ONLINE APPENDIX TO

"REVISITING THE CROSS-SECTION OF EXPECTED STOCK
RETURNS: EVIDENCE FROM A TEXTUAL ANALYSIS OF
INVESTOR BUY RECOMMENDATIONS"

Online Appendix Figure A1
Institutional Investors Survey Questions

This figure displays the questions in the online survey sent to 100 institutional investors to generate the survey-based wordlists as detailed in Section 3.2.

QAge. How old are you?

1. 21-24
2. 25-34
3. 35-44
4. 45-54
5. 55-64
6. 65+
7. Prefer not to say

QGender. Please indicate your gender

1. Male
2. Female
3. Prefer not to say

QExperience. Approximately how many years have you worked as a wealth manager / fund manager?

QAmount. What is your company's overall assets under management (AUM)?

1. Under $10 million
2. $10 million to $99.9 million
3. $100 million to $249.9 million
4. $250 million to $1 billion
5. $1 billion to $2.49 billion
6. $2.5 billion or more
7. Prefer not to answer

For each of the next three questions, please list up to five **nouns, verbs or adjectives** (**NOT specific tickers, company names, industries or product names/brands**) that you would use:

Q1.   to describe a stock that, to you, is a "safe-haven asset:" a stock that does relatively well when times are bad. If you would never invest in such a stock, **please leave everything blank** and simply move on to the next question.

Q2.   to describe a stock that has been doing well and that you expect will continue to do very well or, in general, a stock that you are very confident will earn above-normal returns. If you would never invest in such a stock, **please leave everything blank** and simply move on to the next question.

Q3.   to describe a stock that offers somewhat of a gamble: the stock will most likely not produce above-normal returns, but, if it does, the payoff will be enormous. If you would never invest in such a stock, **please leave everything blank** and simply move on to the next question.

Online Appendix Figure A2
Retail Investors Survey Questions

This figure displays the questions in the online survey sent to 303 retail investors to generate the survey-based wordlists as detailed in Section 3.2.

QAge. How old are you?

1. 21-29
2. 30-44
3. 45-59
4. 60+
5. Prefer not to say

QGender. Please indicate your gender

1. Male
2. Female
3. Prefer not to say

QExperience. Which of the following categories best describes your investment experience?

1. Novice investor
2. Investor with intermediate experience
3. Professional investor
4. Prefer not to say

QAmount. What is the approximate value of your household's net investable assets in USD? In calculating your net investable assets, do not include your personal properties such as a car, home, and cottage. Simply add up all your savings and investments and subtract your consumer debt (credit cards and loans).

1. Under $500
2. $500 to $2,000
3. $2,001 to $10,000
4. $10,001 to $25,000
5. $25,001 to $100,000
6. $100,001 to $300,000
7. $301,000 to $500,000
8. $500,001 to $1,000,000
9. More than $1,000,000
10. Prefer not to answer

QAttention. How frequently do you check your investment account?

1. About every day (daily)
2. About once a week (weekly)
3. About once a month (monthly)
4. About once every three months (quarterly)
5. About once a year (yearly)
6. Less frequently than once a year
7. Prefer not to answer

QInteractions. How frequently do you discuss stocks (or other investment-related topics) with family members, friends or co-workers?

1. About every day (daily)
2. About once a week (weekly)
3. About once a month (monthly)
4. About once every three months (quarterly)
5. About once a year (yearly)
6. Less frequently than once a year
7. Prefer not to answer

For each of the next three questions, please list up to five **nouns, verbs or adjectives** (**NOT specific tickers, company names, industries or product names/brands**) that you would use:

Q1.   To describe a stock that, to you, is a "safe-haven asset:" a stock that does relatively well when times are bad. If you would never invest in such a stock, **please leave everything blank** and simply move on to the next question.

Q2.   To describe a stock that has been doing well and that you expect will continue to do very well or, in general, a stock that you are very confident will earn above-normal returns. If you would never invest in such a stock, **please leave everything blank** and simply move on to the next question.

Q3.   To describe a stock that offers somewhat of a gamble: the stock will most likely not produce above-normal returns, but, if it does, the payoff will be enormous. If you would never invest in such a stock, **please leave everything blank** and simply move on to the next question.

Online Appendix Figure A3
Sample Analyst Reports

This figure displays the first page of three sell-side analyst reports. The first report makes disproportionately frequent use of safety words as per the institutional investors survey-based wordlists, while the second and third reports make disproportionately frequent uses of exuberance and lottery words, respectively. The red areas mark the sections of the analyst reports that we parse.

First report ("safety"):

Online Appendix Figure A3. Continued.

Second report: ("exuberance"):

PPG Industries Inc (NYSE: PPG)

PPG: Very Strong 1Q14; Reiterate BUY; Increasing PT to $220

Overview

- PPG reported record 1Q14 adjusted EPS of $1.98 which topped NCR estimate of $1.76 and consensus estimate of $1.87. Note that street expectations were in a wide range due to the recently divested Transitions Optical business – and overall, 1Q14 performance more than fully replaced earnings from the divestiture as virtually every business performed above expectations from both a sales and earnings perspective.
- PPG achieved global volume growth of 5% in 1Q14 – its highest level in 3 years. Growth rates accelerated in each region compared to recent quarters, including Europe where volumes were up 5% as PPG believes it is in the early stages of an economic recovery.
- Total operating income of $483 million increased 22% vs. 1Q13 and 7% above NCR estimates, driven by strong volumes and robust margins in Performance Coatings and Industrial Coatings. Excellent earnings leverage stemming from aggressive cost savings coupled with improved demand levels drove margins higher and led to increased profitability as both Performance and Industrial Coatings segment margins grew 100bps above NCR estimates.
- Performance Coatings benefitted from another quarter of strong growth as acquisitions (AkzoNobel, Deft, Hi-Temp) contributed 23% to sales while legacy architectural coatings contributed the remaining 4% of the 27% growth vs. 1Q13. Architectural Coatings EMEA volumes increased mid-single digits while Auto Refinish and Aerospace continued to show solid results, reporting positive volumes across every region.
- Industrial Coatings volumes increased 7%, largely due to Auto OEM where 10% volumes outpaced the industry growth rate of 4%. Glass segment volumes grew 3% due to global fiber glass demand, partially offset by lower flat glass volumes.
- PPG has now delivered 15 straight quarters of record adjusted EPS. Given our belief that PPG will continue to post solid double-digit earnings growth for at least the next few years, we are raising our 2014E EPS to $9.60 (was $9.20) and 2015E EPS to $11.00 (was $10.40).

