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Risk Premiums and Political Cycle Sentiment: Exploring the Role of Small Cap Valuations

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Abstract

A pricing anomaly has been identified in the financial economics literature concerning market returns and the presidential political cycle, but it has yet to be fully explained. Monthly market return data from 1927 to 2018 shows the average return in excess of the risk free rate is higher when the president in office is a Democrat. Previous studies attribute this differential to either differences in market and size risk or systematic positive surprises resulting from the policy decisions of Democrat presidents. Recent returns data and sub-period data appears to conflict with these studies. This analysis uses a five factor risk based conditional model and the Fama-Macbeth regression method to locate which type of asset is responsible for the premium, and the nature of the risk premium involved. This may lead to a connection between a specific factor premium and some characteristic associated with democrat administrations, or possibly a behavioral mispricing on the part of individual investors in regard to the presidential cycle.

Risk Premiums and Political Cycle Sentiment:

Exploring the Role of Small Cap Valuations

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I. Introduction

Multiple studies have sought to explain why average U.S. stock market returns are higher when a Democrat holds the executive office. Santa-Clara and Valkanov (2003) found a connection between this return differential and portfolios sorted on the basis of market capitalization. Sy and Zamen (2011) approach the question using size sorted portfolios with a conditional version of Fama and French's (1996) three-factor pricing model. They find there is a statistically significant difference between the market and size factor loadings between administrations, and after allowing risk to vary the abnormal Democrat returns disappear.

Neither model specification allows investor sentiment to play a role in the cross section of returns. Baker and Wurgler (2006) argue it is a mistake to assume the cross section of returns depends only on the cross section of systemic risks. They present evidence showing investor sentiment can have significant effects on the expected value of returns, especially for firms with highly subjective valuations that are the riskiest and costliest to arbitrage. These small, speculative, hard to arbitrage firms are the same firms previous studies have identified as the main source of abnormal Democrat returns.

Table Size-Sorted Portfolio Returns and Sentiment Indexes by Administrations

President (Party)	Date	Statistic	Investor Sentiment BW	Investor Sentiment BW⊥	Size Decile 1 (Small)	2	3	4	5	6	7	8	9	10 (Big)
By Administration														
Dwight D. Eisenhower (R)	7/57 - 1/61	Mean	-	-	11.44	14.17	12.70	13.99	11.33	12.70	12.00	12.27	10.73	8.99
John F. Kennedy (D)	2/61 - 11/63	Mean	-	-	9.10	7.33	8.51	4.98	4.26	3.95	5.25	5.03	8.18	4.95
Lyndon B. Johnson (D)	12/63 - 1/69	Mean	-0.49	-0.61	35.27	23.26	22.31	19.62	19.19	15.64	13.16	11.99	9.13	4.89
Richard Nixon (R)	2/69 - 7/74	Mean	0.10	0.24	-18.84	-19.71	-16.44	-15.15	-14.82	-14.15	-13.05	-10.51	-11.06	-7.71
Gerald Ford (R)	8/74 - 1/77	Mean	-2.11	-1.99	31.18	28.64	25.63	23.90	23.86	21.88	22.87	20.04	18.44	10.7
Jimmy Carter (D)	2/77 - 1/81	Mean	-0.80	-0.66	27.82	19.95	18.12	18.73	16.73	12.84	11.79	8.57	7.26	3.60
Ronald Reagan (R)	2/81 - 1/89	Mean	0.93	0.91	3.11	3.90	6.28	7.01	7.38	7.78	8.25	8.09	7.57	8.35
George H. W. Bush (R)	2/89 - 1/93	Mean	-0.26	-0.30	11.59	4.16	8.34	6.64	10.14	10.56	8.71	9.96	9.61	8.29
Bill Clinton (D)	2/93 - 1/01	Mean	0.28	0.18	12.62	9.70	7.99	8.56	10.00	9.19	12.00	10.67	11.60	12.33
George W. Bush (R)	2/01 - 1/09	Mean	0.21	0.15	3.70	-1.11	0.66	-0.80	-1.86	-0.27	-1.36	-3.43	-3.28	-6.72
Barack Obama (D)	2/09 - 1/17	Mean	-0.38	-0.30	18.07	19.04	21.44	19.28	20.40	20.70	18.83	19.94	18.70	16.73
Donald Trump (R)	2/17 - 12/18	Mean	-	-	-8.98	1.01	2.21	1.61	-0.99	-0.26	2.13	4.55	1.72	6.68
By Party														
Democrat (D)		Mean	-0.23	-0.24	20.17	16.10	15.98	14.75	15.05	13.66	13.45	12.70	12.20	10.22
Republican (R)		Mean	0.12	0.13	2.95	1.63	3.35	3.16	3.03	3.71	3.66	3.64	2.98	2.25

