The Pre-FOMC Announcement Drift

解读：雷印如
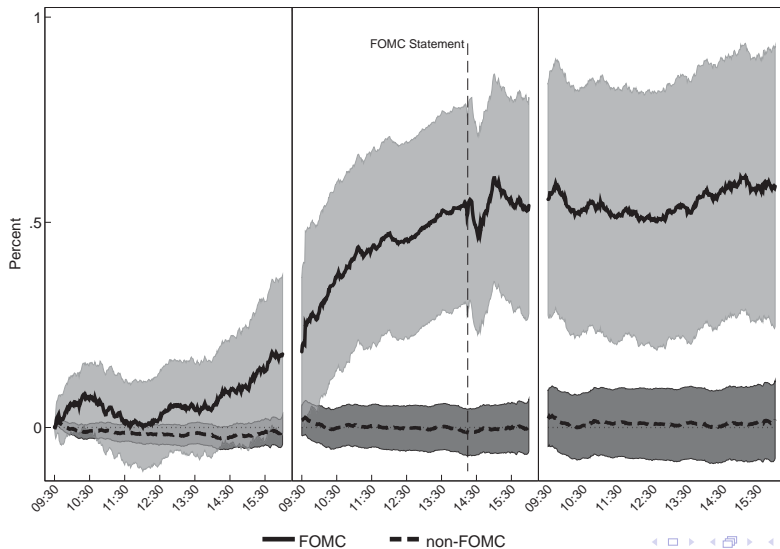
2024 年 3 月 19 日

FOMC Meeting - Prescheduled

▶ FOMC meetings have taken place eight times per year since the 1980s

▶ Since 1994 the decisions of scheduled meetings have been announced to the public within a few minutes of 2:15 pm

2024 FOMC Meetings				
January	30-31	**Statement:** PDF | HTML Implementation Note	Press Conference Statement on Longer-Run Goals and Monetary Policy Strategy	**Minutes:** PDF | HTML (Released February 21, 2024)
March	19-20*			
Apr/May	30-1			
June	11-12*			
July	30-31			
September	17-18*			
November	6-7			
December	17-18*			

The Pre-FOMC Announcement Drift

The Pre-FOMC announcement Drift

- ▶ Lucca and Moench (2015) examines returns ahead of scheduled announcements and finds a Pre-FOMC Announcement Drift

- ▶ Other major international equity indices experienced similar pre-FOMC Announcement Drift

- ▶ No evidence of pre-FOMC returns before 1980

- ▶ There is no such effect in U.S. Treasury securities, money market futures and other major U.S. macroeconomic news announcements
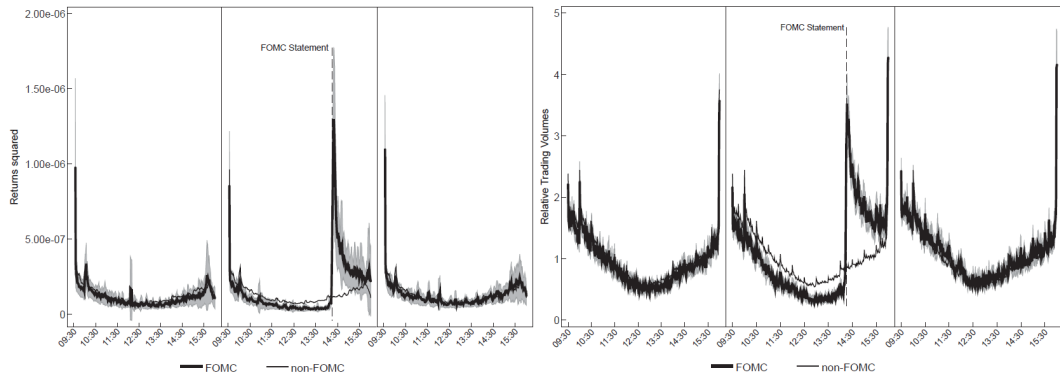
The Pre-FOMC Announcement Drift

▶ we run the simple regression: $rx_t = \beta_0 + \beta_1 1_t(pre-FOMC) + \beta_x X_t + \epsilon_t$