Conclusion

1Q14 was a great quarter for PPG. The company displayed robust margins stemming from both strong volumes and increased leverage – and its cash position continues to grow, closing the quarter with $3 billion in cash even after repurchasing $200 million worth of shares (1.1 million shares) during the quarter. End markets by region appear to be healthy with Europe turning the corner and providing PPG the next avenue for a recovery. We expect the strong momentum in 1Q14 to carry forward into the balance of the year, and as a result we are reinforcing our BUY rating on shares of PPG and increasing our PT to $220 (was $215) as we have confidence in our estimates going forward.

Company Update		BUY
Price Target Increase		
Estimate Change		

Materials
   Chemicals-Diversified

Price (04/21/2014)		196.54
Target Price		$220.00
Market Cap (M)		27,255.3
52 Wk Hi - Low		201.59 - 140.81
Enterprise Value (M)		29,182.3
Average Daily Volume (3 Months)		911,927
Float Outstanding (M)		130.3
Shares Outstanding (M)		138.7
Short Interest		1.2(M)
Short Ratio		1.5
Total Debt to Total Assets		21.5%
Total Debt (M)		3,406.0
Total Common Equity (M)		4,932.0
Preferred Equity (M)		0.0
Cash & Equivalents (M)		1,745.0
Dividend		$2.28

EPS ($)	2013	2014	2015
Q1	1.58a	1.98a	--
Prior	--	1.76e	--
Q2	2.45a	2.86e	--
Prior	--	2.77e	--
Q3	2.44a	2.79e	--
Prior	--	2.71e	--
Q4	1.81a	1.97e	--
Prior	--	1.96e	--
FY Dec	8.28a	9.60e	11.00e
Prior	--	9.20e	10.40e
P/E	23.7x	20.5x	17.9x

EBITDA ($M) Adjusted	2013	2014	2015
Q1	--	--	--
Q2	--	--	--
Q3	--	--	--
Q4	--	--	--
FY Dec	2,274a	2,406e	2,595e
Prior	--	2,355e	2,513e
Enterprise Value/EBITDA	12.8x	12.1x	11.2x

PPG Industries Inc
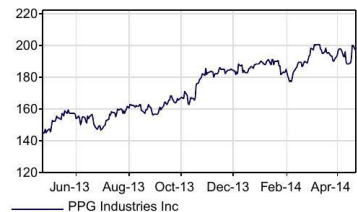
Important: Please read disclosures and disclaimers on page 5 of the report.

Online Appendix Figure A3. Continued.

Third report: ("lottery"):

J.P.Morgan

Lone Pine Resources

Overweight

LPR, LPR US
Price: $3.42

▼ **Price Target: $8.00**
Previous: $13.00

Integrated Oils

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J.P. Morgan Securities LLC

Recent Selloff More Severe than Near-Term Risks Warrant; Adj Ests & Lowering PT to $8; Maintain OW

We had the opportunity to meet with LPR's management team this week in Calgary following disappointing 1Q12 results and a very rocky subsequent share price performance. We addressed issues from liquidity to spending to the near-term Evi outlook, and although we believe the stock may now be most suitable for risk-seeking investors, we believe there is solid support for equity value beyond the current share price from the Evi asset alone, suggesting an underappreciated core development. We have decreased our price target to $8/share; however, with the shares trading at $3.42/share, we maintain our OW rating.

- **New guidance tempers 2012 outlook.** LPR reduced full-year volume guidance by 7% to 90 mmcfepd to reflect 1Q12 Evi operational issues. Consequently, LPR now expects a 30% liquids weighting (previously 35%), reducing the outlook for 2012E cash flow generation. Furthermore, net production expenses were increased to $2.10/mcfe (previously $1.80-$1.90/mcfe) and DD&A is now seen at $3.50/mcfe.

- **Evi alone supporting upside from current share price.** Despite a reduced production and cash flow outlook for 2012E, we believe the current share price is more than supported by the Evi asset alone. We value LPR's 2P reserves base at $780 mm and see an additional $450 mm in value from the Evi play's unbooked resources, based on our risked NAV. Adjusting for corporate expenses and our estimate of net debt at YE2012, this supports an equity value of just over $8/share.

- **Challenged gas price environment weighs on natural gas resource value.** With natural gas prices holding at around the $2/mcf mark, we believe LPR's natural gas opportunities are unlikely to command any meaningful value from investors, and we have removed the contribution from unbooked natural gas resources and more heavily discounted the value of 2P natural gas reserves in our valuation.

- **Sufficient liquidity to fund 2012 capex program**. Although 1Q12 capex of $78 mm reflected a busy winter drilling season, we believe capex will drop substantially in 2Q due to spring breakup. LPR maintained capex guidance of $200-$220 mm for full-year 2012E, and on our estimates, LPR will need to draw on $34 mm in borrowings to fund the remainder of this year's capital spending.

- **Adjusting estimates and lowering PT to $8/share.** We now forecast a 2012E loss of $0.03 per share, 2013E EPS of $0.79 per share and 2012E adjusted EBITDA of $144 mm. We are also lowering our PT to $8/share but maintain our OW rating.

Price Performance

	YTD	1m	3m	12m
Abs	-33.6%	-18.0%	-31.3%	-60.7%
Rel	-38.7%	-15.8%	-26.2%	-55.4%

Lone Pine Resources Inc. (LPR;LPR US)

FYE Dec	2011A	2012E (Prev)	2012E (Curr)	2013E (Prev)	2013E (Curr)
EPS - Recurring ($)					
Q1 (Mar)	-	0.05	(0.07)A	-	-
Q2 (Jun)	0.11	0.07	(0.01)	-	-
Q3 (Sep)	0.12	0.18	0.03	-	-
Q4 (Dec)	0.01	0.24	0.06	-	-
FY	0.22	0.54	(0.03)	1.19	0.79
Bloomberg EPS FY ($)	0.49	0.56	0.56	1.06	1.06

Source: Company data, Bloomberg, J.P. Morgan estimates.

Company Data	
Price ($)	3.42
Date Of Price	17-May-12
52-week Range ($)	13.09 - 3.38
Mkt Cap ($ mn)	290.79
Fiscal Year End	Dec
Shares O/S (mn)	85
Price Target ($)	8.00
Price Target End Date	31 Dec 12

See page 7 for analyst certification and important disclosures.

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Online Appendix Figure A4
Sample Seeking Alpha Articles

This figure displays the first page of three SA opinion articles. The first article makes disproportionately frequent use of safety words as per the institutional investors survey-based wordlists, while the second and third articles make disproportionately frequent uses of exuberance and lottery words, respectively.