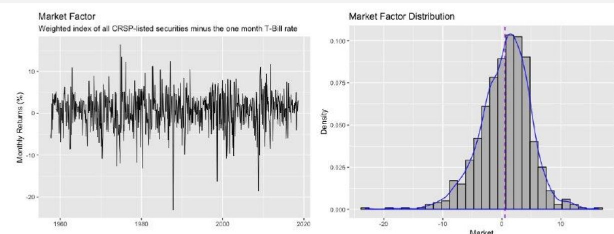
II. Research Methods

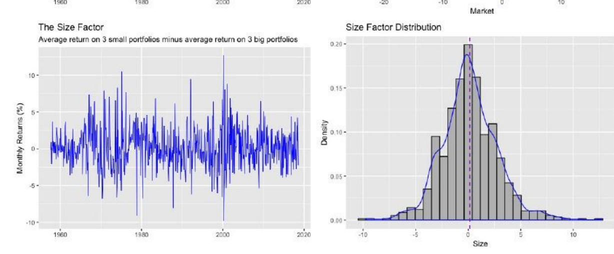
$$r_{pt+1} = \alpha_p + \lambda_p D_t + (\beta_{pM} + \delta_{pM} D_t) r_{Mt+1} + (\beta_{pS} + \delta_{pS} D_t) SMB_{t+1} + (\beta_{pH} + \delta_{pH} D_t) HML_{t+1} + \epsilon_{pt+1}$$

This analysis tests Sy and Zamens' conclusions for the subperiod 1957-2018, and extends the literature by adding the momentum and quality factors to their 3-factor conditional model. The second stage of this analysis controls for investor sentiment in both a 3-factor and a 5-factor model.

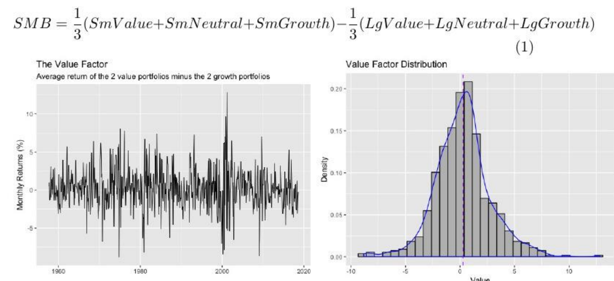
$$r_{pt+1} = \alpha_p + \lambda_p D_t + (\beta_{pM} + \delta_{pM} D_t) r_{Mt+1} + (\beta_{pS} + \delta_{pS} D_t) SMB_{t+1} + (\beta_{pH} + \delta_{pH} D_t) HML_{t+1} + (\beta_{pU} + \delta_{pU} D_t) UMD_{t+1} + (\beta_{pQ} + \delta_{pQ} D_t) QMJ_{t+1} + \epsilon_{pt+1}$$

III. Data

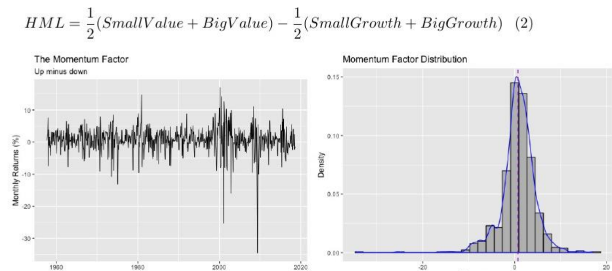




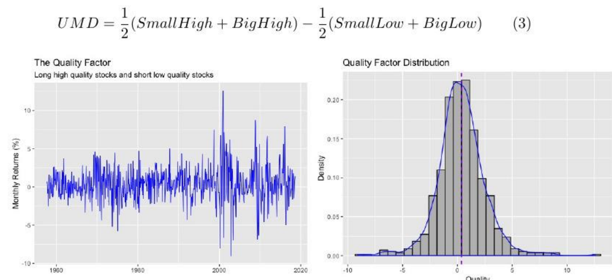
$$SMB = \frac{1}{3}(SmValue + SmNeutral + SmGrowth) - \frac{1}{3}(LgValue + LgNeutral + LgGrowth) \quad (1)$$



