The FOMC Risk Shift
by
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Discussion

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- Motivation
- Summary
- Comments
- Conclusion

Stock markets react significantly to monetary policy announcements

- Bernanke and Kuttner (2005) study stock market reaction to federal reserve policy announcements
  - Stock returns are 10% more volatile on event days
  - A 25bps increase in Fed-fund futures ($\sim$ unexpected policy tightening) leads to 1% drop in stock price
  - Fed-fund-future changes explain only a small fraction of stock returns on event days ($R^2 = 17\%$)
  - Reaction of industry portfolios to monetary shocks seem in line with CAPM betas
- Decompose stock returns into revisions to expected cash-flows and discount rates:
  - dividend growth
  - real risk-free rate
  - expected excess return

$\rightarrow$ Monetary policy affects stock prices mostly through expected excess returns.

- Why? Various channels are possible:
  - Quantity of risk
  - Risk-aversion
  - Over-reaction

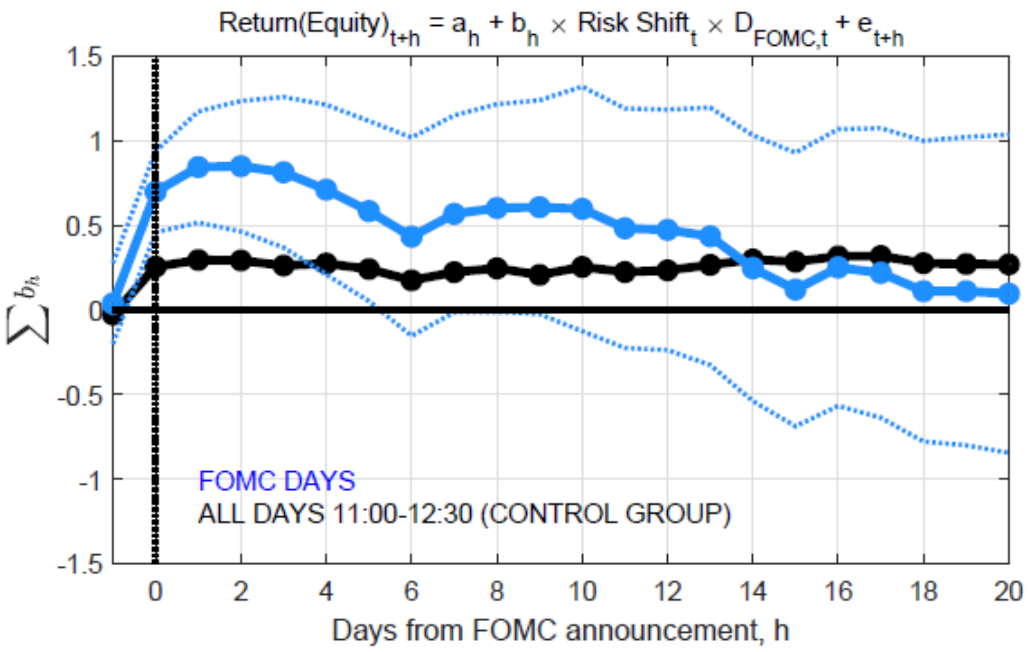
What drives returns around FOMC announcements?

- The paper regresses 90 minute (t-15,t+75) event-window stock returns around FOMC announcements from 2006-2017 onto changes in three factors:
  - **Short-term rates**: long 3-month euro-dollar futures
  - **Long-term rates**: long 10-year Treasury futures
  - **Risk-Shift (RS)**: short VIX, CDX, Dollar-FX-futures
- Results:

	Event Window Returns		
	SR	LR	RS
b	-0.19	-0.13	0.70
$t(b)$	-2.40	-1.55	15.39
R^2	5.27	2.38	71.87

- Why does **RS** explain most of the equity variation due to FOMC announcement?

Most of the impact of RS on FOMC days is short lived



- If effects of RS are short-lived then they are unlikely to be due to revisions in expected dividends or risk-premia (which tend to be persistent).

