1- and 2-year instantaneous forward rates, respectively (Δ1yr_Forward_Ty and Δ2yr_Forward_Ty). Column 3 decomposes the change in the 2-year nominal Treasury yield into the surprise change in the current federal funds rate (ΔFed_Funds) and the surprise change in the spread between the 2-year yield and the current federal funds rate (Δ2yr_Ty - ΔFed_Funds). Column 4 includes surprise changes in the spread between the 10-year and 2-year yields (Δ10yr_Ty - Δ2yr_Ty) to the latter regression. Column 5 decomposes changes in the 2-year nominal yield into changes in the 2-year real interest rate, as measured by the TIPS yield (Δ2yr_TIPS), and the implied inflation breakeven rate (Δ2yr_BkEven). All other variables are defined as in Table 3. Standard errors, shown in parentheses underneath the coefficient estimates, are two-way clustered by FOMC meeting and by firm. *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1) Ret.	(2) Ret.	(3) Ret.	(4) Ret.	(5) Ret.
Δ1yr_Forward_Ty*Credit_Risk	0.146***				
	(0.052)				
Δ2yr_Forward_Ty*Credit_Risk		0.178***			
		(0.041)			
ΔFed_Funds*Credit_Risk			-0.190	-0.170	
			(0.229)	(0.209)	
(Δ2yr_Ty - ΔFed_Funds)*Credit_Risk			0.230***	0.300***	
			(0.065)	(0.062)	
(Δ10yr_Ty - Δ2yr_Ty)*Credit_Risk				0.316***	
				(0.072)	
Δ2yr_TIPS*Credit_Risk					0.204***
					(0.060)
Δ2yr_BkEven*Credit_Risk					0.264***
					(0.071)
Credit_Risk	0.008	0.009*	0.008	0.009*	0.008
	(0.005)	(0.005)	(0.006)	(0.005)	(0.005)
Meeting*Years-to-maturity FE	✓	✓	✓	✓	✓
Meeting*SIC2 FE	✓	✓	✓	✓	✓
Meeting*Callable FE	✓	✓	✓	✓	✓
Observations	474,771	474,771	424,374	424,374	474,771
Adjusted R^2	0.228	0.229	0.224	0.228	0.228

Table 6: High-frequency interest rate changes

This table examines the effect of measuring changes in interest rates using a high-frequency window around FOMC statement releases, starting 15 minutes before the statement release and ending 45 minutes after. The dependent variable is the return on individual corporate bonds around FOMC meetings from August 2002 to May 2023. Columns 1 and 2 examine the effect of high-frequency changes in 6-quarter- and 8-quarter-ahead Eurodollar futures rates, respectively (ΔEuroDollar_6Q and ΔEuroDollar_8Q). Column 3 considers the effect of high-frequency changes in the 2-year nominal Treasury yield (Δ2yr_Ty). Column 4 decomposes the high-frequency change in the 2-year Treasury yield into the surprise change in the current federal funds rate futures (ΔFed_Funds) and the surprise change in the spread between the 2-year yield and the current federal funds rate (Δ2yr_Ty - ΔFed_Funds). Column 5 includes high-frequency changes in the spread between the 10-year and 2-year yields (Δ10yr_Ty - Δ2yr_Ty) to the latter regression. All other variables are defined as in Table 3. Standard errors, shown in parentheses underneath the coefficient estimates, are two-way clustered by FOMC meeting and by firm. *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1) Ret.	(2) Ret.	(3) Ret.	(4) Ret.	(5) Ret.
ΔEuroDollar_6Q*Credit_Risk	0.128**				
	(0.056)				
ΔEuroDollar_8Q*Credit_Risk		0.155***			
		(0.058)			
Δ2yr_Ty*Credit_Risk			0.148*		
			(0.084)		
ΔFed_Funds*Credit_Risk				-0.235	-0.076
				(0.176)	(0.178)
(Δ2yr_Ty - ΔFed_Funds)*Credit_Risk				0.179**	0.315***
				(0.081)	(0.104)
(Δ10yr_Ty - Δ2yr_Ty)*Credit_Risk					0.434***
					(0.166)
Credit_Risk	0.008	0.008	0.008	0.007	0.007
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Meeting*Years-to-maturity FE	✓	✓	✓	✓	✓
Meeting*SIC2 FE	✓	✓	✓	✓	✓
Meeting*Callable FE	✓	✓	✓	✓	✓
Observations	474,771	474,771	474,771	474,771	474,771
Adjusted R^2	0.227	0.227	0.227	0.227	0.229

Table 7: Information shocks based on the comovement of stock returns and Treasury yields

This table examines differential effects depending on whether 2-year Treasury yields and S&P 500 index returns move in the same or opposite directions around the FOMC statement releases, following the approach of identifying non-monetary news in FOMC announcements used by Cieslak and Schrimpf (2019) and Jarociński and Karadi (2020). The dependent variable is the return on individual corporate bonds around FOMC meetings from August 2002 to May 2023. Columns 1 and 2 split our baseline regression, from Table 3, column 1, according to these indicators. Columns 3 and 4 present the sample split of the version of this regression that uses high-frequency changes in 2-year Treasury yields, from Table 6, column 3. Columns 5 and 6 present the sample split for the regression in Table 6, column 4, which decomposes the high frequency change in the 2-year Treasury yield into the surprise change in the current federal funds rate and the surprise change in the spread between the 2-year yield and the current federal funds rate. All other variables are as defined in Tables 3 and 6. Standard errors, shown in parentheses underneath the coefficient estimates, are two-way clustered by FOMC meeting and by firm. *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	Standard window		High frequency window			
	Same	Opposite	Same	Opposite	Same	Opposite
	(1)	(2)	(3)	(4)	(5)	(6)
	Ret.	Ret.	Ret.	Ret.	Ret.	Ret.
Δ2yr_Ty*Credit_Risk	0.397***	-0.030	0.430***	0.072		
	(0.087)	(0.076)	(0.151)	(0.099)		
ΔFed_Funds*Credit_Risk					0.088	-0.299
					(0.338)	(0.210)
(Δ2yr_Ty - ΔFed_Funds)*Credit_Risk					0.417***	0.115
					(0.155)	(0.094)
Credit_Risk	0.009	0.010	0.009	0.007	0.008	0.006
	(0.007)	(0.007)	(0.009)	(0.007)	(0.008)	(0.006)
Meeting*Years-to-maturity FE	✓	✓	✓	✓	✓	✓
Meeting*SIC2 FE	✓	✓	✓	✓	✓	✓
Meeting*Callable FE	✓	✓	✓	✓	✓	✓
Observations	215,255	259,516	136,172	338,599	136,172	338,599
Adjusted R^2	0.216	0.240	0.165	0.249	0.165	0.250

Table 8: Robustness checks: illiquidity and an alternative measure of credit risk