First article ("safety"):

Online Appendix Figure A4. Continued.

Second article: ("exuberance"):

Seeking Alpha α PRO

Symbols, authors, keywords 🔍

PRO   My Portfolio• My Authors   Top Stocks   Latest News   Markets   Stock Ideas   Dividends   ETFs   Education

Written by

Bridger Research
We are investment research professionals covering a broad range of equities, REITs and other asset classes...
more

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All Portfolios ⌄

Symbol	Price	% Chg ▾
HDSN	11.29	6.71%
VIST	13.89	4.67%
BA	178.36	2.01%
UAL	44.42	1.67%
MS	90.91	1.09%
FLT	191.68	0.97%

Expand Portfolio

Long Ideas   Tech

Ansys: Stock Is Ready For A Rally

Dec. 11, 2018 1:47 PM ET | **ANSYS, Inc. (ANSS)** | 2 Comments | 1 Like

Summary

- ANSYS is a market leader with a broad portfolio of engineering simulation software solutions that help customers to improve their operational efficiency and profitability.

- The company offers a strong business model with double-digit organic revenue growth rate, best-in-class operating margins and strong cash generation.

- Significant growth opportunities in the automotive and autonomous vehicle industries with the latest release of ANSYS 19.2.

Investment Thesis

ANSYS, Inc. (NASDAQ:ANSS) is a leader in engineering simulation software & services and offers a great business model with diversified recurring revenue, strong cash generation and a significant growth opportunity driven by the digital revolution. There is an increased market demand for engineering simulation solutions, as companies face intensified pressures like increased product complexity, reduced time to market and lower sales cycles. ANSYS's engineering simulation products offer a strong competitive advantage based on technology leadership and reputation for simulating products across multiple physics with the highest accuracy. The company is a best-in-class leader in its niche industry and consistently maintains a double-digit revenue growth rate combined with industry-leading operating margin. I expect from the company to scale its business with the go-to-market strategy across large enterprises, important partnerships, and acquisitions of best-in-class technologies. That can drive further shareholder value-creation by achieving Target 2020 double-digit organic revenue growth rate, together with maintaining best-in-class operating margins and returning excess capital through share buybacks over the next 3 - 5 years.

Online Appendix Figure A4. Continued.

Third article: ("lottery"):

Written by

Elephant Analytics
Marketplace
Author of **Distressed Value Investing.** Unique insight into distressed opportunities to target outsized returns.

Follow

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Current ⌄

+ Add   🔗   ✏️

Symbol	Price	% Chg ▾
DQ	49.61	6.09%
HIMX	7.13	2.74%
EDU	33.14	1.47%
BRK.B	306.39	0.13%
NCNA	0.80	-0.03%

Expand Portfolio

Long Ideas   Basic Materials

Magnum Hunter: The Waiting Game Continues

Sep. 17, 2015 8:40 AM ET | **Magnum Hunter Resources Corp. (MHRCQ)** | 49 Comments

Summary

- Magnum Hunter's CEO Gary Evans previously mentioned that he was hopeful of a Eureka Hunter sale announcement by the end of August.

- It is now mid-September and it appears that investors are becoming impatient for some news, which is reflected in its share price decline.

- However, Magnum Hunter still has a net asset value estimated at multiple times its current price.

- With its short interest, a Eureka Hunter sale for a reasonable price or any another asset sale that ensures Magnum Hunter's survival for a prolonged period could trigger a squeeze.

- Magnum Hunter's fundamentals remain quite messy due to its large debts and high fixed payment costs. I think it may be worth a minor speculative play at $0.50 though.

Magnum Hunter Resources (MHR) continues to fall amidst a continued oil and natural gas slump as investors get tired of waiting for an announcement on the Eureka Hunter pipeline sale as well as other potential moves. As well, Magnum Hunter has received notice that it is no longer in compliance with the NYSE's listing standards due to its stock price dropping below $1.00 during a preceding 30 trading day period.

Despite the lack of positive news, I think Magnum Hunter may now be worth looking at as a risky speculative play though. It has a high short interest and any major asset sale would put off bankruptcy concerns for a while, likely leading to a bit of a short squeeze. As well, Magnum Hunter's net asset value is theoretically multiple times its current share price, although concern remains over its ability/willingness to monetize these assets in a timely manner.

Online Appendix Figure A5
Which Framework Best Explains the Cross-Section of Expected Stock Returns? – Evidence by Firm Characteristic

This figure reports the results from Panel A in Table 2 separately for each of the 181 firm characteristics. For each of 181 firm characteristics, we sort stocks based on the firm characteristic and consider the stocks that earn low average returns based on prior literature ("short-leg securities"). We compute the average *Safety [%]*, *Exuberance [%]*, and *Lottery [%]* across the buy recommendations of short-leg securities; we also compute the average fractions across the buy recommendations written on all other stocks. We then compute the difference between the former and the latter (on a relative basis) and test whether the difference is positive and statistically significant at the 5% level. We plot the firm characteristics for which the difference is positive and statistically significant at the 5% level based on *Safety [%]*, *Exuberance [%]*, and *Lottery [%]*, respectively.

Analyst Reports:

Online Appendix Figure A5. Continued.