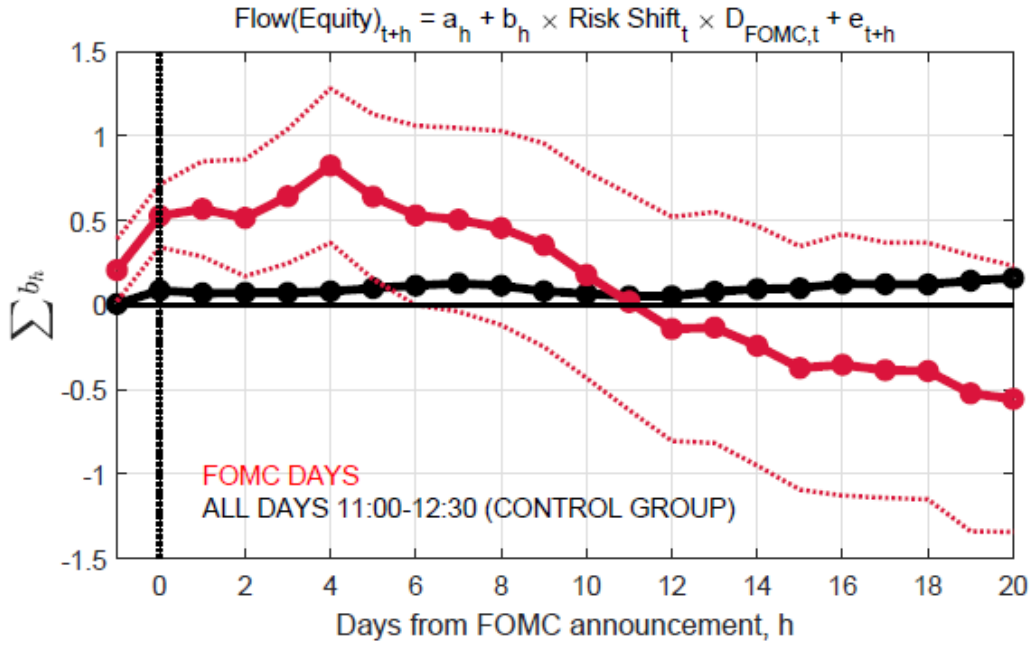
→ Short term **price pressure**?

Daily ETF-flow-evidence is consistent with price pressure

- Strong positive reaction of flows into stock ETFs to **RS** on FOMC days.

Daily Flows		
SR	LR	RS
-0.20	-0.25	0.33
-1.73	-2.11	2.81
2.89	4.33	7.75

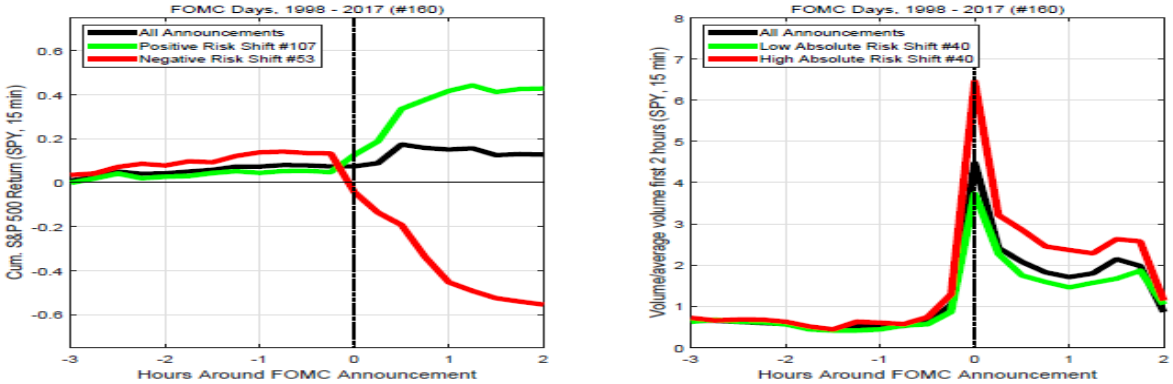
- Effect is short-lived $\sim$ stock return reaction.