This table presents key robustness checks. The dependent variable is the return on individual corporate bonds around FOMC meetings from August 2002 to May 2023. Column 1 uses an alternative corporate bond return measure, based only on disseminated trades, excluding agency and interdealer trades, and excluding trades under $100,000. Column 2 presents a weighted least squares regression, with weights based on each bond's total dollar volume traded. Column 3 considers an alternative, market-based credit risk measure (Log_Discount) based on the corporate bond's discount relative to a synthetic Treasury security with the same cash flows as the underlying corporate bond. All other variables are defined as in Table 3. Standard errors, shown in parentheses underneath the coefficient estimates, are two-way clustered by FOMC meeting and by firm. *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	No agency, dealer or small trades (1) Ret.*	Volume-weight (2) Ret.	Credit risk based on log-discount (3) Ret.
Δ2yr_Ty*Credit_Risk	0.225***	0.258***	
	(0.073)	(0.080)	
Δ2yr_Ty*Log_Discount			0.072***
			(0.020)
Log_Discount			0.010***
			(0.002)
Credit_Risk	0.012*	0.018**	
	(0.007)	(0.008)	
Meeting*Years-to-maturity FE	✓	✓	✓
Meeting*SIC2 FE	✓	✓	✓
Meeting*Callable FE	✓	✓	✓
Observations	179,062	474,771	474,771
Adjusted R^2	0.439	0.468	0.233

Non-monetary news in Fed announcements: Evidence from the corporate bond market*

Online Appendix

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Contents

* The corresponding paper was previously circulated under the title "How important is the Fed information effect? Evidence from the corporate bond market."

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A.1. Effects of monetary policy shocks on corporate bond returns over extended windows

Table A1 examines the reaction of corporate bond returns to FOMC announcements over an extended window, ranging from 1 to 25 trading days (5 weeks) after the announcement. Each cell of the table shows the results from running a separate regression with corporate bond returns as dependent variables and with each row corresponding to different horizons over which to measure returns. Each column corresponds to different explanatory variables constructed as bond credit risk interacted with a measure of interest rate shocks around the FOMC announcement. As interest rate shocks, column 1 uses the change in the 2-year Treasury yield from one day before to one day after the FOMC announcement, as in our baseline specification, while columns 2 and 3 use the high-frequency change in the 8-quarter-ahead Eurodollar futures rate and the 2-year Treasury yield, respectively, as in Table 6. All fixed effects are the same as in our baseline regressions.

The results show that the estimated effects remain positive and statistically significant for either two days (columns 1 and 2) or one day (column 3) after the release of the FOMC statement. Thereafter, for windows extending beyond two days, the coefficient estimates are statistically insignificant.

The results for the first two trading days after the release of the FOMC statement are consistent with our baseline findings. As more time passes after the initial FOMC statement release, markets are buffeted with a wide range of additional news. The initial statement release then fades in importance with each passing day, as markets react to subsequent news, which can go in any direction. This makes it more difficult to find statistically significant effects at longer horizons, especially given our very tight specifications. Indeed, this is precisely our rationale for conducting an event study research design. In our case, by using transaction-level data based on actual traded prices using a relatively narrow window allows to identify the corporate bond market reaction specific to individual FOMC statement releases with more confidence.

We note that in columns 2 and 3 of Table A1, about 3 weeks after the FOMC statement release (day 16), the coefficient of interest flips sign and remains negative for the remainder of the extended window, although none of these coefficients are statistically significant. We hypothesize that this can be explained by the release of other news occurring several weeks after the FOMC statement. Specifically, the FOMC Minutes are released 3 weeks after the FOMC statement. As we show in the Table A2, there is a negative association between the reaction of Treasury yields following the release of the FOMC statement and the reaction in response to the subsequent release of the FOMC Minutes. We believe that the fact that the sign of the coefficient of interest changes as the window for computed returns extends further helps reconciling our findings with those of Guo, Kontonikas and Maio (2020), who use monthly data to measure corporate bond returns around FOMC statement releases. In addition, we note in the paper that it is likely that the years in the sample of Guo, Kontonikas, and Maio (2020) were characterized by less exchange of information between the FOMC and financial markets on the days of the announcements.

A.2. Comparison to related studies

A.2.1. Comparison with Gertler and Karadi (2015)

Gertler and Karadi (2015) examine the reaction of credit spreads to monetary policy surprises, finding that credit spreads widen in response to tighter policy. Unlike our paper, Gertler and Karadi (2015) do not rely on the cross-section of the corporate bond returns, which makes the two sets of results not directly comparable. That said, results Table A3 suggest that the different conclusions may reflect differences in the time samples. Gertler and Karadi's sample runs from January 1991 to June 2012, and thus is more titled towards the pre-1999 period during which the FOMC did not issue statements after each meeting.

Table A3 presents regressions analogous to Table 1 of Gertler and Karadi (2015) but using our sample of FOMC meetings from August 2002 to May 2023.[1] Just like in Gertler and Karadi (2015), the dependent variable is the change in spreads on the Moody's Baa corporate bond index, with spreads measured relative to 10-year Treasury yields. These changes in the dependent variables are evaluated over two different trading day windows around FOMC meetings: *t*-1 to *t*+1 (denoted D1) and *t*-1 to *t*+10 (denoted D10)—the former matches our baseline, while the latter matches the window used by Gertler and Karadi (2015). The independent variables are both the *t*-1 to *t*+1 daily change in the 2-year Treasury yield (Δ2yrT_Day) as well as the high-frequency change in the 2-year Treasury yield around FOMC, using the same high-frequency window as in the main text.

Columns 1 to 4 show that Baa corporate bond spreads narrow in response to monetary policy tightening. The results are therefore directionally consistent with our baseline findings, though the coefficient in column 4 is not statistically significant. These conclusions are different from those in Gertler and Karadi (2015). The results indicate that different components of FOMC announcements—monetary and non-monetary—may be dominant during different time samples.

A.2.2. Comparison with Palazzo and Yamarthy (2022) with CDS regressions

Palazzo and Yamarthy (2022) study the reaction of credit default swaps (CDS) around FOMC statement releases. They find that CDS spreads of riskier firms widen relative to those of less

[1] See also Ramey (2016), who examines the robustness of the VAR results in Gertler and Karadi (2015).

risky firms in response to contractionary monetary policy shocks, which is the opposite of what we find for corporate bond returns. We reconcile these respective findings in Tables A4 and A5. Essentially, we conclude that the CDS reaction is driven by the monetary component of FOMC announcements, while the corporate bond market reaction is driven by the non-monetary component—and these have the opposite signs.

Table A4 begins by examining the reaction in firm-level corporate bond returns and changes in CDS spreads around FOMC meetings. The sample consists only of firms that have traded corporate bonds and quoted CDS contracts on day *t*-1 and day *t*+1 around the release of an FOMC statement. Following Palazzo and Yamarthy (2022), we use Markit to obtain data on 5-year CDS quotes based on the no restructuring (XR) doc-clause.[2] Since CDS are measured at the firm-level, in these regressions we also measure corporate bond returns at the firm-level.

Specifically, in Columns 1 to 4, the dependent variable is the duration-adjusted corporate bond return—that is, the corporate bond return in excess of the return on a synthetic risk-free security with the same cash flows as the underlying corporate bond (the same as in Table 3, column 3). To obtain this measure at the firm-meeting level we take a weighted average of the analogous bond-meeting level returns, where the weighs are based on the bond's offering amount. In Columns 5 to 8, the dependent variable is the change in the firm-level CDS spread from one day before to one day after an FOMC announcement. In all the regressions, a firm's credit risk is measured by its CDS spread one day before the FOMC announcement, CDS[t=-1], which is the same as the approach taken in Palazzo and Yamarthy (2022). This is then interacted with various interest rate changes around FOMC meetings (Δ2yr_Ty, ΔEuroDollar_8Q_HF, Δ2yr_Ty_HF and ΔFed_Funds_HF).