Return Window	2 pm-to-2 pm		2 pm-to-Close	Close-to-close	Close-to-2 pm	Close(t − 2)-to-2 pm
pre-FOMC dummy	0.488 [0.11]***	0.485 [0.11]***			0.335 [0.06]***	0.544 [0.14]***
FOMC dummy			0.002 [0.09]	0.330 [0.10]***		
Const.			0.004 [0.02]	0.009 [0.02]		
Annual ex-return FOMC			3.89	2.70		
Annual ex-return non-FOMC			0.88	2.08		
Sharpe ratio	1.14	1.14	0.01	0.84	1.43	0.98
Obs.	131	4,141	131	4,175	131	131
No. of FOMC	131	131	131	132	131	131

▶ SPX has a large positive drift in the 24h leading up to the announcement

Realized Volatility and Liquidity in the Pre-FOMC Window

▶ Liquidity and realized volatility are both lower in the pre-FOMC drift
time window but spike at the announcement

International and U.S. Cross-Sectional Evidence

▶ Alternative Samples: $rx_t = \beta_0 + \beta_1 1_t(pre-FOMC) + \beta_x X_t + \epsilon_t$

	DAX	FTSE100	CAC40	IBEX	SMI	TSX	NIKKEI
Dependent Variable %Log Return of Stock Market Indices							
Post-1994 Sample							
pre-FOMC dummy	0.43	0.34	0.52	0.48	0.29	0.21	0.03
	[0.11]***	[0.11]***	[0.13]***	[0.12]***	[0.10]***	[0.09]**	[0.16]
Const.	0.01	0.00	−0.00	0.01	0.01	0.02	−0.02
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.03]
Sharpe ratio	1.04	0.81	1.03	1.01	0.75	0.67	0.01
Obs.	4,096	4,100	4,102	4,071	4,074	4,087	3,943
No. of FOMC	131	132	132	132	132	131	125
Post-1980 Sample							
pre-FOMC dummy	0.16	0.21	0.38	0.38	0.20	0.14	0.03
	[0.08]**	[0.08]***	[0.10]***	[0.10]***	[0.09]**	[0.06]**	[0.11]
Const.	0.03	0.02	0.01	0.01	0.02	0.02	0.00
	[0.02]*	[0.01]	[0.02]	[0.02]	[0.02]	[0.01]*	[0.02]
Sharpe ratio	0.44	0.57	0.78	0.79	0.55	0.54	0.05
Observations	7,686	6,753	5,842	5,930	5,585	7,716	7,453
No. of FOMC	244	211	182	185	175	241	235
Sample period	1980:01−2011:03	1984:01−2011:03	1987:07−2011:03	1987:01−2011:03	1988:07−2011:03	1980:01−2011:03	1980:01−2011:03

▶ Pre-FOMC drift exists in major international equity indices

▶ Pre-FOMC returns increase in magnitude and significance over time

Other Macroeconomic Announcements and Other Assets

▶ Alternative Samples: $rx_t = \beta_0 + \beta_1 1_t(pre - FOMC) + \beta_x X_t + \epsilon_t$

	NFPAY	INCLM	GDPADV	ISM	IP	HSTART	PPI	CPI	PI	ALL
Dependent Variable: %Log Return of SP&500 Stock Market Index										
Post-1994 Sample										
Pre-news dummy	-0.08	-0.01	0.07	-0.09	0.01	0.13	-0.10	-0.09	-0.01	-0.04
	[0.09]	[0.05]	[0.14]	[0.08]	[0.09]	[0.09]	[0.08]	[0.10]	[0.08]	[0.04]
No. of events	198	861	66	199	211	197	204	206	201	1,866

	FF		ED-4		TREAS-3M		TREAS-2Y		TREAS-5Y		TREAS-10Y	
Post-1994 Sample												
pre-FOMC dummy	0.001		0.007		0.001		0.006		0.001		-0.002	
	[0.001]		[0.006]		[0.004]		[0.004]		[0.004]		[0.004]	
Const.	-0.002		-0.001		-0.001		-0.002		-0.001		-0.001	
	[0.0004]***		[0.001]		[0.001]		[0.001]		[0.001]		[0.001]	
Obs.	4,322		4,325		4,210		4,325		4,325		4,325	
No. of FOMC	131		132		132		132		132		132	