Additional evidence supports the price pressure hypothesis

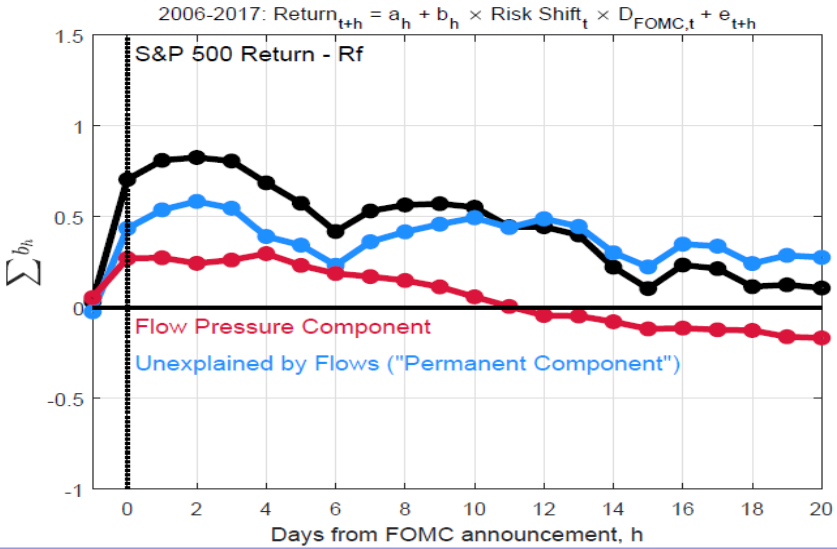
- Intra-day evidence on volume also consistent with price pressure:

Figure 4: The SPDR S&P 500 ETF return on FOMC Days from 1998-2017



- Flow-induced price pressure likely to explain sizable ($\sim 40\%$) component of observed FOMC stock return reaction.

Figure 5: Fund Flow-Induced Price Pressures



RS is mechanically linked to stock returns

- RS is a portfolio short VIX and CDX:
  - VIX is portfolio of stock options with different moneyness.
  - → Because of negative option skew (or 'leverage effect'), VIX is decreasing in stock price
  - CDX is the price of insuring against default on 125 investment grade firms.
  - → Because of financial leverage effect, CDX decreasing in stock price.

→ RS is an increasing function of the stock market price.

→ Regressing stock returns on RS is bound to give significant results.

- Important to focus on how RS affects stock returns **in vs. outside** FOMC announcement periods.

	Event Window Returns		
	SR	LR	RS
b	-0.19	-0.13	0.70
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R^2	5.27	2.38	71.87

Panel B. Control group, reaction to pseudo

Equity

	Event Window Returns		
	SR	LR	RS
b	0.04	0.12	0.25
$t(b)$	6.70	19.16	50.11
R^2	1.45	10.88	45.01

- ETF Flows and news-based results are also useful, but

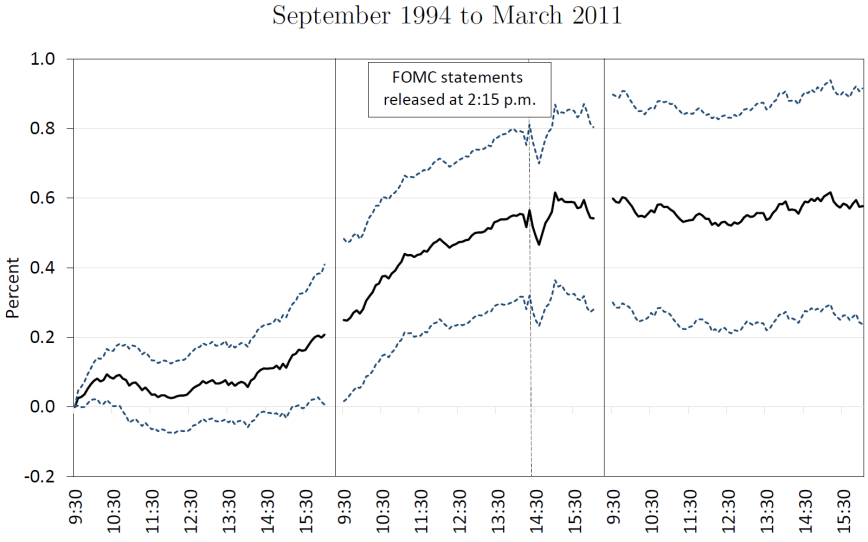
→ Which way does causality run between stock returns and daily flows or news?