[2] We deeply thank Ram Yamarthy and Dino Palazzo for providing us with a bridging file linking identifiers in Markit with firm-level Cusips which enabled us to merge the CDS and corporate bond data.

Columns 1 to 4 show that—even when measured at the firm-level and using a different measure of credit risk—our conclusions regarding corporate bond returns are very similar to those in our baseline specifications. Specifically, these columns show that, when interest rates rise following an FOMC statement release, riskier firms earn significantly higher corporate bond returns relative to safer firms. This is precisely in line with our baseline findings.

Columns 5 to 8 examine the reaction of CDS spreads. Columns 5 and 6 show that we do not find a statistically significant effect for daily changes in 2-year Treasury yields or for high-frequency changes in 8-quarter-ahead Eurodollar futures rates (where the latter is defined as in Table 6). However, in column 7, using the high-frequency change in the 2-year Treasury yield, we do find a statistically significant effect (at the 10 percent level), indicating that the CDS spreads of riskier firms widen relative to safer firms following a surprise rise in interest rates around the FOMC statement. This finding lines up with the findings of Palazzo and Yamarthy (2022). It is also, on the face of it, at odds with our finding in column 3.

Comparing column 4 to column 8, however, reveals that corporate bonds and CDS spreads appear to be reacting to different shocks (an idea that we also explore further below). Specifically, column 4 examines corporate bond returns and decomposes the high-frequency change in the 2-year Treasury yield into two terms: (i) the surprise change in the current federal funds rate, as implied by federal funds futures contracts; and (ii) the surprise change in the spread between the 2-year yield and the current federal funds rate. The results are similar to those in the body of the paper. In particular, our findings cannot be explained by surprise changes in the current federal funds rate since its coefficient estimate is economically and statistically insignificant. Rather, we find that non-monetary news is reflected in surprise changes in the spread between the 2-year Treasury yield and the current federal funds rate, as this continues to be the main driver of our results.

In column 8, which examines changes in CDS spreads, the exact opposite holds. Specifically, shocks to the current federal funds rate are what drive the reaction of CDS spreads. The coefficient on surprise changes in the current federal funds rate is positive and statistically significant. In contrast, shocks to the spread between 2-year Treasury yields and the current federal funds rate are economically and statistically insignificant. This provides suggestive evidence the corporate bond returns and CDS spreads might be reacting to different shocks. Corporate bonds appear to be reacting to non-monetary news (as embedded in forward guidance shocks), while CDS appear to be reacting to more traditional monetary policy news (as reflected in shocks to the current federal funds rate).

Further support for this idea is presented in Table A5. In columns 1 to 4, we examine the potentially differential effects on corporate bond returns and CDS spreads by splitting the sample based on whether the S&P 500 index and 2-year Treasury yields move in the same or opposite direction around FOMC statement releases (to measure the latter, we use a high-frequency window, as in columns 3 to 6 of Table 7). As argued by Cieslak and Schrimpf (2019) and Jarociński and Karadi (2020), instances in which Treasury yields and stock returns move in the same direction likely indicate informational and non-monetary news, while instances in which they move in opposite directions likely indicate more traditional monetary policy shocks.

In the case of corporate bonds, columns 1 and 2 confirm are earlier results. That is, essentially all of the corporate bond reaction to changes in 2-year Treasury yields is driven by instances where stock returns and Treasury yields move in the same direction following FOMC announcements—consistent with the dominance of non-monetary news in explaining the reaction of corporate bonds.

As shown in columns 3 and 4, however, the exact opposite holds for CDS spreads. All of the increase in CDS spreads in reaction to a surprise rise in 2-year Treasury yields is driven by instances when stock returns and Treasury yields move in opposite directions following FOMC announcements. This indicates that CDS spreads are predominantly reacting to more traditional monetary policy news in FOMC announcements.

Columns 5 and 6 provide yet further support for the idea that corporate bonds and CDS spreads appear to be reacting to different components of the FOMC announcement. These columns consider an alternative measure of monetary policy shocks developed by Bu, Rogers, and Wu (2021), which is specifically designed to be purged of Fed information (i.e., non-monetary) effects, and thus captures the pure monetary component of FOMC announcements. Column 5 shows that when the BRW shock is used, for corporate bonds the coefficient is both economically and statistically insignificant. In other words, the overall reaction of corporate bonds cannot be explained by the pure monetary component of FOMC announcements. In contrast, column 6 shows that for CDS spreads, the coefficient estimate using the BRW shock is positive and more significant than anything shown in Table A4.

To summarize, these findings provide evidence that the corporate bond market reaction to FOMC announcements is driven by the non-monetary component, while the reaction of CDS spreads appears to be driven predominantly by the monetary component. We believe that this distinction reconciles our findings with those of Palazzo and Yamarthy (2022).

Bai and Collin-Dufresne (2019) show that the CDS-bond basis exhibits substantial volatility, both in the time-series and in the cross-section of firms. They also show that the CDS-bond basis has increased notably since 2007 and become more volatile. These findings in this section suggest that CDS and corporate bonds may not have identical risk exposures and may not have identical reactions to all news.

A.3. Stock returns and credit risk

Although not our primary focus, we also examine the effects on stocks returns. Specifically, Table A6 examines how the stock returns of firms with different levels of credit risk vary around FOMC announcements. The dependent variables in Table A6 are stock returns around FOMC announcements and the coefficients of interest are those associated with the interaction between credit risk and a measure of monetary policy surprise. We obtain data on intra-day and end-of-day stock prices from TAQ for the firms our corporate bond sample. Credit_risk is analogous to the measure used in the body of the paper—it is the weighted average credit rating of a firm's bonds, where weights based on the bond's offering amount, and higher values indicate riskier bonds.

In columns 1 to 3, stock returns and changes in 2-year Treasury yields are evaluated using a daily event window. The coefficient of interest in column 1 is negative but statistically insignificant. That is, when 2-year Treasury yields rise in reaction to FOMC statements, there is no statistically significant difference on average between the stock returns of firms with differing levels of credit risk.

Columns 2 and 3 reveal, however, that this null result masks interesting heterogeneity. Specifically, in columns 2 and 3 we present a sample split, based on whether changes in 2-year Treasury yields and the S&P 500 index move in the same or opposite directions around FOMC statements. As argued by Cieslak and Schrimpf (2019) and Jarociński and Karadi (2020), instances in which Treasury yields and stock returns move in the same direction likely indicate informational or non-monetary news, while instances in which Treasury yields and stock returns move in opposite directions likely indicate more traditional monetary policy shocks.

Column 2 corresponds to the situation where the 2-year Treasury yield and the S&P 500 index move in the same direction immediately around the FOMC announcement. Here the estimated coefficient of interest is positive and statistically significant. This means that, in these instances, when Treasury yields rise in reaction to an FOMC statement release, the stock returns of firms with more credit risk are significantly higher relative to less risky firms. Since riskier firms outperform, this suggests that the rise in 2-year Treasury yields in these instances is indeed a signal of positive economic news, which could reflect a stronger outlook or lower risk premia. Since the effects we find in the corporate bond market are driven by this subset of observations, this gives us further confidence that non-monetary news within FOMC announcements is indeed the most plausible explanation for our results.