▶ Pre-drift disappears in other macroeconomic announcements and assets

Risk-Based Explanations for the Drift

- ▶ Systematic and political risk are high on FOMC announcement days
  - ▶ Excess returns are earned as compensation for undiversifiable risk
  - ▶ **Failed**: Both realized volatility and trading volume are low before the announcement but then jump when the statement is released
- ▶ Inattentive investors trade infrequently while specialists trade frequently
  - ▶ Better-informed specialists undertake a larger share of the market risk
  - ▶ **Failed**: Nonspecialist simply not trading in the pre-FOMC window would earn them a premium than selling out

Other Explanations for the Drift

- ▶ A good news explanation
  - ▶ Monetary policy news has on average been positive for stocks since the 1980s, as the federal funds rate has trended down over the past 30 years
  - ▶ **Failed**: why the positive news are incorporated into prices only during the pre-FOMC window
- ▶ Information leakage
  - ▶ Monetary policy information leaks into the market before the statement
  - ▶ **Failed**: if the leakage is informative, pre-FOMC returns should be correlated with announcement returns
- ▶ "Volatility feedback" effect
  - ▶ A negative correlation between returns and trading volatility (liquidity)
  - ▶ **Failed**: a large component of the return remains unexplained

Analysis for Pre-FOMC Announcement Drift

▶ Explanation for the Pre-FOMC Announcement Drift

  ▶ Risk-sensitive preference (Ai and Bansal, 2018, Econometrica)

  ▶ Two risk model: pre-announcement return arises out of the resolution of heightened uncertainty (Hu et al., 2022, JFE)

▶ Expanding to other countries or other meetings

  ▶ Macro announcemnet and informed trading (Kurov et al., 2019, JFQA)

  ▶ Macro announcemnet and overnight return (Hu et al., 2022, JFE).

  ▶ Public announcements are not prescheduled (Guo et al., 2023, RF)

  ▶ Government Meetings in China (Pan and Peng, 2023, Working paper)

Case 1: Macro announcemnet and overnight return
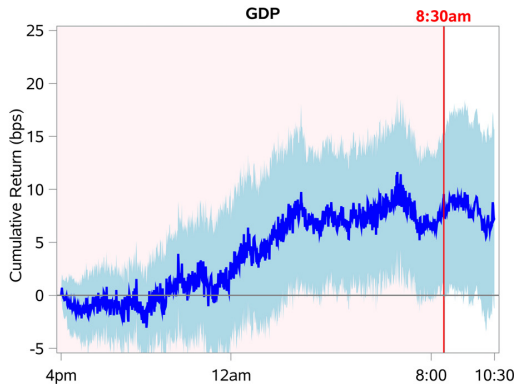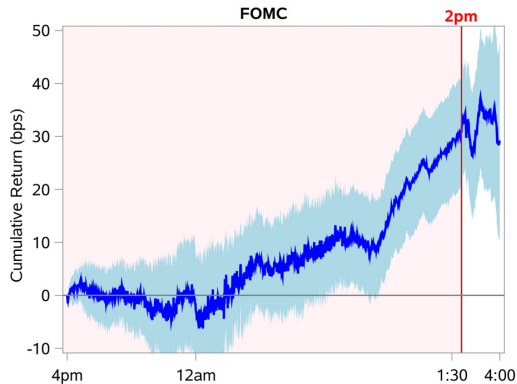
▶ Most of the pre-announcement returns are earned outside of the regular trading hours, missed by earlier studies.

Return-to-Variance Ratios

Pre- and Post-Announcement Return-to-Variance Ratios.

	Pre-Ann. (4 pm to ann - 5min)			Post-Ann. (ann - 5min to ann + 55min)			Pre - Post
	Ret (bps)	Var (bps)	Ret/Var	Ret (bps)	Var (bps)	Ret/Var	Ret/Var
All 4 Macro	**12.86**	0.36	**35.53**	2.89	0.28	10.29	**25.23**
	[6.49]		[5.27]	[1.66]		[1.65]	[2.75]
Ex FOMC	**9.15**	0.35	**26.38**	2.03	0.24	8.56	17.82
	[4.20]		[3.49]	[1.13]		[1.12]	[1.66]
FOMC Only	**27.14**	0.40	**68.58**	6.19	0.45	13.82	**54.75**
	[5.95]		[5.41]	[1.28]		[1.28]	[3.28]
Subperiods for All 4 Macro							
1994–2000	**16.00**	0.28	**56.73**	4.48	0.38	11.84	**44.89**
	[4.22]		[3.71]	[1.02]		[1.00]	[2.33]
2001–2010	**15.22**	0.47	**32.27**	1.83	0.32	5.70	**26.57**
	[4.54]		[3.52]	[0.66]		[0.66]	[3.43]
2011–2018	**7.63**	0.26	**29.22**	3.32	0.16	6.52	20.21
	[2.62]		[2.46]	[1.44]		[1.40]	[1.61]