SA Articles:
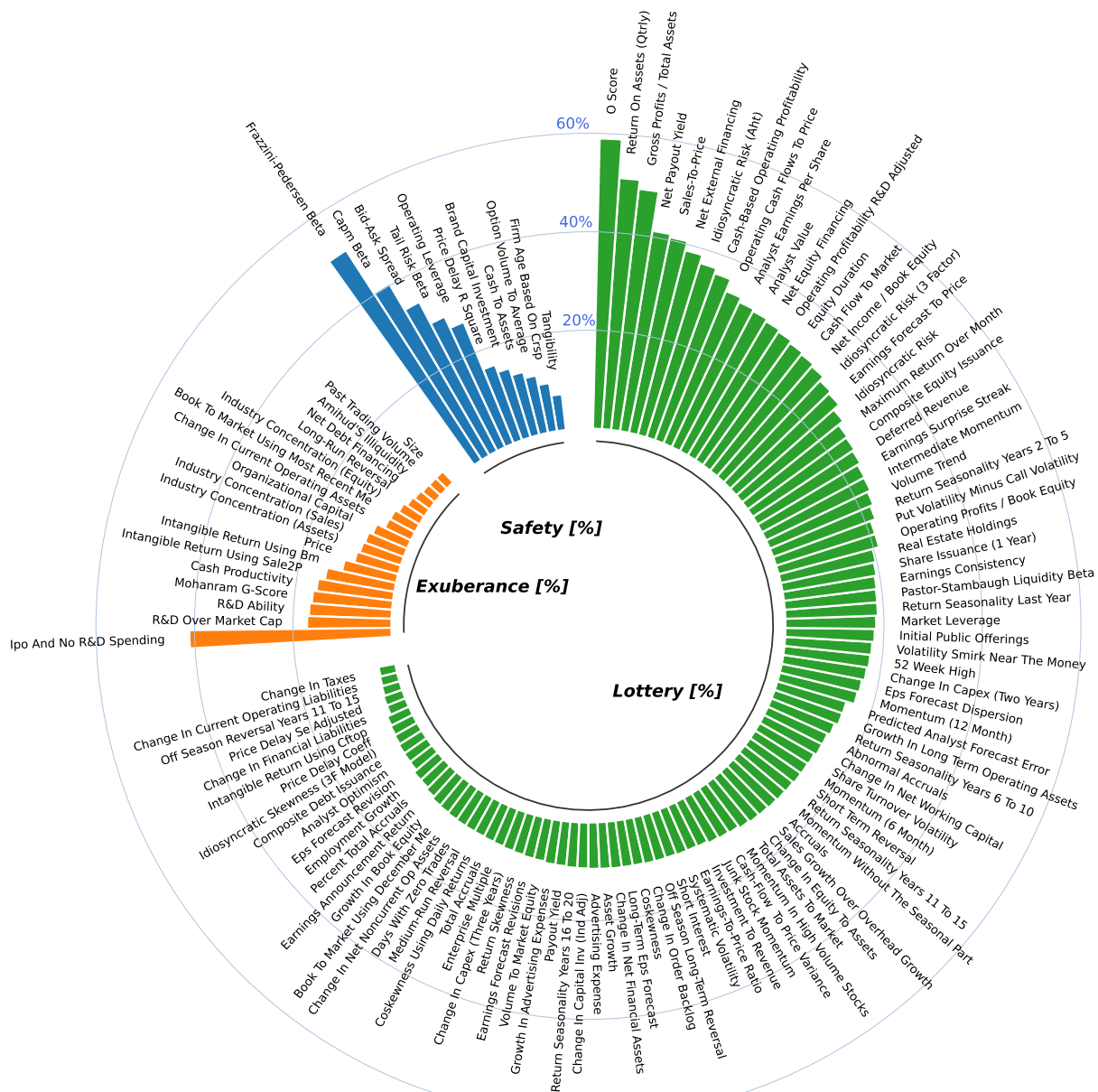
Online Appendix Figure A6
Which Framework Best Explains the Cross-Section of Expected Stock Returns? – Sensitivity Analyses

This figure reports the fractions of times a particular framework best explains the cross-section of expected stock returns. The analyses are identical to those in Panel A of Table 2, except that we vary our wordlists. Specifically, we examine for each of the five most frequently used safety words, each of the five most frequently exuberance words and each of the five most frequently used lottery words whether its removal changes our conclusion. We plot the results for the 15 variations of our wordlists.
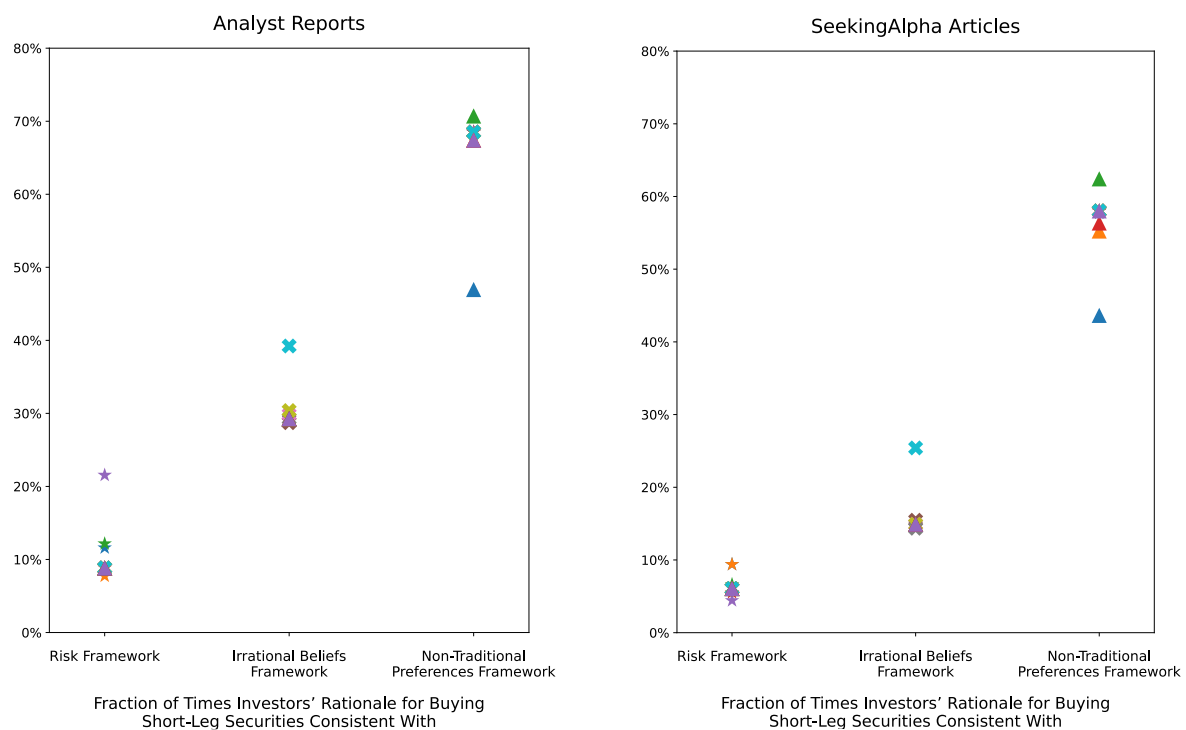
Online Appendix Table A1
Descriptive Statistics Regarding Institutional Investors Survey Participants

This table reports the responses to the institutional investors background questions displayed in Online Appendix Figure A1.