In column 3—the sample in which 2-year Treasury yields and the S&P 500 index move in opposite directions around FOMC announcements—the estimated coefficient of interest is negative and statistically significant. That is, following a rise in interest rates in reaction to an FOMC announcement, the stock returns of riskier firms significantly underperform relative to safter firms in these instances. This gives us further confidence that this subset of shocks are dominated by pure monetary policy or interest rate news.

Column 4 considers the measure of monetary policy shocks developed by Bu, Rogers, and Wu (2021), which is purged of Fed information (i.e., non-monetary) effects, and thus captures the pure monetary component of FOMC announcements. As shown, the stock returns of riskier firms significantly underperform in reaction to these shocks.

Columns 5 to 7 are analogous to columns 1 to 3, except that stock returns and changes in 2-year Treasury yields are evaluated using a high-frequency window, starting 15 minutes before the FOMC statement release and ending 45 minutes after. We obtain the intraday stock price data from TAQ. The conclusions from using the high-frequency window are similar to those using the daily window in columns 1 to 3.

In a related paper, Golez and Matthies (2023) find strong evidence for nonmonetary news when focusing on the price response of short-term dividend strips on the S&P 500 index (see Van Binsbergen et al., 2012). Their analysis therefore suggests that surprise monetary tightening likely conveys some positive economic news as perceived by investors in risky assets.

A.4. Unscheduled FOMC meetings

In our baseline specifications we consider only scheduled FOMC meetings. Here we consider unscheduled FOMC meetings. There are 7 unscheduled FOMC meetings in our sample. Unscheduled meetings occur in response to crises. The unscheduled meetings in our sample all occur during the Global Financial Crisis and the COVID-19 pandemic.

The results for unscheduled FOMC meetings are shown in Table A7. The regression specifications are the same as our baseline. In column 1, which considers all unscheduled meetings, the coefficient estimate is positive and statistically significant.

Column 2 excludes the unscheduled FOMC meeting on Sunday March 15, 2020 (with returns measured from Friday to Monday around the announcement). When this one meeting is excluded, the coefficient estimate becomes both economically and statistically insignificant.

On the unscheduled meetings on March 15, 2020, the FOMC—in response to the COVID-19 pandemic—lowered the federal funds rate by 100 basis points, to 0 to 1/4 percent, and announced an expansion of its quantitative easing program, among other measures. 2-year Treasury yields fell by approximately 10 bps around this announcement, from Friday to Monday. However, markets were still in panic—the S&P 500 index fell by 12 percent on Monday. Consistent with the wider market turbulence, high-yield corporate bonds notably underperformed relative to investment-grade corporate bonds on the day, as spreads spiked.

Clearly, this particular FOMC meeting is an outlier. When it is excluded, we find no effects for other unscheduled FOMC meetings. We exclude them from our main test because they tend to occur in response to crises.

A.5. Effects by broader credit rating category

In our main results, we have used a measure of credit risk that assign different values to each rating notch. Here we examine the discrete effects of broad credit rating categories on corporate bond returns around FOMC meetings.

Specifically, in Table A8 we run regressions of corporate bond returns like our baseline specification except that the explanatory variable of interest is now the interaction of changes in 2-year nominal Treasury yields with indicator variables for the corporate bond's broad credit rating. We use separate indicator variables for each of the following rating categories: A, BBB, BB, and B-&-below. Within this setup, the safest corporate bonds—those rated AAA or AA—are the omitted category, meaning that the corporate bond returns for each of the other credit rating categories are measured relative to the safest category. The regression continues to include the array of fixed effects from our baseline specification.

Table A8 shows that the coefficients on the interaction terms are all positive. Moreover, the coefficients are monotonically increasing with credit risk. This monotonic relationship between corporate bond returns and credit rating indicators is consistent with our earlier findings—i.e., riskier corporate bonds earn higher returns when Treasury yields rise around FOMC statements.

A.6. Meeting-by-meeting regressions

An alternative way of presenting the results is to run regressions separately for each FOMC meeting. Running separate regressions for each individual FOMC meeting provides a convenient way of visualizing our results. More specifically, we run meeting-by-meeting regressions as follows:

$$Ret_{i,t} = \beta_t \times Credit\_Risk_{i,t} + \alpha_{t,m} + \alpha_{t,j} + \alpha_{t,c} + \varepsilon_{i,t}, \quad \text{(A1)}$$

where, for a given FOMC meeting on date t, β_t, measures the relative outperformance (or underperformance) of bonds with higher credit risk, conditional on the same fixed effects as our baseline regressions, i.e., years-to-maturity, industry, and callability. Importantly, these meeting-by-meeting regressions do not include the change in the 2-year Treasury yield as a regressor, since this is a constant for each meeting.

After running each meeting-by-meeting regression, we relate the estimates of β_t to the corresponding changes in 2-year Treasury yields. Figure A1 plots this relationship. The conclusions for this exercise are the same as shown in Table 3 of the main paper. That is, β_t tends to be positive when interest rates rise around FOMC meetings, meaning that corporate bonds with higher credit risk bonds outperform. Conversely, when interest rates fall, β_t tends to be negative, meaning that riskier bonds underperform. The figure reveals that the relationship is approximately linear and is not driven by any particular sub-period. In the figure, we label the dates of the outlier observations. These tend to occur during the financial crisis or post-pandemic period and, as just described in the main paper, our results are even stronger when these periods are excluded (Table 4, column 3). In the figure, the coefficient estimate of the fitted line's slope is 0.24 (p<0.001), roughly similar to our estimates in Table 3, with R-squared of about 9%.[3]

A.7. Further robustness checks: bond fixed effects, lower rated bonds, and asymmetric effects

Table A9 considers additional robustness checks to our main regression, extending Table 8 from the main text.

Column 1 additionally includes a bond fixed effect to the baseline regression, which controls for time-invariant bond effects across FOMC meetings. As shown, including a bond fixed effect has close to no effect on our main estimate.

Column 2 excludes the worst rated bonds from the sample, requiring that bonds have a credit rating no worse than B- (or equivalent). Doing so has little effect on our results, which rules out the possibility that our results might be driven by the lowest-rated segment of the corporate bond market.

Columns 3 and 4 formally examine whether there is asymmetry in the effect of rising versus falling interest rates around FOMC meetings. Specifically, we split our main explanatory variable into two components, depending on whether the change in the 2-year Treasury yield is positive or negative. Column 3 considers the full sample, while column 4 is restricted to the pre-pandemic period (through to December 2019). In both columns 3 and 4, we find highly statistically significant effects when interest rates fall—i.e., returns on riskier corporate bonds are

[3] Our use of repeated cross-sections has some similarities with the procedure of Fama and Macbeth (1973), except for that, in our case, we are interested not in the simple time-series average of our cross-sectional estimates, but rather how these cross-sectional estimates vary conditional on the change in interest rates around FOMC meetings.

lower than those on safer corporate bonds, consistent with a fall in interest rates around the FOMC meetings signaling negative economic news.

