Pre-FOMC Information Asymmetry

Farshid Abdi and **Botao Wu**

University of Massachusetts Amherst   **NYU Stern School of Business**

Motivation

- ☐ A large fraction of the risk premium in the stock market is realized in the short period before Federal Open Market Committee (FOMC) announcements. (Lucca and Moench, 2015).

- ☐ The realization of the risk premium before FOMC announcement, along other evidences, suggests that the market learns about the FOMC announcement outcome beforehand, through informal channels (Cieslak, Morse, and Vissing-Jorgensen 2018)

- ☐ We provide empirical evidence for the Informed Trading

The Key Finding

- ☐ We uncover the informed trading in corporate bond market starting several days before FOMC announcements.
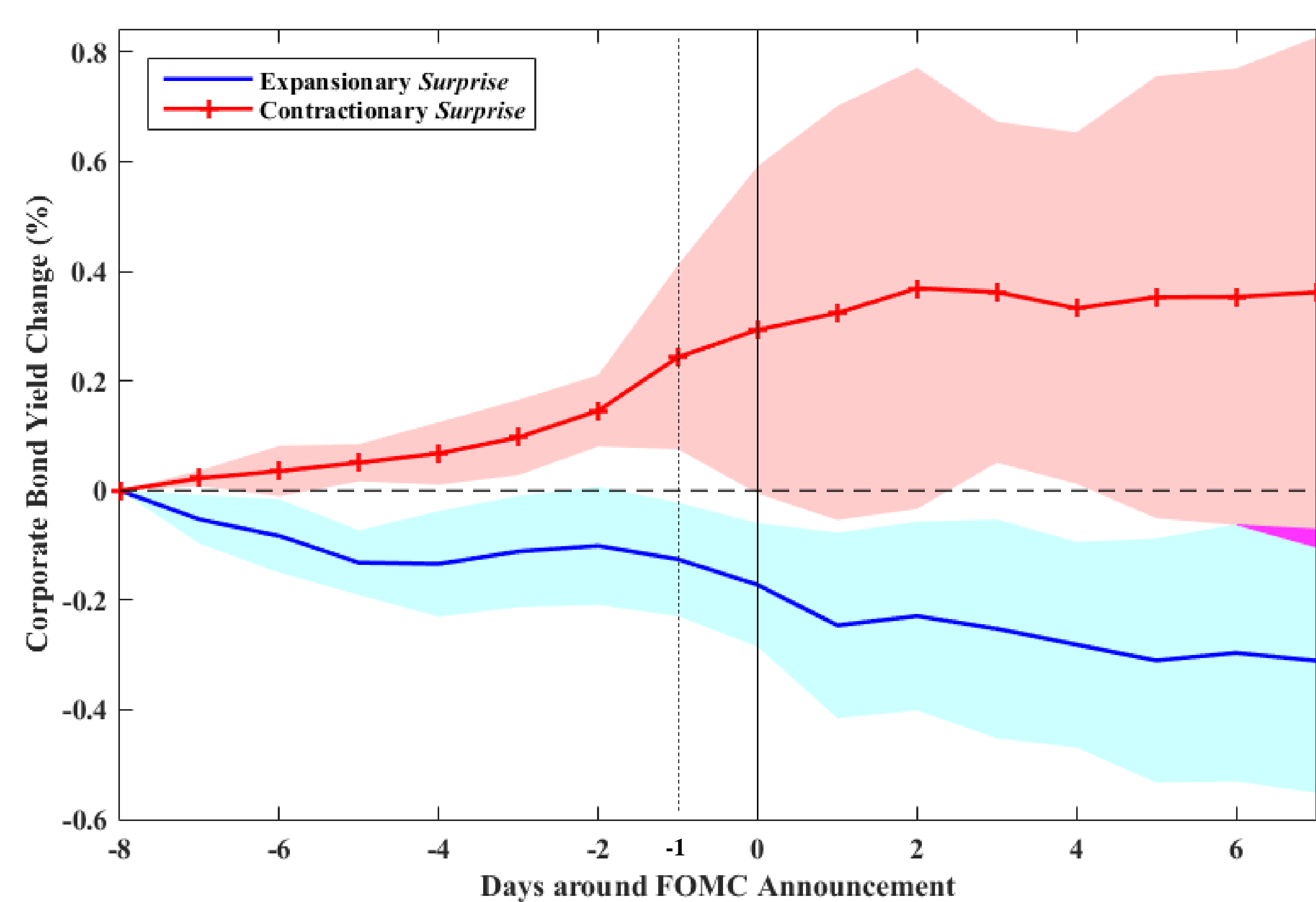
S&P500 Companies Corporate Bond Yield Change around Scheduled FOMC Announcement *Surprises*

