Movements in Yields, not the Equity Premium

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April 30, 2024

Introduction

- Why does the market respond to monetary policy announcements? What is the channel?
- Since Bernake, Kuttner (2005), the consensus has been that FOMC announcements change the excess return rate
- Using decomposition find instead the reaction can be explained by changes in default-free yield structure
- Can "explain" the FOMC cycle puzzle with yield curve changes

Old View

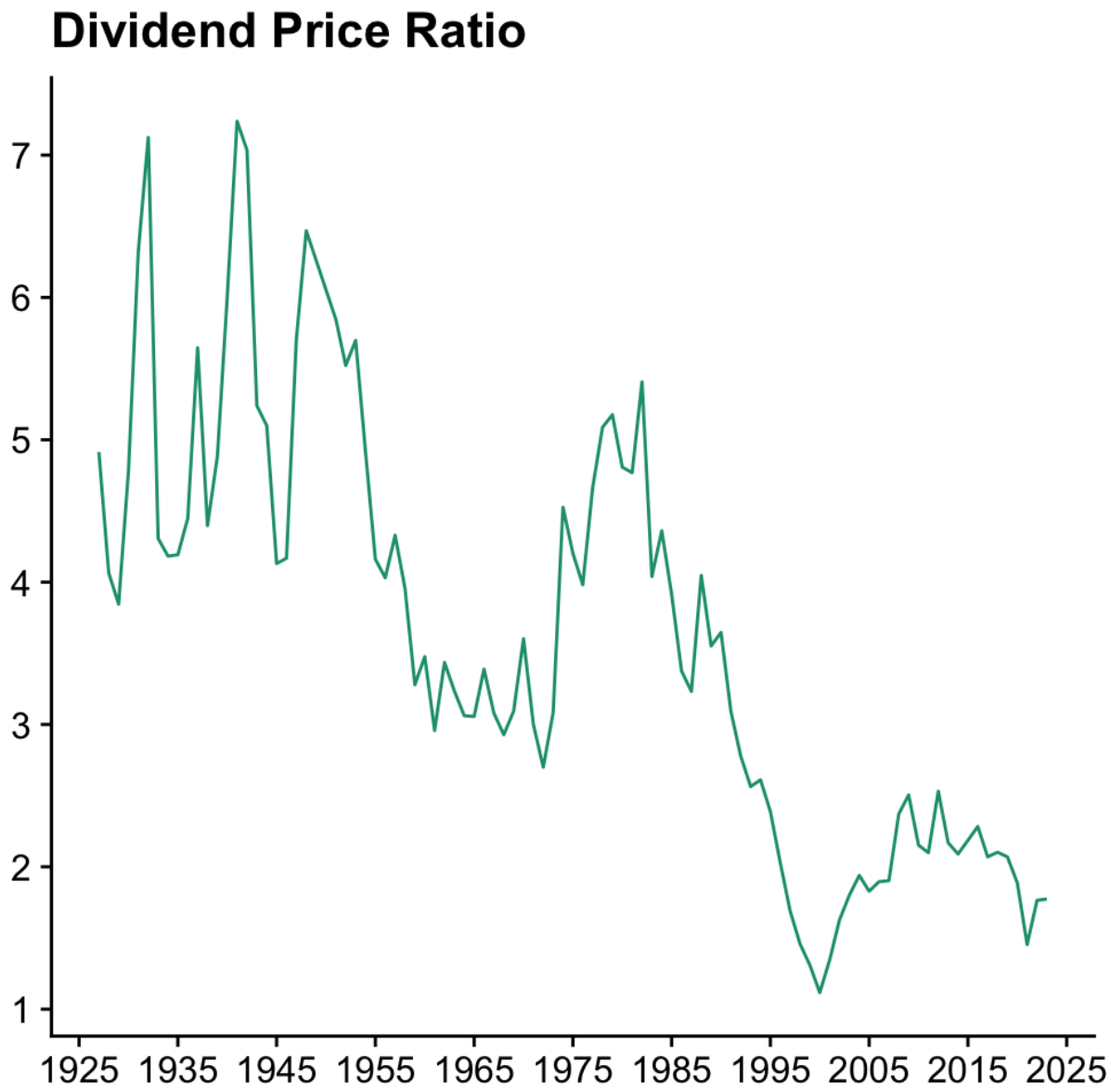
- Bernanke, Kuttner (2005) estimate a VAR using monthly excess returns and the dividend price ratio then regress the outcomes on FOMC surprises. Future expected returns $\uparrow$ after surprises
- Mechanism: Surprises shift prices but not dividends because dividends are sticky, DP ratio $\uparrow$. Because DP ratio is associated with excess returns, expected returns must have $\uparrow$
- Distinction between low and high frequency effects. No reason why DP ratio must be associated with excess returns for specific short-term events