	Number [Fraction] of Institutional Investors	
QAge		
25-34	2	[2%]
35-44	20	[20%]
45-54	29	[29%]
55-64	35	[35%]
65+	13	[13%]
Prefer not to say	1	[1%]
QGender		
Female	10	[10%]
Male	87	[87%]
I prefer not to say	3	[3%]
QExperience		
< 10 years	3	[3%]
10-19 years	28	[28%]
20-29 years	50	[50%]
30 years +	19	[19%]
QAmount		
$10 million to $99.9 million	19	[19%]
$100 million to $249.9 million	25	[25%]
$250 million to $999.9 million	15	[15%]
$1 billion to $2.49 billion	7	[7%]
$2.5 billion+	34	[34%]

Online Appendix Table A2
Descriptive Statistics Regarding Retail Investors Survey Participants

This table reports the responses to the retail investors background questions displayed in Online Appendix Figure A2.

	Number [Fraction] of Retail Investors	
QAge		
21-29	68	[22.4%]
30-44	139	[45.9%]
45-59	63	[20.8%]
60 or more	32	[10.6%]
I prefer not to say	1	[0.3%]
Qgender		
Female	93	[30.7%]
Male	210	[69.3%]
I prefer not to say	0	[0%]
Qexperience		
Novice investor	118	[38.9%]
Investor with intermediate experience	178	[58.7%]
Professional investor	7	[2.3%]
I prefer not to say	0	[0%]
Qamount		
Less than $500	24	[7.9%]
$500 to $2,000	18	[5.9%]
$2,001 to $10,000	33	[10.9%]
$10,001 to $25,000	45	[14.9%]
$25,001 to $100,000	66	[21.8%]
$100,001 to $300,000	55	[18.2%]
$300,001 to $500,000	20	[6.6%]
$500,001 to $1,000,000	18	[5.9%]
More than $1,000,000	14	[4.6%]
I prefer not to say	10	[3.3%]
Qattention		
About every day	79	[26.1%]
About once a week	109	[36.0%]
About once a month	78	[25.7%]
About once every three months	25	[8.3%]
About once a year	3	[1.0%]
Less frequently than once a year	5	[1.7%]
I prefer not to say	4	[1.3%]
Qinteractions		
About every day	20	[6.6%]
About once a week	87	[28.7%]
About once a month	97	[32.0%]
About once every three months	43	[14.2%]
About once a year	18	[5.9%]
Less frequently than once a year	24	[7.9%]
Never	13	[4.3%]
I prefer not to say	1	[0.3%]

Online Appendix Table A3

Which Framework Best Explains the Cross-Section of Expected Stock Returns? – Evidence by Firm Characteristic

This table reports the results from Panel A in Table 2 separately for each of the 181 firm characteristics. For each of 181 firm characteristics, we compute the average *Safety [%]*, *Exuberance [%]*, and *Lottery [%]* across the buy recommendations of short-leg securities; we also compute the average fractions across the buy recommendations written on all other stocks. We then compute the difference between the former and the latter (on a relative basis) and test whether the difference is positive and statistically significant at the 5% level. We report the relative difference and the corresponding *t*-statistic in parentheses if the difference is positive and statistically significant at the 5% level. We bold the difference that is the largest economically speaking. An empty cell implies that the difference is not positive and statistically significant at the 5% level.

Firm Characteristic	Do Sell-Side Analyst Buy Recommendations of Short-Leg Securities Disproportionately Frequently Use						Do Seeking Alpha Buy Recommendations of Short-Leg Securities Disproportionately Frequently Use					
	Safety Words?		Exuberance Words?		Lottery Words?		Safety Words?		Exuberance Words?		Lottery Words?	
5-Yr. Growth in Number of Shares			2%	(5.16)	**3%**	**(7.22)**						
52-Week High					**13%**	**(20.71)**					**18%**	**(10.43)**
Δ Asset Turnover			**8%**	**(16.21)**								
Δ Current Op. Assets			**13%**	**(30.17)**	6%	(11.41)			6%	(4.45)		
Δ Current Op. Liabilities			**13%**	**(32.38)**	7%	(15.50)					4%	(2.53)
Δ Deferred Revenue to Assets					**17%**	**(17.62)**					**24%**	**(7.75)**
Δ Equity to Assets					**18%**	**(38.88)**					**12%**	**(8.33)**
Δ Financial Liabilities					**9%**	**(18.91)**					**4%**	**(2.60)**
Δ Long-term Investment	**9%**	**(10.48)**										
Δ Net Financial Assets					**14%**	**(28.28)**					**10%**	**(5.94)**
Δ Net Noncurrent Op. Assets			4%	(9.38)	**8%**	**(15.02)**					**8%**	**(4.80)**
Δ Net Op. Assets			2%	(4.66)	**8%**	**(16.42)**						
Δ Net Working Capital					**9%**	**(15.36)**					**13%**	**(7.11)**
Δ PPE & Inventory to Total Assets					**7%**	**(12.26)**						
Δ Tax to Total Assets					**4%**	**(8.68)**					**3%**	**(2.28)**
Abnormal Accruals					**10%**	**(14.08)**					**13%**	**(6.59)**
Accruals					**7%**	**(10.79)**					**12%**	**(6.16)**
Active Shareholders												

Online Appendix Table A3. Continued.

Firm Characteristic	Do Sell-Side Analyst Buy Recommendations of Short-Leg Securities Disproportionately Frequently Use						Do Seeking Alpha Buy Recommendations of Short-Leg Securities Disproportionately Frequently Use					
	Safety Words?		Exuberance Words?		Lottery Words?		Safety Words?		Exuberance Words?		Lottery Words?	
Advertising Expense			**16%**	**(28.61)**	13%	(17.45)					**9%**	**(4.17)**
Advertising Expense to Brand Capital							**15%**	**(4.11)**				
Analyst Consensus Forecast					**40%**	**(67.83)**					**33%**	**(16.51)**
Analyst EPS Forecast Dispersion					12%	(16.49)					17%	(7.16)
Analyst EPS Forecast Revision											**6%**	**(3.38)**
Analyst Forcast on EPS												
Analyst Optimism			**6%**	**(12.95)**	6%	(10.31)					**6%**	**(2.90)**
Analysts Consensus Ratings of the Mkt.												
Annual Sales to Mkt. Value					**42%**	**(81.25)**					**41%**	**(22.09)**
Asset Growth					**15%**	**(32.72)**					**9%**	**(6.65)**
Asset Tangibility	3%	(3.05)	**8%**	**(14.85)**			**7%**	**(2.02)**				
Average Earn. Growth												
Average Earn. Growth					**8%**	**(8.44)**					**19%**	**(5.93)**
Average Earn. Surprise of Big Firms												
Bid-Ask Spread			**6%**	**(3.73)**			**34%**	**(2.29)**				
Book Leverage	**36%**	**(32.59)**										
Book-to-Mkt. Ratio			5%	(14.36)	**14%**	**(31.65)**					**7%**	**(5.51)**
Book-to-Mkt. Ratio (most recent Mkt.)			17%	(50.50)	17%	(41.65)			**6%**	**(5.26)**	3%	(2.63)
CAPM Beta	**7%**	**(5.06)**					**40%**	**(6.54)**			9%	(2.99)
CAPX to Revenue					2%	(2.87)					10%	(4.80)
Cash Flow to Price Variance					8%	(9.33)					11%	(5.10)
Cash to Assets					1%	(2.48)	13%	(3.60)				
Cash-based Op. Profitability					25%	(32.80)					36%	(15.00)
Convertible Debt Indicator					9%	(19.61)						
Coskewness Using Daily Ret.					3%	(4.36)					8%	(3.57)

Online Appendix Table A3. Continued.