In column 3, however, we find that the coefficient for a rise in interest rates is smaller in magnitude and not statistically significant, although the sign is unchanged and coefficients for rising versus falling rates are not statistically different from each other (p=0.438). This is not so in column 4, where we find statistically significant and symmetric effects of essentially the same magnitude for both rising and falling rates. These results may be explained by the fact that the post-pandemic period was characterized by the Federal Reserve rapidly raising interest rates to combat inflation. As such, post-pandemic monetary policy shocks, as measured by changes in interest rates around FOMC meetings, likely reflect relatively more substantial pure monetary news and had a much smaller non-monetary component compared to the pre-pandemic period.

A.8. Lunsford (2020) classifications and Bauer and Swanson (2023) shocks

Lunsford (2020) examines two distinct phases of the forward guidance contained in FOMC statements. According to Lunsford (2020), February 2000 to June 2003 involves economic outlook forward guidance, while August 2003 to May 2006 involves forward guidance about the FOMC's policy inclinations. Lunsford (2020) argues that during the former period informational or non-monetary news within FOMC statements predominates, while during the latter period conventional policy news dominates.

We consider the Lunsford (2020) classifications of FOMC meetings in Table A10, columns 1 and 2. We note that in our sample, which starts in August 2002, there are only 8 FOMC meetings through to June 2003. For these 8 meetings, in column 1, we find a coefficient of 0.216 (p=0.174). The sign and magnitude are in line with our baseline, but the coefficient is imprecisely estimated because of the small sample. For August 2003 to May 2006, in column 2, we find a coefficient of 0.083 (*p*=0.593). In other words, the coefficient is larger for the subsample that Lunsford (2020) classifies as more likely to involve non-monetary news. But given the very small sample, the tests lack statistical power.

In column 3 of Table A10, we also consider the orthogonalized monetary policy shocks constructed by Bauer and Swanson (2023), computed as the residuals from regressing raw monetary policy shocks on the six macro and financial variables described in their paper. We find both economically and statistically insignificant effects using these shocks. We include these results for completeness but note that Bauer and Swanson (2023) do not recommend using these shocks to study the effects on asset prices. To quote their paper (p. 695): "… even though the high-frequency monetary policy surprises mps_t may be correlated with economic data x_t ex post, they still can be used, without adjustment, to estimate the effects of an exogenous change in monetary policy ε_t on asset prices in a narrow window of time around an FOMC announcement… Footnote 47: "Projecting out the ex post correlation of mps_t with x_t can provide a more accurate estimate of the exogenous component ε_t of mps_t. However, *in event-study regressions for asset prices this is not necessary and actually reduces the efficiency of the high-frequency regressions*, because yield changes are related to the full monetary policy surprise mps_t and not just the exogenous component." [emphasis added.]

A.9. Corporate bond defaults and monetary policy shocks

Our main analysis focuses on asset price responses. In this section, we examine whether the effects we find in the cross-section of corporate bond returns are also evident in subsequent corporate bond defaults. We collected default data for the bonds in our sample from Mergent FISD. Our paper's main finding is that a rise in interest rates in reaction to FOMC announcements is interpreted as a signal of good economic news on average, with riskier corporate bonds outperforming less risky bonds. This raises the question of what happens to the relative default rate between riskier and less risky bonds in the quarters following a surprise policy tightening.

Table A11 provides some evidence that this is indeed the case. Specifically, we run linear probability models of the following form:

$$(A2)\qquad Default_{i,t+h} = \beta\Delta 2yr\_Ty_t \times Credit\_Risk_{i,t} + \gamma Credit\_Risk_{i,t} + \alpha_{t+h} + \varepsilon_{i,t+h},$$

where $Default_{i,t+h}$ is an indicator for whether corporate bond i defaults in quarter $t+h$, where h runs from 1 to 4 quarters after the FOMC statement release in quarter t; $\Delta 2yr\_Ty_t$ and $Credit\_Risk_{i,t}$ are defined as in the main text and are averaged over quarter t; α_{t+h} are year-quarter fixed effects; $\varepsilon_{i,t+h}$ is the idiosyncratic error term. Standard errors are two-way clustered by year-quarter and by firm.

The results in Table A11 show that following a surprise monetary policy tightening, the relative default rate of riskier corporate bonds over that of less risky bonds decreases in the subsequent quarter (i.e., *h*=1). The coefficient estimates for the first quarter after the FOMC announcement are statistically significant in both columns 1 and 2—that is, irrespective of whether changes in 2-year Treasury yields are measured using a daily window or a high-frequency window. Overall, this indicates that an unexpected policy tightening indeed provides a positive signal about the expected credit outlook. In other words, the outperformance of riskier corporate bonds following a surprise tightening is partly justified by the subsequent reduction in their relative propensity to default the next quarter.

Beyond the first quarter after the FOMC announcement—for quarters 2 to 4—we do not find statistically significant effects. Perhaps this should not be surprising. As more time elapses, a firm will be hit with many different shocks, including subsequent macroeconomic, industry, and idiosyncratic shocks. These shocks make it extremely difficult to identify the effects of past FOMC meetings on realized defaults over longer horizons.

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Figure A1: Meeting-by-meeting results

The figure presents the results from running the following regression separately for each FOMC meeting: $Ret_{i,t} = \beta_t \times Credit\_Risk_{i,t} + \alpha_{t,m} + \alpha_{t,j} + \alpha_{t,c} + \varepsilon_{i,t}$. The estimates of β_t are then plotted against the change in the 2-year nominal Treasury yield for each meeting. The coefficient estimate of the fitted line's slope is 0.240 (p<0.001), with R-squared of 8.7%.