This figure shows the average corporate yield changes for companies listed in the S&P 500 index, for periods starting at 2 p.m. 8 business days before FOMC announcement and ending on the day specified in horizontal axis. The vertical solid (dashed) line represents 2 p.m. of the announcement day (the day before announcement). Expansionary (Contractionary) Surprises represent the scheduled FOMC announcements in which federal funds futures rate, after adjustment for number of remaining days in month, decreased (increased) by more than 2 basis points during the *30-minutes window* around the announcements. The shaded areas around the lines show 95% confidence intervals using Newey-West (1987) standard errors with four lags.

- ☐ We provide different evidences corroborating this, by showing

    I. Pre-announcement corporate bond returns predict FOMC announcement *surprises*

    II. Corporate bond customers buy (sell) more before expansionary (contractionary) *surprises*.

    III. The corporate bond information flows to the stock market *before* FOMC announcement, resolving the uncertainty in stock market.

I. Pre-Announcement Returns Predict Surprises

- ☐ Pre-FOMC corporate bond yield changes predict FOMC surprises, while stocks and government bonds don't.

	(1) $MPS_t, \Delta y_{t-8,t-1}^{Corp.}$	(2) $MPS_t, \Delta y_{t-8,t-1}^{Tr. 10 yr}$	(3) $MPS_t, \Delta y_{t-8,t-1}^{Tr. 1 yr}$	(4) $MPS_t, R_{t-8,t-1}^{S\&P500}$
Panel A. 2002-2009				
$PRED_{t-8,t-1}$	0.173***	-0.016	0.054	-0.001
	(4.35)	(-0.41)	(0.61)	(-0.64)
c	-0.011*	-0.007	-0.006	-0.007
	(-1.73)	(-1.08)	(-1.08)	(-1.12)
N	60	60	60	60
R_{adj}^2	0.302	-0.015	-0.003	-0.013
Panel B. 2002–2007				
$PRED_{t-8,t-1}$	0.170**	0.028	0.181	-0.002
	(2.38)	(0.66)	(1.50)	(-0.81)
c	-0.006	-0.003	-0.005	-0.004
	(-0.85)	(-0.37)	(-0.67)	(-0.54)
N	44	44	44	44
R_{adj}^2	0.234	-0.017	0.071	-0.014
Panel C. 2008–2009				
$PRED_{t-8,t-1}$	0.191***	-0.097	-0.045	-0.001
	(5.21)	(-0.92)	(-0.39)	(-0.31)
c	-0.028**	-0.014	-0.018*	-0.015
	(-2.18)	(-1.45)	(-2.07)	(-1.74)
N	16	16	16	16
R_{adj}^2	0.466	0.0001	-0.054	-0.069

Predicting *Scheduled* **FOMC Announcement** *Surprises* MPS_t

This table shows the results for the following regression: $MPS_t = c + \beta\, PRED_{t-8,t-1} + \varepsilon_t$, where MPS_t is the monetary policy surprise, that is, the change in the federal funds futures in a 30-minute window around FOMC announcement. $PRED_{t-8,t-1}$ is the variable specified by the column labels. The column labels respectively show the corporate bond index yield change starting 8 days before announcements and ending the day before announcement ($\Delta y_{t-8,t-1}^{Corp.}$), the 10 year treasury yield change for a similar period ($\Delta y_{t-8,t-1}^{Tr. 10 yr}$), one year treasury yield change for the specified period ($\Delta y_{t-8,t-1}^{Tr. 1 yr}$), and the S&P 500 SPDR ETF return in the same period ($R_{t-8,t-1}^{S\&P500}$).

- ☐ Q: Why only corporate bonds show the informed trading?

    ▪ Stock prices tend to not show informed trading (Collin-Dufrense and Fos, 2015), where it is hard for informed traders to hide in illiquid market such as corporate bonds.

    ▪ Corporate bond yield spreads strongly respond to monetary policy surprises (Gertler and Karadi, 2015) and therefore, it is profitable to trade them before announcements

II. Informed Trading in Corporate Bond Market

- ☐ Corporate bond customers buy (sell) more before expansionary (contractionary) surprises.