Firm Characteristic	Do Sell-Side Analyst Buy Recommendations of Short-Leg Securities Disproportionately Frequently Use			Do Seeking Alpha Buy Recommendations of Short-Leg Securities Disproportionately Frequently Use		
	Safety Words?	Exuberance Words?	Lottery Words?	Safety Words?	Exuberance Words?	Lottery Words?
Coskewness Using Monthly Ret.			**6%** **(10.50)**			**10%** **(5.30)**
Credit Rating Downgrade						
Customer/Supplier Momentum		**3%** **(2.51)**				
Earn. Forcast to Stock Price			**7%** **(4.32)**			**9%** **(2.06)**
Earn.-to-Price Ratio		**13%** **(27.48)**	10% (16.32)		6% (3.38)	**10%** **(4.81)**
Economic Link Momentum						
Efficient Frontier Index		**15%** **(36.05)**	7% (13.95)			
Enterprise Component of Book-to-Mkt.	**4%** **(5.13)**					
Enterprise Multiple		**20%** **(45.41)**	11% (20.72)		7% (5.05)	**8%** **(4.70)**
Equity Duration			**31%** **(43.80)**			**31%** **(15.28)**
Exchange Switch						
Excluded Expenses			**4%** **(7.86)**			
Firm Age			**6%** **(10.28)**	**10%** **(3.41)**		
First Month When Consistent Div. Payers Fail to Pay Div.						
Frazzini-Pedersen Beta				**51%** **(4.59)**		17% (2.94)
Fundamental Value-to-Mkt. Value			**34%** **(43.74)**			**32%** **(12.02)**
GIM Governance Index						
Gross Profits to Total Assets			**43%** **(68.73)**			**49%** **(23.03)**
Gross Profits with R&D Adjusted			**29%** **(33.98)**			**31%** **(12.55)**
Growth CAPEX Over Ind. CAPEX Growth			**3%** **(5.30)**			**9%** **(5.05)**
Growth CAPEX Over Past Three Yrs.			**8%** **(14.65)**			**8%** **(4.94)**
Growth CAPEX Over Past Two Yrs.			**13%** **(21.98)**			**17%** **(8.80)**
Growth in Advertising Expenses		**8%** **(12.54)**	7% (8.66)			**9%** **(3.89)**
Growth in Book Equity			**13%** **(27.94)**			**7%** **(4.97)**
Growth in Long-term Op. Assets			**12%** **(21.26)**			**15%** **(8.00)**

Firm Characteristic	Do Sell-Side Analyst Buy Recommendations of Short-Leg Securities Disproportionately Frequently Use			Do Seeking Alpha Buy Recommendations of Short-Leg Securities Disproportionately Frequently Use		
	Safety Words?	Exuberance Words?	Lottery Words?	Safety Words?	Exuberance Words?	Lottery Words?
Growth in Number of Employees		2% (4.40)	**9% (21.21)**			**6% (4.68)**
Growth in Number of Shares			**11% (23.05)**			**19% (10.66)**
Growth in Order Backlog to Total Assets						**10% (2.04)**
Growth of Liabilities		5% (11.29)	**10% (17.05)**			**6% (3.09)**
Growth of Mkt. Value Over Stock Ret.			**17% (26.88)**			**25% (11.53)**
IPO Age			**8% (2.50)**			
IPO and No R&D Expenses		**19% (11.46)**			**41% (6.18)**	
Idio. Risk Based on CAPM			**19% (35.68)**			**26% (16.44)**
Idio. Risk Based on CAPM Past Daily Data			**32% (46.51)**			**37% (19.18)**
Idio. Risk Based on FF3			**20% (36.98)**			**28% (17.42)**
Idio. Skewness Based on FF3		**12% (36.80)**	6% (14.51)			**5% (3.83)**
Illiquidity	**6% (12.51)**	4% (15.24)			**3% (3.95)**	
Implied Volatility Smirk						**18% (5.44)**
Inc. Taxes to Tax Share of Net Inc.						
Ind. Concentration Based on Assets		**9% (19.66)**			**9% (5.92)**	
Ind. Concentration Based on Book Value		**10% (21.70)**			**5% (3.41)**	
Ind. Concentration Based on Revenues		**9% (21.59)**			**8% (5.81)**	
Ind. Momentum						
Ind. Ret. of Big Firms						
Indicator of Initial Public Offerings		9% (21.80)	**13% (26.27)**		9% (5.85)	**18% (9.25)**
Inst. Ownership Among Highly Shorted Stocks						
Inst. Ownership and Forecast Dispersion						
Inst. Ownership and Idio. Volatility						
Inst. Ownership and Mkt. to Book						
Inst. Ownership and Turnover						

Online Appendix Table A3. Continued.