▶ The return-to-variance ratio is higher pre- than post-announcement

Two risk model

▶ More than one aggregate risk is driving the stock market return in the pre- and post-announcement windows

    ▶ The **news risk** and **"impact uncertainty"**

▶ Each of these two risks, news risk vs. impact uncertainty, carries its own premium and impacts the price dynamics differently

▶ We focus on three distinct time windows surrounding an announcement:

    1. In anticipation of scheduled announcement, impact uncertainty builds up

    2. The "impact uncertainty" is resolved before the announcement

    3. The news risk is fully resolved at the announcement

Resolution of impact uncertainty

Measuring Resolution of Impact Uncertainty using Pre-Announcement Changes in VIX.

	All 4 Macro			Ex FOMC			FOMC Only		
	High	Low	H - L	High	Low	H - L	High	Low	H - L
Panel A: Returns and ΔVIX, Sorted by Pre-Announcement ΔVIX									
Pre-Announcement Period									
Ret	**85.97**	0.17	**85.80**	**81.22**	−8.70	**89.92**	**100.39**	**9.23**	**91.16**
	[12.05]	[0.05]	[11.69]	[10.35]	[−1.73]	[8.26]	[8.50]	[2.48]	[9.60]
ΔVIX (sorting var)	**−1.32**	**0.31**	**−1.63**	**−1.07**	**0.46**	**−1.53**	**−1.57**	**0.11**	**−1.68**
	[−16.98]	[6.27]	[−15.53]	[−9.77]	[5.86]	[−9.14]	[−14.05]	[1.96]	[−13.41]
Post-Announcement Period									
Ret	0.34	5.80	−5.46	11.15	1.35	9.80	−5.87	9.19	−15.06
	[0.05]	[1.89]	[−0.80]	[1.72]	[0.43]	[1.38]	[−0.56]	[1.67]	[−1.22]
ΔVIX	**−0.20**	**−0.22**	0.02	−0.11	−0.07	−0.04	−0.32	**−0.39**	0.07
	[−2.20]	[−5.76]	[0.22]	[−1.00]	[−1.53]	[−0.37]	[−1.89]	[−6.43]	[0.49]

	All 4 Macro			Ex FOMC			FOMC Only		
	High (ΔVIX)	Low (ΔVIX)	H - L (ΔVIX)	High (ΔVIX)	Low (ΔVIX)	H - L (ΔVIX)	High (ΔVIX)	Low (ΔVIX)	H - L (ΔVIX)
Panel B: Pre-Announcement Returns, Double-Sorted by Pre-Announcement ΔVIX and ΔVol									
High (ΔVol)	**102.71**	−7.72	**110.43**	**72.33**	−19.53	**91.86**	**126.71**	**28.14**	**98.57**
	[7.17]	[−0.58]	[5.53]	[6.18]	[−1.14]	[2.96]	[4.35]	[2.38]	[3.64]
Low (ΔVol)	**79.54**	1.14	**78.40**	**84.18**	−6.18	**90.36**	**89.45**	6.75	**82.70**
	[10.14]	[0.35]	[9.21]	[8.64]	[−1.30]	[8.18]	[7.48]	[1.49]	[7.14]
H-L (ΔVol)	23.16	−8.86		−11.86	−13.35		37.26	21.39	
	[1.53]	[−0.92]		[−0.65]	[−1.04]		[1.38]	[1.82]	

▶ The high uncertainty announcements have larger pre-returns

Heightened uncertainty and its risk premium

Measuring Heightened Uncertainty Using Accumulation-Period ΔVIX.