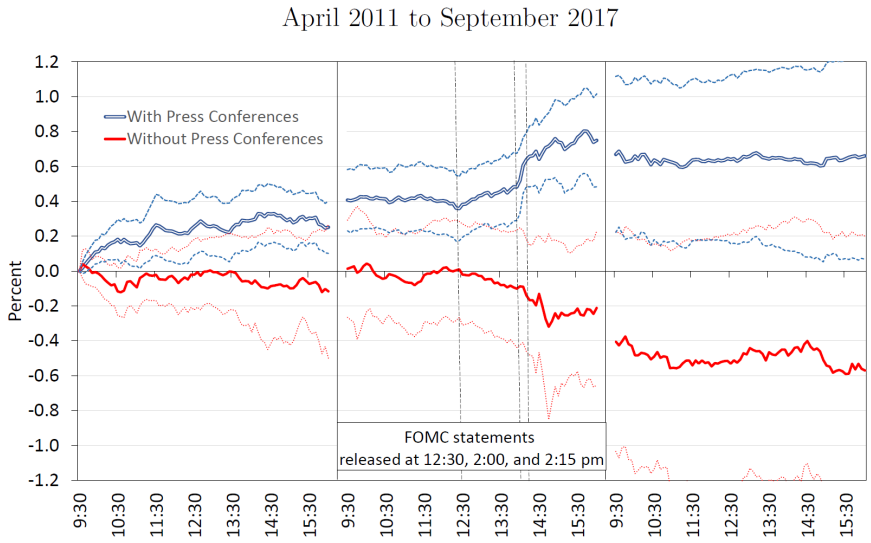
Monetary policy and the stock market

- Focusing on short-event windows is nice for identification, but what happens around longer-term windows?

→ Lucca-Moench (2015) argue that 80% of the annual stock market return (risk-premium) is earned during the 24 hours **before** the FOMC announcements:

Figure 1: Cumulative Average Returns





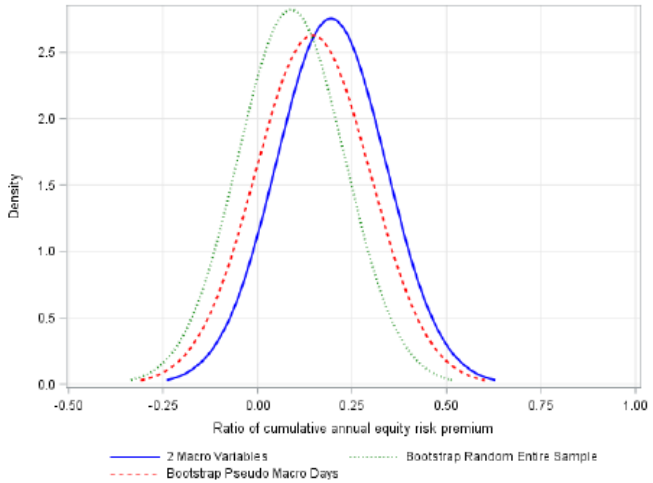
source: Kurov, Wolfe, Gilbert (2019) *The Disappearing Pre-FOMC announcement Drift*

How different are stock returns on macro-announcement days really?

- Ernst, Gilbert, Hrdlicka (2019) show that combining announcement days from
  - FOMC (Lucca-Moench 2015),
  - inflation (PPI) and employment (Savor-Wilson 2013) and
  - FOMC-cycle (Cieslak et al. 2019)

  generates **150%** of the annual stock market equity premium!
- Focus on **all** the macro-economic announcements and show that controlling for **sample selection** and for **seasonality** return patterns (day-of-the-month effects) stock returns on announcement days actually do not look that special!

Fig. 3. Distributions using Pseudo-Macro Announcement Rules
Panel A (B) shows the exact distribution from selecting 2 (3) macroeconomic variables from Figure 1 overlaid with the baseline of 673 (888) randomly selected trading days over the entire time-series from Figure 2, and a distribution using announcement-rule mimicking structures. For this, we first randomly select two or three macroeconomic variables from Table 6 and then we randomly select trading days over the entire sample period according to these structures. This process is repeated for 5,000 trials.



Concluding comments

- Nice paper (many results!).
- Focus on effect of unexpected policy shock during 90-minute window around FOMC on stock market.
- Find that much of it is short-lived and driven by investor rebalancing and resulting price pressure.
- What does it imply for monetary policy (which should likely focus on the longer-term wealth effects)?
- Focus on event window is nice for identification, but what about
  - impact of policy on longer-term window returns?
  - impact of **expected** monetary policy 'shocks' on stock returns?