Firm Characteristic	Do Sell-Side Analyst Buy Recommendations of Short-Leg Securities Disproportionately Frequently Use						Do Seeking Alpha Buy Recommendations of Short-Leg Securities Disproportionately Frequently Use					
	Safety Words?		Exuberance Words?		Lottery Words?		Safety Words?		Exuberance Words?		Lottery Words?	
Intangible Ret. Using Book-to-Mkt.			**19%**	**(46.88)**	17%	(34.07)			**11%**	**(8.52)**	4%	(2.51)
Intangible Ret. Using Earn. to Mkt. Value			**18%**	**(40.41)**	14%	(26.30)					**5%**	**(2.98)**
Intangible Ret. Using Net Inc. to Mkt. Value			**19%**	**(42.27)**	13%	(23.89)						
Intangible Ret. Using Sales to Mkt. Value			**24%**	**(60.3)**	12%	(25.30)			**14%**	**(11.05)**		
Intermediate Momentum					**15%**	**(20.13)**					**24%**	**(11.45)**
Inventory Growth			5%	(16.67)	**6%**	**(17.29)**						
Inverse Stock Price	3%	(4.81)	**16%**	**(56.34)**	4%	(11.71)			**9%**	**(10.01)**		
Junk Stock Momentum					**2%**	**(2.19)**					**11%**	**(4.13)**
Lagged 2-month Trading Volume	**3%**	**(6.86)**	3%	(13.96)					**3%**	**(3.83)**		
Leverage Component of Book-to-Mkt.	**5%**	**(4.88)**										
Long-run Reversal			**10%**	**(27.98)**	9%	(19.61)			**4%**	**(3.48)**		
Long-term EPS Forecast					**9%**	**(13.91)**					**10%**	**(4.88)**
Maximum Ret. over Previous Month					**18%**	**(37.66)**					**25%**	**(15.93)**
Median EPS Forcast to Stock Price					**49%**	**(37.05)**					**28%**	**(7.55)**
Medium-run Reversal			4%	(9.37)	**12%**	**(23.60)**					**8%**	**(5.11)**
Mkt. Leverage			12%	(32.30)	**21%**	**(45.87)**					**18%**	**(12.03)**
Mkt. Value to Liquid Assets			**23%**	**(66.37)**	8%	(21.25)			**16%**	**(13.16)**		
Mohanram G-score					**3%**	**(3.13)**			**16%**	**(5.09)**	11%	(2.95)
Momentum (12-Month)					**12%**	**(14.95)**					**16%**	**(8.11)**
Momentum (6-Month)					**9%**	**(13.64)**					**13%**	**(7.17)**
Momentum Based on FF3 Residuals												
Momentum Filtered by Firm Age					**5%**	**(3.43)**						
Momentum in High Volume Stocks					**6%**	**(6.90)**					**11%**	**(4.91)**
Monthly Trading Volume Trend					**10%**	**(17.43)**					**23%**	**(11.70)**
Net Debt Financing					**8%**	**(15.17)**			**4%**	**(2.62)**	3%	(1.98)

Online Appendix Table A3. Continued.

Firm Characteristic	Do Sell-Side Analyst Buy Recommendations of Short-Leg Securities Disproportionately Frequently Use						Do Seeking Alpha Buy Recommendations of Short-Leg Securities Disproportionately Frequently Use					
	Safety Words?		Exuberance Words?		Lottery Words?		Safety Words?		Exuberance Words?		Lottery Words?	
Net Debt to Mkt. Value												
Net Equity Financing					32%	(56.76)					32%	(17.22)
Net External Financing					32%	(60.38)					39%	(20.29)
Net Inc. to Book Equity					29%	(48.98)					30%	(16.10)
Net Mkt. Cash Inflow					27%	(30.79)					30%	(12.15)
Net Op. Assets					7%	(12.76)						
Net Payout Yield					26%	(36.22)					41%	(15.48)
Normalized Δ Revenue Per Share												
Number of No Trade Days (Monthly)					7%	(28.55)					8%	(10.92)
Numer of Inst. Owners												
O Score					35%	(39.17)					59%	(19.71)
Off-season Momentum					7%	(10.48)					12%	(6.69)
Off-season Reversal Yrs. 11-15			5%	(10.60)	8%	(13.29)					4%	(2.06)
Off-season Reversal Yrs. 16-20			9%	(14.33)	8%	(11.95)						
Off-season Reversal Yrs. 2-5			4%	(10.67)	15%	(33.37)					10%	(6.66)
Off-season Reversal Yrs. 6-10					14%	(25.87)						
Op. Accruals to |Inc. Before Extraord. Items|												
Op. Cash Flow to Mkt. Value					27%	(33.38)					33%	(13.74)
Op. Leverage	53%	(39.76)					27%	(5.90)				
Op. Profits to Book Equity					18%	(29.63)					21%	(9.36)
Option Volume to Average			3%	(5.44)			12%	(2.88)	5%	(2.33)	11%	(4.58)
Option Volume to Stock Trading Volume			2%	(5.31)	2%	(6.29)						
Order Backlog to Average Total Assets					7%	(6.30)						
Organizational Capital									8%	(4.15)		
Pastor-Stambaugh Liquidity Beta					11%	(20.36)					19%	(11.23)

Firm Characteristic	Do Sell-Side Analyst Buy Recommendations of Short-Leg Securities Disproportionately Frequently Use			Do Seeking Alpha Buy Recommendations of Short-Leg Securities Disproportionately Frequently Use		
	Safety Words?	Exuberance Words?	Lottery Words?	Safety Words?	Exuberance Words?	Lottery Words?
Payout Yield			11% (16.14)			9% (4.08)
Pension Funding Status						
Piotroski F-score			11% (3.39)			
Predicted Analyst Earn.' Forecast Errors		11% (16.71)	13% (15.23)			15% (5.07)
Price delay Coefficient		4% (9.92)	4% (8.23)		5% (3.42)	5% (3.15)
Price delay R-Square	11% (12.89)	2% (5.89)		16% (4.51)	7% (4.32)	
Price delay with Standard Error Adjusted			3% (6.12)		3% (2.41)	4% (2.52)
Put Volatility Minus Call Volatility			6% (7.94)			21% (9.37)
R&D Ability	37% (11.51)	25% (15.53)			17% (3.33)	
R&D Expense to Mkt. Value	3% (3.13)	5% (11.74)			17% (11.73)	
Real Dirty Surplus	2% (2.53)	2% (7.39)				
Real Estate Holdings			8% (10.53)			20% (7.27)
Ret. On Assets			42% (66.17)			51% (24.04)
Ret. Over Earn. Announcement Period						7% (4.64)
Ret. Seasonality Over Last Yr.			16% (24.50)			19% (9.47)
Ret. Seasonality Over Past 11-15 Yrs.			10% (14.30)			12% (5.55)
Ret. Seasonality Over Past 16-20 Yrs.		4% (5.95)	11% (13.79)			9% (3.88)
Ret. Seasonality Over Past 2-5 Yrs.			14% (21.04)			22% (10.29)
Ret. Seasonality Over Past 6-10 Yrs.			8% (11.86)			14% (6.32)
Ret. Skewness		10% (29.64)	8% (19.04)			8% (5.84)
Ret. of Non-Conglomerates to Total Assets of Conglomerates						
Revenue Growth Rank		6% (15.24)	11% (21.45)			
Rolling Std. Dev. of Trading Volume						
Sales Growth Over Inventory Growth			3% (5.02)			
Sales Growth Over Overhead Growth			16% (21.43)			12% (5.79)

Online Appendix Table A3. Continued.