	All 4 Macro			Ex FOMC			FOMC Only		
	High	Low	H-L	High	Low	H-L	High	Low	H-L
Accumulation Period									
Ret	**−254.73**	**83.69**	**−338.42**	**−247.05**	**80.19**	**−327.24**	**−283.59**	**95.32**	**−378.91**
	[−15.41]	[12.13]	[−21.07]	[−13.29]	[10.56]	[−18.38]	[−7.31]	[5.82]	[−9.95]
ΔVIX (sorting var)	**4.29**	**−0.80**	**5.09**	**4.10**	**−0.85**	**4.95**	**5.15**	**−0.56**	**5.71**
	[20.21]	[−10.54]	[27.54]	[18.67]	[−9.86]	[24.19]	[8.51]	[−3.61]	[13.27]
Pre-Announcement Period									
Ret	**21.89**	**10.47**	**11.42**	**16.95**	**7.09**	9.86	**43.65**	**23.01**	20.64
	[4.05]	[5.11]	[2.35]	[2.89]	[3.12]	[1.84]	[3.33]	[4.96]	[1.82]
ΔVIX	**−0.32**	0.05	**−0.38**	−0.12	**0.23**	−0.34	**−0.60**	**−0.12**	**−0.48**
	[−2.10]	[1.00]	[−2.86]	[−0.62]	[2.63]	[−1.74]	[−2.53]	[−2.04]	[−2.82]
Post-Announcement Period									
Ret	−1.12	**3.95**	−5.07	−0.33	2.66	−2.99	−3.09	8.51	−11.60
	[−0.25]	[2.11]	[−1.18]	[−0.07]	[1.39]	[−0.67]	[−0.26]	[1.60]	[−0.96]
ΔVIX	−0.13	**−0.24**	0.11	0.09	**−0.12**	**0.21**	**−0.39**	**−0.37**	−0.02
	[−1.35]	[−6.55]	[1.26]	[0.65]	[−3.19]	[2.06]	[−2.68]	[−5.82]	[−0.13]

► The pre-announcement return is a premium for heightened uncertainty.

Case 2: Public announcements are not prescheduled

Date t

1	t^A	N
beginning day	central bank's announcement day	end day
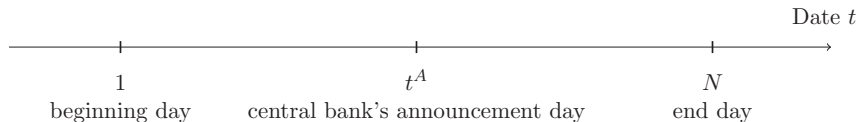
- ▶ FOMC-related premium accrues over the hours prior to the FRB's announced policy decision (an international issue)
- ▶ People's Bank of China (PBOC) announces key statistics of monetary policy stance every month in a **quasi-scheduled** fashion
  - ▶ The quarterly MPR (Monetary Policy Report) is not directly comparable to other major central bank policy statements
  - ▶ Announcements on China's monetary aggregates data (M2)
- ▶ **Whether pre-announcement premium exists in China and why**

Wind A-Share Index returns in windows of M2 announcements

- We examine the stock market returns in announcement windows

$$Exret_t = \gamma + \sum_{i=-T}^{T} \beta_i I_{t_{M2}-i} + \beta_x X_t + v_t$$

Variables	Exret	Open–close	Bank rate	Raw returns	Exret	Exret	Exret
$\mathbb{I}_{t_{M2}-5}$	0.09	0.14	0.09	0.09		0.09	0.09
	(0.16)	(0.12)	(0.16)	(0.16)		(0.16)	(0.16)
$\mathbb{I}_{t_{M2}-4}$	–0.02	0.07	–0.02	–0.02		–0.02	–0.02
	(0.15)	(0.13)	(0.15)	(0.15)		(0.15)	(0.15)
$\mathbb{I}_{t_{M2}-3}$	0.21	0.26*	0.21	0.21	0.18	0.21	
	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)	
$\mathbb{I}_{t_{M2}-2}$	0.22+	0.21*	0.22+	0.22+	0.20		
	(0.14)	(0.12)	(0.14)	(0.14)	(0.14)		
$\mathbb{I}_{t_{M2}-1}$	0.31**	0.35***	0.31**	0.31**	0.28**		
	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)		
$\mathbb{I}_{t_{M2}-2,t_{M2}-1}$						0.26**	
						(0.10)	
$\mathbb{I}_{t_{M2}-3,t_{M2}-1}$							0.25***
							(0.09)
$\mathbb{I}_{t_{M2}}$	0.16	0.06	0.16	0.16	0.13	0.16	0.16
	(0.14)	(0.13)	(0.14)	(0.14)	(0.13)	(0.14)	(0.14)
$\mathbb{I}_{t_{M2}+1}$	–0.08	–0.05	–0.08	–0.08	–0.10	–0.08	–0.08
	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)