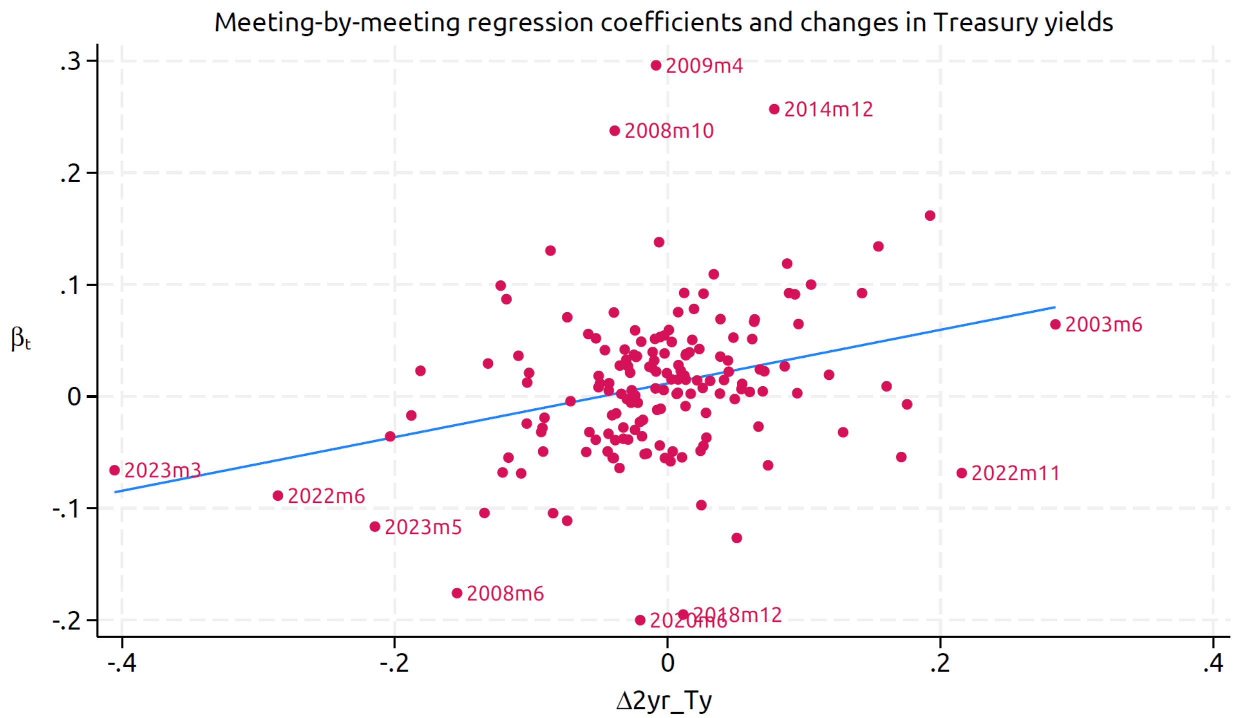

Table A1: Corporate bond returns over extended windows

This table examines corporate bond returns over an extended window around FOMC meetings from August 2002 to May 2023. The dependent variable, shown in each row, is the corporate bond return over different horizons, in each case starting one day before the FOMC announcement and ranging from 1 to 25 trading days after the announcement. Each cell shows the result from running a separate regression where the independent variable, listed in each column, is interacted with Credit_Risk. Column 1 uses the change in the 2-year Treasury yield from one day before to one day after the FOMC announcement. Columns 2 and 3 use the high-frequency change in the 8-quarter-ahead Eurodollar futures rate and the 2-year Treasury yield, respectively, as in Table 6. All fixed effects are the same as in our baseline regressions. Standard errors, shown in parentheses underneath the coefficient estimates, are two-way clustered by FOMC meeting and by firm. *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Independent Var. *Credit_Risk:	Δ2yr_Ty, *t* = -1 to +1 (1) Ret.	ΔEuroDollar_8Q, high-freq. (2) Ret.	Δ2yr_Ty, high-freq. (3) Ret.
Dependent Var.:			
Ret. (*t* = -1 to +1)	0.212***	0.155***	0.148*
	(0.060)	(0.058)	(0.084)
Ret. (*t* = -1 to +2)	0.211**	0.210**	0.177
	(0.098)	(0.092)	(0.144)
Ret. (*t* = -1 to +3)	0.113	0.057	-0.009
	(0.097)	(0.092)	(0.156)
Ret. (*t* = -1 to +4)	0.122	0.071	0.061
	(0.096)	(0.102)	(0.164)
Ret. (*t* = -1 to +5)	0.136	0.142	0.103
	(0.133)	(0.120)	(0.195)
Ret. (*t* = -1 to +6)	0.097	-0.004	0.130
	(0.147)	(0.011)	(0.210)
Ret. (*t* = -1 to +7)	0.060	-0.000	-0.108
	(0.156)	(0.012)	(0.239)
Ret. (*t* = -1 to +8)	0.059	-0.002	0.013
	(0.150)	(0.013)	(0.237)
Ret. (*t* = -1 to +9)	0.136	0.004	0.078
	(0.148)	(0.012)	(0.240)
Ret. (*t* = -1 to +10)	0.243	-0.011	0.059
	(0.176)	(0.014)	(0.288)

Table A1: Corporate bond returns over extended windows (continued)

Independent Var. *Credit_Risk:	Δ2yr_Ty, *t* = -1 to +1 (1) Ret.	ΔEuroDollar_8Q, high-freq. (2) Ret.	Δ2yr_Ty, high-freq. (3) Ret.
Dependent Var.:			
Ret. (*t* = -1 to +11)	0.315	0.156	0.153
	(0.216)	(0.187)	(0.331)
Ret. (*t* = -1 to +12)	0.376	0.115	0.131
	(0.266)	(0.229)	(0.398)
Ret. (*t* = -1 to +13)	0.101	-0.045	-0.056
	(0.212)	(0.231)	(0.376)
Ret. (*t* = -1 to +14)	0.241	0.002	0.046
	(0.245)	(0.246)	(0.386)
Ret. (*t* = -1 to +15)	0.256	-0.060	-0.008
	(0.228)	(0.231)	(0.348)
Ret. (*t* = -1 to +16)	0.169	-0.194	-0.153
	(0.209)	(0.226)	(0.319)
Ret. (*t* = -1 to +17)	0.054	-0.299	-0.284
	(0.195)	(0.217)	(0.315)
Ret. (*t* = -1 to +18)	0.085	-0.281	-0.248
	(0.227)	(0.234)	(0.332)
Ret. (*t* = -1 to +19)	0.022	-0.380	-0.323
	(0.207)	(0.245)	(0.335)
Ret. (*t* = -1 to +20)	0.064	-0.279	-0.262
	(0.209)	(0.235)	(0.325)
Ret. (*t* = -1 to +21)	0.131	-0.165	-0.114
	(0.221)	(0.245)	(0.348)
Ret. (*t* = -1 to +22)	0.023	-0.291	-0.279
	(0.223)	(0.263)	(0.385)
Ret. (*t* = -1 to +23)	-0.035	-0.309	-0.198
	(0.207)	(0.271)	(0.381)
Ret. (*t* = -1 to +24)	-0.025	-0.096	-0.014
	(0.194)	(0.234)	(0.321)
Ret. (*t* = -1 to +25)	-0.024	-0.192	-0.122
	(0.199)	(0.271)	(0.360)

Table A2: Interest rate changes around FOMC Minutes versus preceding FOMC statement

In this table, interest rate changes around the release of the FOMC Minutes are regressed on interest rate changes around the preceding FOMC statement release. Δ1yrT, Δ2yrT and Δ10yrT are change in 1-, 2- and 10-year nominal Treasury yields, measured using a daily *t*-1 to *t*+1 around the release of the relevant statement. The sample period is from August 2002 to May 2023 and only includes scheduled FOMC meetings where there is no subsequent unscheduled FOMC meeting before the release of the Minutes. Robust standard errors are shown in parentheses underneath the coefficient estimates. *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1) Δ1yrT	(2) Δ2yrT	(3) Δ10yrT
Δ1yrT	-0.211**		
	(0.103)		
Δ2yrT		-0.154	
		(0.098)	
Δ10yrT			-0.137**
			(0.058)
Constant	0.002	0.004	0.003
	(0.004)	(0.006)	(0.007)
Observations	150	150	150
Adjusted R^2	0.047	0.025	0.024

Table A3: Comparison to Gertler and Karadi (2015)