	$NTI_{t-8,t-1}^i$ (%)				$DTI_{t-8,t-1}^i$ (%)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
MPS_t (%)	-39.549***	-44.954***	-39.332***	-41.729***	-28.615***	-29.909***	-28.526***	-28.858***
	(-2.84)	(-3.01)	(-2.90)	(-2.91)	(-4.07)	(-3.89)	(-4.10)	(-4.00)
$MPS_t\, \overline{TTM}_{i,t-8}$		0.005		0.005		0.002		0.002
		(1.46)		(1.22)		(0.88)		(0.79)
$MPS_t\, \overline{CR}_{i,t-8}$			0.734	0.640			0.507	0.446
			(0.34)	(0.29)			(0.19)	(0.16)
$\overline{TTM}_{i,t-8}$		0.005**		0.002		0.001		0.000
		(2.12)		(0.83)		(1.33)		(0.23)
$\overline{CR}_{i,t-8}$			-5.003***	-4.678***			-1.526***	-1.494***
			(-8.15)	(-7.74)			(-5.54)	(-5.72)
c	13.529***	13.486***	13.528***	13.508***	2.600***	2.589***	2.599***	2.596***
	(9.21)	(9.55)	(9.75)	(9.75)	(5.17)	(5.32)	(5.53)	(5.51)
N_{obs}	52,756	52,756	52,756	52,756	52,756	52,756	52,756	52,756
N_{bonds}	2,094	2,094	2,094	2,094	2,094	2,094	2,094	2,094
R_{adj}^2	0.207	0.211	0.221	0.222	0.0108	0.0109	0.0117	0.0117

Corporate Bond Trade Imbalances before Scheduled FOMC Announcement *Surprises*

This table provides the results of the regression of corporate bond trade imbalances during the 7 days before—but excluding—the FOMC announcement day ($k = 1, ..., 7$) on the 30-minute Kuttner (2001) FOMC surprises on the following FOMC announcement day.

NTI and *DTI* are respectively the customer-dealer trade imbalances based on number of trades, and dollar volume of trades. *TTM* and *CR* respectively stand for time to maturity and credit rating.

III. Information Flow from Bonds to Stocks

- ☐ Corporate bond customer-dealer trade imbalances predict 24-hour stock market returns before announcements.

	(1) R_t^s	(2) R_t^s	(3) R_t^s	(4) R_t^s
$\overline{NTI}_{t-8,t-1}\, \mathbb{1}_{pre-Ann.}$		0.065***	0.065***	0.078***
		(3.05)	(3.15)	(2.93)
$R_{t-8,t-1}^s\, \mathbb{1}_{pre-Ann.}$			-0.040	-0.085
			(-0.49)	(-0.90)
$\Delta y_{t-8,t-1}^{Treasury\ 1y}\, \mathbb{1}_{pre-Ann.}$				3.617
				(1.25)
$\overline{NTI}_{t-8,t-1}$		-0.007**	-0.007**	-0.008**
		(-2.24)	(-2.01)	(-2.16)
$R_{t-8,t-1}^s$			-0.022	-0.019
			(-1.63)	(-1.48)
$\Delta y_{t-8,t-1}^{Treasury\ 1y}$				-0.297
				(-0.97)
$\mathbb{1}_{pre-Ann}$	0.750***	-0.087	-0.108	-0.241
	(3.92)	(-0.59)	(-0.66)	(-0.98)
c	-0.017	0.078***	0.078***	0.082**
	(-0.61)	(2.19)	(1.99)	(2.08)
$N_{Obs.}$	1,890	1,890	1,890	1,890
R_{adj}^2	0.00929	0.0181	0.0207	0.0239

Stock Market Time-Series Predictability with Corporate Bond Trade Imbalances

This table shows the results of a regression of daily 2 p.m.-to-2 p.m. period SPY ETF returns on past SPY and corporate bond market movements. $\overline{NTI}_{t-1,t-8}$ is the 7-day period of customer-dealer trade imbalances of corporate bonds, calculated for every bond during a 2 p.m.-to-2 p.m. 7-day period between $t-8$ and $t-1$ and averaged across all bonds. $\mathbb{1}_{FOMC}$ is a dummy variable that equals 1 for the 2 p.m.-to-2 p.m. period before FOMC announcement, and 0 otherwise. t-statistics reported in parentheses account for time-series autocorrelation and heteroskedasticity using Newey-West (1987) standard errors with four lags. *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$.

- ☐ To better understand this, we also document that
    ▪ Corporate bond yield changes granger-cause Pre-FOMC stock returns.
    ▪ Sensitivity to bond market information is higher for stocks of companies with higher probability of default.

Conclusion

- ☐ We document Pre-FOMC information asymmetry and informed trading
    ▪ Pre-FOMC corporate bond yield changes, as well as trade imbalances show this.

- ☐ Stock market follows the corporate bond market movements before FOMC announcement, and therefore, the uncertainty in the stock market is resolved before announcement.

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