- A daily excess return during a 2(3)-day window prior to announcements

Timing of Announcements and the Pre-Premium

▶ Specifically, we divide the daily excess returns into two groups

	<11th	<12th	<13th	<14th	≥11th	≥12th	≥13th	≥14th
$\mathbb{I}_{t_{M2}-5}$	−0.06	0.23	−0.02	−0.01	0.12	0.00	0.33	0.39
	(0.38)	(0.24)	(0.19)	(0.18)	(0.17)	(0.22)	(0.28)	(0.31)
$\mathbb{I}_{t_{M2}-4}$	0.22	0.18	−0.03	0.05	−0.06	−0.14	0.04	−0.16
	(0.30)	(0.20)	(0.16)	(0.15)	(0.17)	(0.21)	(0.29)	(0.36)
$\mathbb{I}_{t_{M2}-3}$	−0.04	0.15	0.13	0.25	0.26+	0.25	0.33	0.10
	(0.50)	(0.25)	(0.19)	(0.18)	(0.17)	(0.22)	(0.30)	(0.37)
$\mathbb{I}_{t_{M2}-2}$	−0.03	0.07	0.04	0.17	0.28*	0.33*	0.49*	0.38
	(0.23)	(0.19)	(0.16)	(0.15)	(0.16)	(0.20)	(0.26)	(0.32)
$\mathbb{I}_{t_{M2}-1}$	−0.28	−0.02	0.10	0.15	0.41***	0.52***	0.63***	0.73**
	(0.38)	(0.24)	(0.18)	(0.15)	(0.14)	(0.15)	(0.22)	(0.28)
$\mathbb{I}_{t_{M2}}$	0.33	0.29	0.23	0.20	0.13	0.07	0.08	0.06
	(0.35)	(0.22)	(0.17)	(0.15)	(0.14)	(0.16)	(0.21)	(0.27)
$\mathbb{I}_{t_{M2}+1}$	0.13	−0.24	−0.10	−0.13	−0.12	0.04	−0.02	0.07
	(0.42)	(0.25)	(0.19)	(0.17)	(0.15)	(0.16)	(0.23)	(0.27)

▶ The pre-announcement equity premium exists only when a PBOC announcement arrives late in a month

Premium Not Driven by the Announcement Content

▶ We consider different proxies for the content of M2 announcements

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\mathbb{I}_{t_{M2}-3,t_{M2}-1}$	0.25***	0.26***	0.26***	0.25***	0.24***	0.25**	0.24**	0.16
	(0.09)	(0.10)	(0.10)	(0.10)	(0.09)	(0.10)	(0.10)	(0.15)
$\mathbb{I}_{t_{M2}-3,t_{M2}-1}\cdot\Delta g_{M2,m}$		0.08						
		(0.12)						
$\mathbb{I}_{t_{M2}-3,t_{M2}-1}\cdot\epsilon_{g_{M2,m}}$			0.11					
			(0.15)					
$\mathbb{I}_{t_{M2}-3,t_{M2}-1}\cdot\mathbb{E}[\Delta g_{M2,m}]$				0.03				
				(0.15)				
$\mathbb{I}_{t_{M2}-3,t_{M2}-1}\cdot\Delta g_{M1,m}$					−0.01			
					(0.03)			
$\mathbb{I}_{t_{M2}-3,t_{M2}-1}\cdot\Delta g_{Loan,m}$						−0.01		
						(0.11)		
$\mathbb{I}_{t_{M2}-3,t_{M2}-1}\cdot\Delta g_{Deposit,m}$							−0.04	
							(0.08)	
$\mathbb{I}_{t_{M2}-3,t_{M2}-1}\cdot\Delta g_{TSF,m}$								0.03
								(0.05)

▶ None of these data measures determines the equity premium

Timing of Announcements and Information Acquisition Model

► Ai et al. (2022): Uninformed investors choose to acquire information ahead of announcements because of the information disadvantages

  1. Prior uncertainty about the unknown latent variable will accumulate
  2. Acquiring information would be optimal among uninformed investors once the benefit surpasses this cost as time evolves
  3. The cost of acquiring information can be increasingly lowered

► **Hypothesis 1**: Increased information acquisition is observed prior to the PBOC announcements.