This table presents regressions of changes in the Moody's Baa corporate bond index on changes in 2-year nominal Treasury yields around FOMC statements from August 2002 to May 2023. Spreads are measured relative to 10-year Treasury yields. The changes in the dependent variables are evaluated over two different trading day windows around FOMC meetings: *t*-1 to *t*+1 (denoted D1) and *t*-1 to *t*+10 (denoted D10). Δ2yrT_Day is the *t*-1 to *t*+1 daily change in the 2-year Treasury yield around the FOMC announcement, while Δ2yrT_HF is the high-frequency change in the 2-year Treasury yield, starting 15 minutes before the FOMC announcement and ending 45 minutes after. Robust standard errors are shown in parentheses underneath the coefficient estimates. *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1) D1.Baa	(2) D1.Baa	(3) D10.Baa	(4) D10.Baa
Δ2yrT_Day	-0.405***		-0.343***	
	(0.047)		(0.117)	
Δ2yrT_HF		-0.397***		-0.220
		(0.097)		(0.182)
Constant	-0.002	-0.001	-0.001	-0.000
	(0.003)	(0.004)	(0.009)	(0.009)
Observations	165	165	165	165
Adjusted R^2	0.368	0.168	0.057	0.007

Table A4: CDS spreads and firm-level corporate bond returns

This tables examines firm-level corporate bond returns and changes in CDS spreads around FOMC meetings. In these regressions, a firm's credit risk is measured by its CDS spread one day before the FOMC announcement, CDS[$t = -1$]. In Columns 1 to 4, the dependent variable is the duration-adjusted corporate bond return, as in Table 3, column 3. This measure is defined at the firm-meeting level and is the weighted average of the analogous bond-meeting level returns, where the weights are based on the bond's offering amount. In Columns 5 to 8, the dependent variable is the change in the firm-level CDS spread from one day before to one day after an FOMC announcement. Δ2yr_Ty is change in the 2-year nominal Treasury yield from one day before to one day after an FOMC announcement. ΔEuroDollar_8Q_HF, Δ2yr_Ty_HF, and ΔFed_Funds_HF are high-frequency changes in 8-quarter-ahead Eurodollar futures rates, 2-year nominal Treasury yields, and current federal funds rate futures, respectively, as defined in Table 6. All regressions include FOMC meeting fixed effects. Standard errors, shown in parentheses underneath the coefficient estimates, are two-way clustered by FOMC meeting and by firm. *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1) Ret.-Adj	(2) Ret.-Adj	(3) Ret.-Adj	(4) Ret.-Adj	(5) ΔCDS	(6) ΔCDS	(7) ΔCDS	(8) ΔCDS
Δ2yr_Ty*CDS[t=-1]	0.581***				-0.009			
	(0.131)				(0.018)			
ΔEuroDollar_8Q_HF*CDS[t=-1]		0.275***				0.016		
		(0.094)				(0.012)		
Δ2yr_Ty_HF*CDS[t=-1]			0.268*				0.032*	
			(0.158)				(0.018)	
(Δ2yr_Ty_HF - ΔFed_Funds_HF)*CDS[t=-1]				0.319**				0.022
				(0.146)				(0.017)
ΔFed_Funds_HF*CDS[t=-1]				0.069				0.074**
				(0.339)				(0.033)
CDS[t=-1]	0.019**	0.018**	0.018*	0.018*	-0.004***	-0.004**	-0.003**	-0.003**
	(0.009)	(0.009)	(0.009)	(0.010)	(0.001)	(0.001)	(0.001)	(0.001)
Meeting FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	42,614	42,614	42,614	42,614	42,614	42,614	42,614	42,614
Adjusted R^2	0.169	0.164	0.162	0.163	0.208	0.209	0.210	0.212

Table A5: Information shocks, corporate bond versus CDS reaction

This tables examines differential effects of corporate bond returns and CDS spreads based on Fed information shocks versus conventional monetary policy shocks. In these regressions, a firm's credit risk is measured by its CDS spread one day before the FOMC announcement, CDS[t=-1]. The dependent variables, Ret.-Adj. and ΔCDS, are the same as in Table A4. Instances where Treasury yields and stock returns move in the same direction likely indicate non-monetary news, while instances where they move in opposite directions likely indicate more traditional monetary policy shocks, as in Cieslak and Schrimpf (2019) and Jarociński and Karadi (2020). Columns 1 and 2 split the sample according to these indicators for Ret.-Adj. as the dependent variable, while columns 3 and 4 do so for ΔCDS as the dependent variable. Columns 5 and 6 consider an alternative monetary policy shock measure developed by Bu, Rogers, and Wu (2021), which is designed to be purged of Fed information effects. All regressions include FOMC meeting fixed effects. Standard errors, shown in parentheses underneath the coefficient estimates, are two-way clustered by FOMC meeting and by firm. *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	Same (1) Ret.-Adj.	Opposite (2) Ret.-Adj.	Same (3) ΔCDS	Opposite (4) ΔCDS	(5) Ret.-Adj.	(6) ΔCDS
Δ2yr_Ty_HF*CDS[t=-1]	0.698**	0.032	-0.014	0.059**		
	(0.263)	(0.196)	(0.028)	(0.023)		
BRW*CDS[t=-1]					-0.007	0.094***
					(0.224)	(0.029)
CDS[t=-1]	0.027	0.012	-0.005*	-0.002	0.014	-0.003**
	(0.018)	(0.010)	(0.003)	(0.002)	(0.010)	(0.001)
Meeting FE	✓	✓	✓	✓	✓	✓
Observations	12,845	29,769	12,845	29,769	42,614	42,614
Adjusted R^2	0.168	0.162	0.238	0.198	0.161	0.220

Table A6: Stock returns around FOMC meetings by credit risk

This table examines how the stock returns of firms with different levels of credit risk vary around FOMC announcements. Credit_risk is the weighted average credit rating of a firm's bonds at the time of the FOMC meeting, where weights based on the bond's offering amount, and higher values indicate riskier bonds. In columns 1 to 3, stock returns and changes in 2-year Treasury yields are evaluated using a daily event window. Columns 2 and 3 present a sample split, based on whether changes in 2-year Treasury yields and returns on the S&P 500 index move in the same or opposite directions around FOMC statements, as in Cieslak and Schrimpf (2019) and Jarociński and Karadi (2020). Columns 4 considers an alternative monetary policy shock measure developed by Bu, Rogers, and Wu (2021), which is designed to be purged of Fed information effects. Columns 5 to 7 are analogous to columns 1 to 3, except that stock returns and changes in 2-year Treasury yields are evaluated using a high-frequency window, starting 15 minutes before the FOMC statement release and ending 45 minutes after. In columns 6 and 7, the classification into "same" and "opposite" is also based on the high-frequency changes in 2-year Treasury yields and the S&P 500 index. All regressions include FOMC meeting fixed effects. Standard errors, shown in parentheses underneath the coefficient estimates, are two-way clustered by FOMC meeting and by firm. *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	Same (2)	Opposite (3)	(4)	(5)	Same (6)	Opposite (7)
	Stock_Day	Stock_Day	Stock_Day	Stock_Day	Stock_HF	Stock_HF	Stock_HF
Δ2yr_Ty*Credit_Risk	-0.150	0.403^{**}	-0.489^{***}				
	(0.136)	(0.186)	(0.167)				
BRW*Credit_Risk				-0.696^{***}			
				(0.207)			
Δ2yr_Ty_HF*Credit_Risk					-0.057	0.158^{*}	-0.126^{*}
					(0.056)	(0.085)	(0.066)
Credit_Risk	0.020^{**}	0.011	0.026^{**}	0.016	0.001	0.005	-0.001
	(0.010)	(0.014)	(0.013)	(0.010)	(0.003)	(0.005)	(0.003)
Meeting FE	✓	✓	✓	✓	✓	✓	✓
Observations	67,253	34,129	33,124	55,499	67,253	19,407	47,846
Adjusted R^2	0.326	0.302	0.349	0.318	0.457	0.363	0.484