$$HML = \frac{1}{2}(SmallValue + BigValue) - \frac{1}{2}(SmallGrowth + BigGrowth) \quad (2)$$



$$UMD = \frac{1}{2}(SmallHigh + BigHigh) - \frac{1}{2}(SmallLow + BigLow) \quad (3)$$



$$QMJ = \frac{1}{2}(SmallQuality + BigQuality) - \frac{1}{2}(SmallJunk + BigJunk) \quad (4)$$

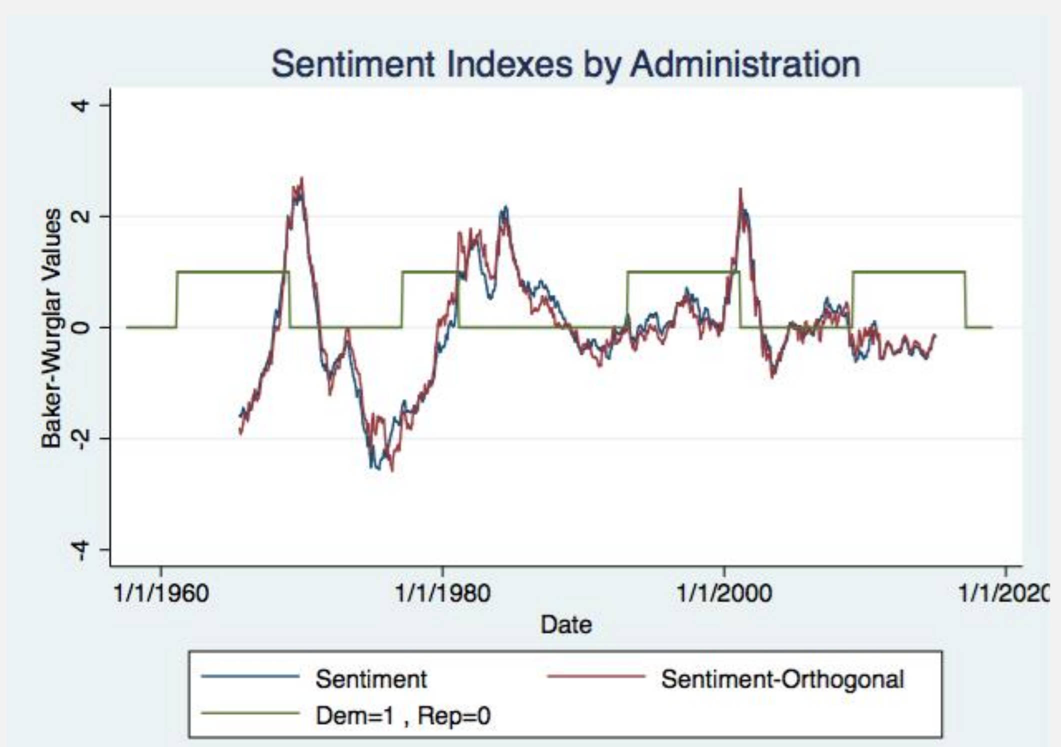
The updated investor sentiment indexes used in this analysis are from Baker and Wurgler (2006), and available on Guofu Zhou's website. Baker and Wurgler based their investor index on six underlying proxies of sentiment:

- Closed-end fund discount - The average difference between the net asset values and their market prices. This is an interesting proxy for sentiment as it is possible for closed-end funds to trade above or below the value per share of the fund's investments. The number of shares are fixed, so short-term supply and demand dictate whether the closed-end fund discount is positive or negative.
- NYSE share turnover - The ratio of reported share volume to the average shares listed on the NYSE. Share turnover or liquidity can serve as a proxy for sentiment in the presences of arbitrage constraints. An irrational investor will participate in markets where short-selling constraints are present only when they are overly optimistic. In this way, high share turnover is an indication of an overvaluation and is also a predictor of lower market returns.
- Number and average first day returns on IPO's - High first day returns to initial public offerings can be viewed as investor enthusiasm. It is seen as speculation when interest is above average, given the new valuations.
- Equity share in new issues - This is defined as gross equity issuance divided by gross equity plus gross long-term debt issuance. Having a high equity share relative to debt tends to predict lower returns in following periods.
- Dividend premium - Baker and Wurgler define this as the log difference of the average market-to-book ratios between dividend payers and non-dividend payers. This component is a proxy for investor demand for dividend paying stocks. These are typically larger more well established firms which do not experience arbitrage constraints (2006).

Table Cross-Correlation Table

Variables	BW	$BW_\perp$	D=1,R=0	$Decile_1$	$Decile_2$	$Decile_3$
BW	1.000					
$BW_\perp$	0.970	1.000				
	(0.000)					
D=1,R=0	-0.180	-0.190	1.000			
	(0.000)	(0.000)				
$Decile_1$	-0.137	-0.134	0.107	1.000		
	(0.001)	(0.001)	(0.004)			
$Decile_2$	-0.105	-0.105	0.092	0.924	1.000	
	(0.010)	(0.011)	(0.012)	(0.000)		
$Decile_3$	-0.096	-0.098	0.084	0.895	0.979	1.000
	(0.019)	(0.017)	(0.022)	(0.000)	(0.000)	

The above graphs show values and distributions of each of the factors used in this analysis along with formulas detailing their construction. The chart to the right shows values for the Baker-Wurgler investor sentiment index, as well as the version of the index that is orthogonal to the business cycle. Democratic and Republican administrations are also represented as a binary variable.



IV. Results

Table Contidional Risk Models

	3-Factor Conditional Decile 1	3-Factor Conditional Decile 2	3-Factor Conditional Decile 3	5-Factor Conditional Decile 1	5-Factor Conditional Decile 2	5-Factor Conditional Decile 3
λ_p	0.487**	0.158	0.000755	0.528*	0.0663	-0.104
	(0.175)	(0.105)	(0.0914)	(0.211)	(0.132)	(0.103)
MKT	0.902***	1.069***	1.084***	0.837***	1.011***	1.033***
	(0.0309)	(0.0194)	(0.0163)	(0.0349)	(0.0218)	(0.0174)
SMB	1.424***	1.169***	1.030***	1.346***	1.099***	0.967***
	(0.0633)	(0.0312)	(0.0274)	(0.0601)	(0.0295)	(0.0259)
HML	0.372***	0.237***	0.152***	0.301***	0.175***	0.101***
	(0.0580)	(0.0358)	(0.0280)	(0.0629)	(0.0393)	(0.0302)
D*MKT	-0.0655	-0.0373	-0.00915	-0.0836	0.0118	0.0485
	(0.0506)	(0.0336)	(0.0301)	(0.0608)	(0.0362)	(0.0274)
D*SMB	-0.0553	0.0172	-0.0206	-0.0630	0.117*	0.0965*
	(0.108)	(0.0690)	(0.0617)	(0.100)	(0.0564)	(0.0453)
D*HML	-0.150	-0.0427	0.0723	-0.191	-0.0549	0.0564
	(0.0955)	(0.0615)	(0.0548)	(0.118)	(0.0773)	(0.0594)
UMD				-0.0923*	-0.0971***	-0.109***
				(0.0382)	(0.0236)	(0.0186)
QMJ				-0.200*	-0.166**	-0.125**
				(0.0876)	(0.0521)	(0.0438)
D*UMD				-0.0417	-0.0713	-0.0699
				(0.0831)	(0.0565)	(0.0429)
D*QMJ				-0.0676	0.215**	0.243***
				(0.125)	(0.0780)	(0.0643)
α_p	-0.0388	-0.147*	0.0173	0.176	0.0490	0.197***
	(0.114)	(0.0657)	(0.0557)	(0.128)	(0.0750)	(0.0594)
N	737	737	737	737	737	737
adj. R^2	0.862	0.950	0.959	0.872	0.958	0.969

Standard errors in parentheses
where does this show up
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Results show there is no statistical difference in risk premiums between administrations in the 3-factor model, and abnormal Democrat returns disappear only after controlling for investor sentiment.