► **Hypothesis 2**: Greater information acquisition prior to announcements is associated with late arrivals of PBOC announcement events.

Increased information acquisition prior to M2 announcements

▶ we run the simple regression: $Info_t = \gamma + \sum_{i=-T}^{T} \beta_i I_{t_{M2}-i} + \Phi_x X_t + v_t$

Variables	Base	Composite	Base	Composite
$\mathbb{I}_{t_{M2}-5}$	0.07***	0.08***	0.07***	0.08***
	(0.02)	(0.01)	(0.02)	(0.01)
$\mathbb{I}_{t_{M2}-4}$	0.09***	0.08***	0.09***	0.08***
	(0.02)	(0.01)	(0.02)	(0.01)
$\mathbb{I}_{t_{M2}-3}$	0.07***	0.10***		
	(0.02)	(0.01)		
$\mathbb{I}_{t_{M2}-2}$	0.09***	0.09***		
	(0.02)	(0.01)		
$\mathbb{I}_{t_{M2}-1}$	0.28***	0.15***		
	(0.02)	(0.01)		
$\mathbb{I}_{t_{M2}-3,t_{M2}-1}$			0.14***	0.12***
			(0.01)	(0.01)
$\mathbb{I}_{t_{M2}}$	0.42***	0.20***	0.42***	0.20***
	(0.02)	(0.01)	(0.02)	(0.01)

▶ Greater efforts of acquiring information are observed before the announcement (Baidu keywords-based search index)

Timing of announcements and information acquisition

▶ Selecting different cutoff days from 11th to 14th

	<11th	<12th	<13th	<14th	≥11th	≥12th	≥13th	≥14th
$\mathbb{I}_{t_{M2}-5}$	0.00	0.05**	0.05**	0.07***	0.08***	0.09***	0.10***	0.08***
	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
$\mathbb{I}_{t_{M2}-4}$	0.19**	0.08**	0.07**	0.07***	0.07***	0.09***	0.11***	0.12***
	(0.08)	(0.04)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)
$\mathbb{I}_{t_{M2}-3}$	0.14***	0.05*	0.05**	0.07***	0.06***	0.09***	0.11***	0.09*
	(0.05)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.04)
$\mathbb{I}_{t_{M2}-2}$	0.07	0.03	0.04*	0.07***	0.09***	0.12***	0.15***	0.13***
	(0.06)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
$\mathbb{I}_{t_{M2}-1}$	0.18***	0.12***	0.21***	0.25***	0.29***	0.37***	0.37***	0.35***
	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)
$\mathbb{I}_{t_{M2}}$	0.37***	0.35***	0.35***	0.39***	0.43***	0.47***	0.52***	0.50***
	(0.05)	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)

▶ Information acquisition among investors is further heightened before
  announcements when an announcement arrives late in a month

Case 3: Macro announcement and informed trading

► Pre-announcement drift in macro announcement

1. Second-by-second data
2. Longer preannouncement interval than other studies (30m)
3. Larger set of announcements (30)
4. Recent sample period (2008-2014)

► We explore the information leakage explanation in more detail by examining 2 aspects of the announcement release process
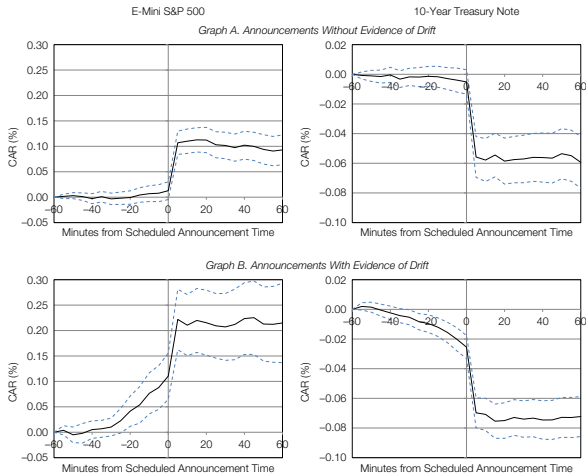
Pre-announcement Price Drift