Firm Characteristic	Do Sell-Side Analyst Buy Recommendations of Short-Leg Securities Disproportionately Frequently Use			Do Seeking Alpha Buy Recommendations of Short-Leg Securities Disproportionately Frequently Use		
	Safety Words?	Exuberance Words?	Lottery Words?	Safety Words?	Exuberance Words?	Lottery Words?
Share Turnover Volatility			28% (18.54)			13% (3.78)
Short Interest to Shares Outstanding			11% (24.10)			10% (7.51)
Short-Term Reversal			14% (29.32)			13% (8.95)
Size	7% (14.65)	5% (19.34)			3% (3.97)	
Streaks in Earn. Surprise			10% (11.29)			24% (8.72)
Suppliers Momentum			4% (3.21)			
Systematic Risk Volatility			7% (15.61)			10% (6.88)
Tail Risk Beta			6% (10.09)	29% (8.37)		
Takeover Vulnerability	28% (2.61)					
Total Accruals			15% (31.00)			8% (5.38)
Total Accruals to Absolute Net Inc.						6% (3.12)
Total Assets to Mkt. Value		17% (52.72)	20% (49.78)		7% (6.19)	11% (8.72)
Volume to Mkt. Equity			5% (8.97)			9% (6.40)

Online Appendix Table A4
Which Framework Best Explains the Cross-Section of Expected Stock Returns?
– Non-Traditional Preferences or Exuberance?

This table reports the fractions of times the non-traditional preferences framework best explains the cross-section of expected stock returns. The analyses are identical to those in Panel A of Table 2, except that we now remove stocks whose past one-month returns are in the top 10%, top 20%, or top 50% of their respective distributions.

	Fraction of Times Investors' Rationale for Buying Short-Leg Securities Consistent With [Most Consistent With] The Non-Traditional Preferences Framework	
Excluding stocks whose past one-month returns are …	Sell-Side Analyst Reports	Seeking Alpha Articles
in the top 10%	68% [58%]	56% [55%]
in the top 20%	68% [58%]	56% [54%]
in the top 50%	67% [57%]	55% [52%]

Online Appendix Table A5
Which Framework Best Explains the Cross-Section of Expected Stock Returns?
– Bearish Recommendations for Long-Leg Securities

This table reports the fractions of times a particular framework best explains the cross-section of expected stock returns. The analyses are identical to those in Panel A of Table 2, except that we now compute the fractions of negated safety words, negated exuberance words and negated lottery words and test whether these negated words appear unusually often in the sell or hold recommendations for long-leg securities compared with the sell or hold recommendations for non-long-leg securities.

| | Fraction of Times Investors' Rationale for NOT Buying Long-Leg Securities Consistent With [Most Consistent With] | | | |
	Risk Framework	Irrational Beliefs Framework	Non-Traditional Preferences Framework	Inconclusive
Sell-Side Analyst Reports	3% [3%]	7% [7%]	10% [9%]	88%
Seeking Alpha Articles	1% [1%]	0% [0%]	0% [0%]	99%

Online Appendix Table A6

Do Analyst and SA Views Reflect Views of the General Investor Population?

This table reports results from regressions of buy-sell order imbalances and DGTW-adjusted stock returns on the tones of sell-side analyst reports and articles published on Seeking Alpha. The buy-sell order imbalances metric captures the net difference between the number of buy orders and sell orders executed for a particular stock within a single trading day. The DGTW-adjusted stock returns are calculated as the deviation between a given stock's raw return on a specific day and the return on a value-weighted portfolio of firms of similar size, book-to-market ratios, and past returns (Daniel, Grinblatt, Titman, and Wermers, 1997). Our sample encompasses 11,693,615 stock/day observations for the buy-sell order imbalances and 12,044,943 stock/day observations for the DGTW-adjusted stock returns. These observations span the time period from January 2006 through October 2021. To construct *Tone* $_{Sell-Side\ Analysts}$, we compute for each stock, at the end of each day, the average tone across all sell-side analyst reports published on the corresponding stock on the corresponding day. Tone is the number of positive words in the report minus the number of negative words divided by the total number of words in the report. We account for negation. To construct *Tone* $_{Seeking\ Alpha}$, we compute for each stock, at the end of each day, the average tone across all Seeking Alpha articles published on the corresponding stock on the corresponding day. *Sentiment* $_{Dow\ Jones\ Newswires}$ is the average composite sentiment score ("CSS") in RavenPack across Dow Jones Newswires on the corresponding stock on the corresponding day. We also construct I $_{Sell-side\ Analysts}$, I $_{Seeking\ Alpha}$, and I $_{Dow\ Jones\ Newswires}$, which equal one if there are sell-side analyst reports, Seeking Alpha articles and Dow Jones Newswires published on the corresponding stock on the corresponding day, respectively. *Tone* $_{Sell-Side\ Analysts}$, *Tone* $_{Seeking\ Alpha}$, and *Sentiment* $_{Dow\ Jones\ Newswires}$ are set to zero when there are no sell-side analyst reports, no Seeking Alpha articles, and no Dow Jones Newswire published on the corresponding stock on the corresponding day, respectively. *T*-statistics are reported in parentheses and are based on standard errors adjusted for heteroscedasticity and clustered by day. *, **, and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

	Buy-Sell Order Imbalances			DGTW-Adjusted Stock Returns		
	(1)	(2)	(3)	(4)	(5)	(6)
Tone $_{Sell-Side\ Analysts}$	0.211***		0.210***	0.443***		0.441***
	(7.88)		(7.86)	(57.63)		(57.49)
Tone $_{Seeking\ Alpha}$		0.217***	0.216***		0.234***	0.212***
		(4.53)	(4.51)		(16.86)	(15.35)
Sentiment $_{Dow\ Jones\ Newswires}$	0.059***	0.060***	0.059***	0.043***	0.044***	0.043***
	(13.08)	(13.21)	(13.08)	(55.65)	(55.95)	(55.63)
I $_{Sell-Side\ Analysts}$	0.020***		0.020***	0.001***		0.001***
	(30.96)		(30.91)	(6.71)		(6.76)
I $_{Seeking\ Alpha}$		0.014***	0.011***		0.000	0.000
		(15.59)	(12.99)		(1.13)	(0.84)
I $_{Dow\ Jones\ Newswires}$	0.023***	0.024***	0.023***	0.001***	0.001***	0.001***
	(20.71)	(22.08)	(20.61)	(14.48)	(15.01)	(14.51)
# Obs.	11,693,615	11,693,615	11,693,615	12,044,943	12,044,943	12,044,943
Adj. R^2	0.001	0.001	0.001	0.002	0.001	0.002