Table A7: Unscheduled FOMC meetings

The table examines the effects around unscheduled FOMC meetings. The specifications are the same as in Table 3, column 1. Column 1 considers all unscheduled meetings from over the sample period, while column 2 excludes the unscheduled FOMC meeting on March 15, 2020. Standard errors, shown in parentheses underneath the coefficient estimates, are two-way clustered by FOMC meeting and by firm. *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	All unscheduled (1) Ret.	All excluding March 15, 2020 (2) Ret.
Δ2yr_Ty*Credit_Risk	0.143***	-0.013
	(0.036)	(0.034)
Credit_Risk	-0.095***	-0.041***
	(0.006)	(0.006)
Meeting*Years-to-maturity FE	✓	✓
Meeting*SIC2 FE	✓	✓
Meeting*Callable FE	✓	✓
Observations	14,435	10,871
Adjusted R^2	0.320	0.291

Table A8: Corporate bond returns by broad credit rating categories

This table examines the discrete effects of different credit rating categories on corporate bond returns around FOMC meetings. The dependent variable is the return on individual corporate bonds around FOMC meetings from August 2002 to May 2023. The safest corporate bonds—those rated AAA or AA—are the omitted category, meaning that the corporate bond returns for each of the other credit rating categories are measured relative to this safest category. All other variables are defined as in Table 3. Standard errors, shown in parentheses underneath the coefficient estimates, are two-way clustered by FOMC meeting and by firm. *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1) Ret.
Δ2yr_Ty*A	0.228
	(0.181)
Δ2yr_Ty*BBB	0.593**
	(0.238)
Δ2yr_Ty*BB	2.022***
	(0.571)
Δ2yr_Ty*B_&_below	2.348***
	(0.669)
A	0.027
	(0.017)
BBB	0.053**
	(0.023)
BB	0.061
	(0.049)
B_&_below	0.099
	(0.060)
Meeting*Years-to-maturity FE	✓
Meeting*SIC2 FE	✓
Meeting*Callable FE	✓
Observations	474,771
Adjusted R^2	0.228

Table A9: Further robustness checks: lower rated bonds and symmetric effects

This table presents further robustness checks. The dependent variable is the return on individual corporate bonds around FOMC meetings. Column 1 adds a bond fixed effect to the baseline specification. Column 2 includes only bonds that have a credit rating no worse than B-. Columns 3 and 4 examine potential asymmetric effects based on whether changes in 2-year yields are positive (Δ2yr_Ty, if>0) or negative (Δ2yr_Ty, if<0). All other variables are defined as in Table 3. Standard errors, shown in parentheses underneath the coefficient estimates, are two-way clustered by FOMC meeting and by firm. *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	Include bond fixed effect (1) Ret.	Exclude lowest rated bonds (2) Ret.	Rate rises v. cuts, full sample (3) Ret.	Rate rises v. cuts, pre-2020 (4) Ret.
Δ2yr_Ty*Credit_Risk	0.210***	0.224***		
	(0.060)	(0.061)		
(Δ2yr_Ty, if>0)*Credit_Risk			0.132	0.286**
			(0.133)	(0.143)
(Δ2yr_Ty, if<0)*Credit_Risk			0.264***	0.298**
			(0.074)	(0.133)
Credit_Risk	0.039***	0.002	0.013*	0.013
	(0.008)	(0.005)	(0.007)	(0.008)
Meeting*Years-to-maturity FE	✓	✓	✓	✓
Meeting*SIC2 FE	✓	✓	✓	✓
Meeting*Callable FE	✓	✓	✓	✓
Bond FE	✓			
Observations	468,204	448,494	474,771	353,453
Adjusted R^2	0.251	0.250	0.228	0.189

Table A10: Lunsford (2020) classifications and Bauer and Swanson (2023) shocks

This table examines the classifications of FOMC meetings proposed by Lunsford (2020), in columns 1 and 2, and the monetary policy shocks constructed Bauer and Swanson (2023) in column 3. Columns 1 and 2 provide a sample split of our baseline specification. According to Lunsford (2020), February 2000 to June 2003 involves economic outlook forward guidance, shown in column 1, while August 2003 to May 2006 involves forward guidance about the FOMC's policy inclinations, shown in column 2. Column 3 examines the orthogonalized monetary policy shocks constructed by Bauer and Swanson (2023), computed as the residuals from regressing raw monetary policy shocks on the six macro and financial variables described in their paper. All other variables are defined as in Table 3. Standard errors, shown in parentheses underneath the coefficient estimates, are two-way clustered by FOMC meeting and by firm. *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	Lunsford (2020), Period 1	Lunsford (2020), Period 2	Bauer and Swanson shocks
	(1)	(2)	(3)
	Ret.	Ret.	Ret.
Δ2yr_Ty*Credit_Risk	0.216	0.083	
	(0.143)	(0.153)	
Δ2yr_Bauer_Swanson*Credit_Risk			-0.008
			(0.148)
Credit_Risk	0.017	0.002	0.010*
	(0.028)	(0.012)	(0.006)
Meeting*Years-to-maturity FE	✓	✓	✓
Meeting*SIC2 FE	✓	✓	✓
Meeting*Callable FE	✓	✓	✓
Observations	14,238	40,675	353,453
Adjusted R^2	0.114	0.109	0.187

Table A11: Corporate bond defaults

This table examines the propensity of corporate bonds with different levels of credit risk to default following surprise changes in the stance of monetary policy around FOMC announcements. The table estimates linear probability models described by equation (A2). The dependent variable, shown in each row, is an indicator variable for whether the corporate bond defaults in quarter *h*, ranging from 1 to 4 quarters after the FOMC announcement. Each cell shows the results from running a separate regression where the independent variable, listed in each column, is interacted with Credit_Risk. The independent variables are averaged over the quarter (*h*=0). Column 1 uses the change in the 2-year Treasury yield from one day before to one day after the FOMC announcement, while columns 2 uses the high-frequency change in 2-year Treasury yield, as in Table 6. All regressions include year-quarter fixed effects. Standard errors, shown in parentheses underneath the coefficient estimates, are two-way clustered by year-quarter and by firm. *, **, and ***, denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Independent Var. *Credit_Risk:	Δ2yr_Ty, *t* = -1 to +1 (1) Default	Δ2yr_Ty, high-freq. (2) Default
Dependent Var.:		
Default (*quarter, h* = 1)	-0.017*	-0.023**
	(0.010)	(0.010)
Default (*quarter, h* = 2)	0.006	0.014
	(0.007)	(0.010)
Default (*quarter, h* = 3)	-0.010	0.002
	(0.006)	(0.012)
Default (*quarter, h* = 4)	0.000	-0.008
	(0.005)	(0.009)