▶ Announcement Surprise Impact during $[t-30min, t-5sec]$

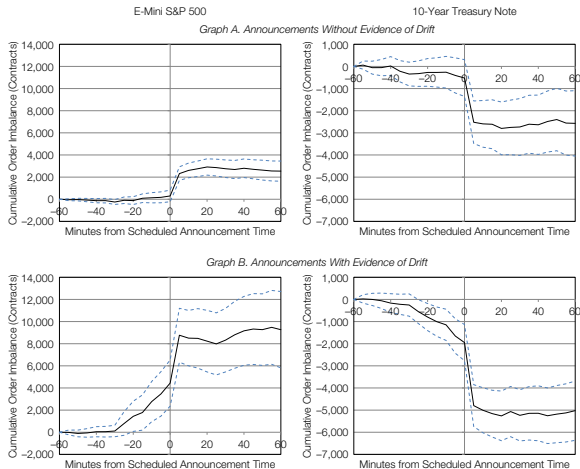| Announcement	E-Mini S&P 500 γ_m	10-Year Treasury Note γ_m	Joint Test p-Value
ISM Non-Manufacturing Index	0.104 (0.017)***	−0.044 (0.009)***	<0.001
Pending home sales	0.099 (0.018)***	−0.028 (0.008)***	<0.001
ISM Manufacturing Index	0.088 (0.019)***	−0.022 (0.008)***	<0.001
CB Consumer Confidence Index	0.040 (0.020)*	−0.032 (0.008)***	<0.001
Existing home sales	0.054 (0.021)***	−0.016 (0.007)**	0.012
Advance retail sales	0.003 (0.018)	−0.019 (0.007)***	0.016
GDP preliminary	0.049 (0.030)	−0.031 (0.011)***	0.018
Initial jobless claims	−0.005 (0.007)	0.008 (0.003)***	0.020
GDP advance	0.015 (0.032)	−0.035 (0.015)**	0.049
Factory orders	−0.043 (0.021)**	0.019 (0.010)*	0.060
Industrial production	0.032 (0.018)*	−0.006 (0.010)	0.203
Trade balance	−0.016 (0.016)	0.010 (0.006)*	0.219
Construction spending	0.030 (0.019)	−0.009 (0.007)	0.226

▶ There are 9 announcements whose summed drift coefficients are significant at the 5% level, indicating a preannouncement price drift

▶ Stock prices increase and bond prices decrease before good news

Pre-announcement Price Drift

E-Mini S&P 500 — 10-Year Treasury Note

Graph A. Announcements Without Evidence of Drift

Graph B. Announcements With Evidence of Drift

CAR (%) — Minutes from Scheduled Announcement Time

▶ The price begins moving 30 minutes before the release time

Pre-announcement Price Drift

E-Mini S&P 500   10-Year Treasury Note

Graph A. Announcements Without Evidence of Drift

Graph B. Announcements With Evidence of Drift

▶ order-flow imbalances build up 30 minutes before announcement release

Causes of Preannouncement Drift - Private Information

▶ Information Leakage: organization type and release procedures
  ▶ PFEI > PRERELEASE > EMBARGO

| | E-Mini S&P 500 | | 10-Year Treasury Note | |
Variable	1	2	3	4
SURPRISE	0.028 (0.007)***	0.032 (0.006)***	−0.014 (0.003)***	−0.015 (0.003)***
PFEI	−0.057 (0.013)***	−0.025 (0.008)***	0.017 (0.005)***	0.008 (0.004)**
PRERELEASE	0.040 (0.014)***	NA	−0.011 (0.006)**	NA
EMBARGO_ONLY	NA	0.034 (0.012)***	NA	−0.012 (0.006)**

▶ Proprietary Information
  ▶ PriceStats inflation (✓), State Street Investor Confidence Index (×), and the Case–Shiller Home Price Index (×).

Causes of Preannouncement Drift - Public Information

► Individual Analyst Forecasts
  ► Announcement surprises are predictable with individual forecasts, but most traders rely on the consensus forecast
  ► **Failed**: trading on refined forecasts does not generate the preannouncement effect

► Bandwagon Effect
  ► Uninformed traders observing price movements at the beginning of the drift period and trading accordingly.
  ► **Failed**: correlations of returns in the $[t-30min, t-15min]$ window with returns in the $[t-15min, t-5sec]$ window are not significant