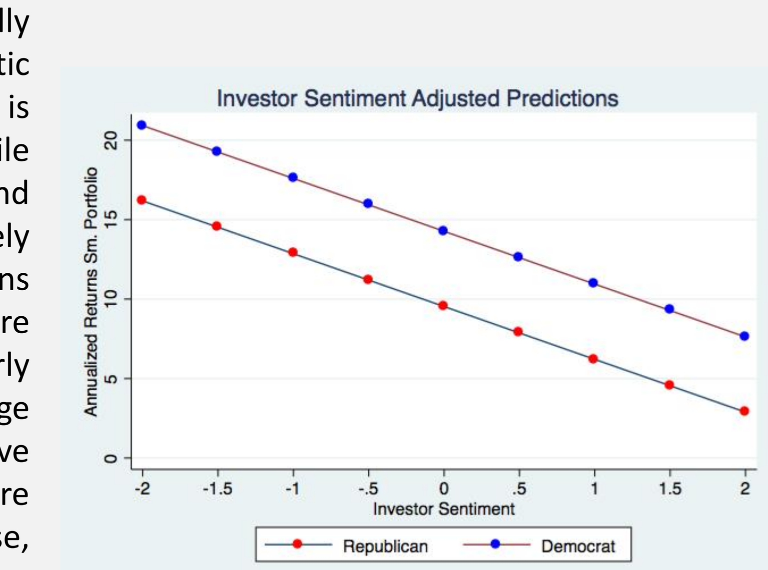
Table Controlling for Investor Sentiment

	3-Factor with Sentiment Decile 1	3-Factor with Sentiment Decile 2	3-Factor with Sentiment Decile 3	5-Factor with Sentiment Decile 1	5-Factor with Sentiment Decile 2	5-Factor with Sentiment Decile 3
λ_p	0.403	0.197	-0.00231	0.395	0.183	0.183
	(0.251)	(0.154)	(0.129)	(0.235)	(0.134)	(0.134)
Sentiment	-0.375***	-0.143*	-0.105	-0.277**	-0.109	-0.109
	(0.0980)	(0.0579)	(0.0556)	(0.105)	(0.0594)	(0.0594)
D*Sent.	0.521	0.421	0.352	0.467	0.359	0.359
	(0.382)	(0.272)	(0.215)	(0.335)	(0.214)	(0.214)
MKT	0.850***	1.053***	1.078***	0.760***	1.015***	1.015***
	(0.0262)	(0.0178)	(0.0157)	(0.0342)	(0.0217)	(0.0217)
SMB	1.410***	1.165***	1.011***	1.314***	1.135***	1.135***
	(0.0606)	(0.0386)	(0.0346)	(0.0519)	(0.0279)	(0.0279)
HML	0.269***	0.194***	0.177***	0.174**	0.145***	0.145***
	(0.0516)	(0.0346)	(0.0305)	(0.0595)	(0.0401)	(0.0401)
UMD				-0.105*	-0.136***	-0.136***
				(0.0443)	(0.0301)	(0.0301)
QMJ				-0.288***	-0.0641	-0.0641
				(0.0735)	(0.0449)	(0.0449)
α_p	0.0911	-0.163*	0.0115	0.369**	0.000930	0.000930
	(0.124)	(0.0716)	(0.0632)	(0.141)	(0.0880)	(0.0880)
N	594	594	594	594	594	594
adj. R^2	0.863	0.954	0.960	0.873	0.962	0.962

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

V. Conclusions

This analysis shows risk premiums alone cannot fully explain the abnormal returns during Democratic presidencies. After controlling for risk factors there is still unexplained returns in the smallest decile portfolio. Using the insights gained from Baker and Wurgler concerning investor sentiment, a likely explanation emerges. The returns or lack of returns realized from investment in the smallest firms are due to a combination of overly pessimistic or overly optimistic investors and the presence of arbitrage constraints. Firms located in the smallest decile have severe limits to arbitrage compared with larger, more established firms. Investor sentiment in this case, whether positive or negative, represents a force pushing stock prices away from rational valuations.



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