High Frequency Issues

Excess Returns

	Intercept	DP	R^2
1	−2.14496	2.898	0.0481976
2	−3.22622	5.67815	0.0791238
3	−3.28432	8.24099	0.108469
4	−4.6042	11.5636	0.132816
5	0.640773	13.5375	0.130463
6	−0.182764	17.3791	0.171194
7	−3.52072	22.5694	0.217569
8	−6.50948	28.3167	0.239401
9	−8.14168	34.2728	0.259261
10	−13.7128	42.0337	0.279344

High Frequency Issues



New View

- Decompose prices as the sum of dividend future prices discounted by default-free yields

$$P_t = \sum_{n=1}^{\infty} B_{n,t} G_{n,t}$$

- Hold dividend futures prices, $G_{n,t}$, fixed at pre-announcement level and compute implied price. Tells us contribution of default-free yields on stock prices

- "Model free"

- Capture high frequency effects with 30-minute window data on prices around FOMC announcements

Volatility

	Mean	S.D.	Median	5th	95th
A. Monetary Surprise Measures					
POLICY	0	1	0.08	-1.71	1.46
FFR	-0.41	3.93	0	-6.35	5.64
B. Price Changes on Announcement Days					
Feb 1994–Dec 2022:					
Δp	27.38	116.09	12.95	-140.09	213.80
Δp_B	11.22	117.76	1.58	-148.08	185.69
Oct 2002–Dec 2022:					
ΔP	33.22	123.87	12.96	-134.96	261.56
ΔP_B	4.93	68.37	5.74	-94.38	91.53
ΔP_G	-0.84	8.88	0.15	-13.59	8.28
Feb 1994–Dec 2019:					
Δp^{HF}	-2.17	56.58	-4.71	-93.37	82.45
Δp_B^{HF}	2.29	74.76	0.88	-98.20	102.96

- Prices predicted with only the yield curve have similar volatility to actual prices. Those predicted holding the yield curve fixed hardly vary at all

Stock Market Response

Panel A: Dividend Futures Method

	ΔP		ΔP_B		ΔP_G		$\Delta P - \Delta P_B$		$\Delta P - \Delta P_G$	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
POLICY	-41.82		-27.89		0.63		-13.93		-42.45	
	[-2.79]		[-4.07]		[0.79]		[-0.97]		[-2.76]	
FFR		-23.07		-13.67		-0.94		-9.40		-22.13
		[-1.26]		[-1.74]		[-0.72]		[-0.51]		[-1.15]
Constant	37.75	36.50	6.45	5.56	-0.82	-0.75				
	[3.87]	[3.61]	[1.22]	[1.00]	[-1.12]	[-1.04]				
N	149	149	149	149	149	149				
Adj. R^2	0.09	0.02	0.13	0.03	-0.00	0.00				

- No statistical difference between estimate for standard prices, and dividend futures price decomposition

Stock Market Response

- Claim that means the yield curve explains the response with "little room for changes in equity premium"
- Refutes Bernanke, Kuttner (2005) by appeal to Occam's Razor. No functional form assumptions had to be made

Contribution

- Bernanke, Kuttner (2005) called for new models to explain why the equity premium was affected by FOMC announcements
- This paper overturns that conventional wisdom and negates the need for such models
- The "yield curve channel" is sufficient to explain stock market reaction

Contribution

- Why is it important to distinguish between channels for monetary policy?
- What channel a given policy works through has different implications for how and why it works
- Important for policy makers to understand

Discussion

- The paper is distinguished from Bernanke, Kuttner (2005) by finding stock price responses are driven by the yield curve rather than changes to excess returns
- Risk free rates and excess returns are intrinsically linked (power utility, Hansen Jagannathan Bounds)
- Not clear if the result is driven by differences in mechanism or by modeling techniques (VAR vs decomposition)

Further Research

- What mechanism do different kinds of information shocks work through?
- If different info shocks work through different mechanisms what characteristics of the shock determine this?
- Climate shocks?

Conclusion

- Refutes stock price changes coming from changes to excess returns. Evidence for yield curve mechanism
- Important implications for future papers trying to model information shocks on stock prices
- Important for FOMC members to understand the channel their operations happen through