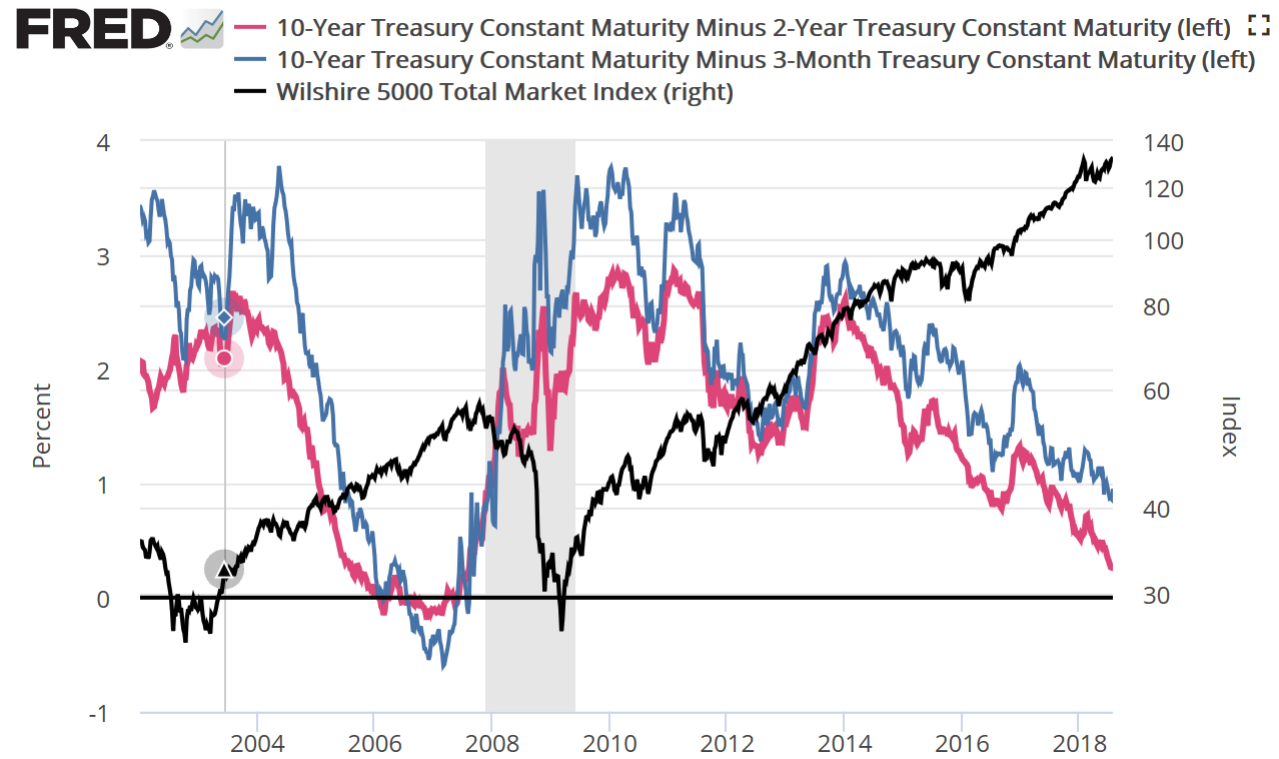


QVM Chartbook: conditions and relative performance

For a disciplined, data driven approach to tactical investing

July 2018 (as of 07/27/2018)

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S&P 500 Revenue & Earnings	Revenue Growth	Non-GAAP Operating Earnings Growth	Earnings Growth minus Revenue Growth
2006 12-Mo Actual	14.74	8.94	(5.80)
2007 12-Mo Actual	(5.91)	7.62	13.52
2008 12-Mo Actual	(40.02)	1.70	41.71
2009 12-Mo Actual	14.85	(12.86)	(27.71)
2010 12-Mo Actual	47.33	5.98	(41.35)
2011 12-Mo Actual	15.12	9.36	(5.76)
2012 12-Mo Actual	0.39	3.76	3.36
2013 12-Mo Actual	10.82	2.24	(8.59)
2104 12-Mo Actual	5.33	4.16	(1.17)
2015 12-Mo Actual	(11.12)	(3.11)	8.01
2016 12-Mo Actual	5.78	2.09	(3.69)
2017 12-Mo Actual	17.17	7.03	(10.14)
2018 Q2 Estimated	9.30	21.23	11.93
2019 Q3 Forecasted	7.70	21.20	13.50
2018 Q4 Forecasted	6.00	18.00	12.00
2018 12-Mo Forecasted	7.90	20.70	12.80
2019 Q1 Forecasted	5.80	7.30	1.50
2019 12-Mo Forecasted	5.10	10.20	5.10

Source: FactSet (July 27,2018) and Standard & Poor's

	S&P 500 2018 EST OPER P/E	S&P 500 5YR PROJ ANNUAL GROWTH %	S&P 500 PEG	MIDCAP 2018 EST OPER P/E	MIDCAP 5YR PROJ ANNUAL GROWTH %	MIDCAP PEG	SMALLCAP 2018 EST OPER P/E	SMALLCAP 5YR PROJ ANNUAL GROWTH %	SMALLCAP PEG
Index	17.93	14.51	1.24	18.95	12.48	1.52	21.20	15.32	1.38
Consumer Discretionary	22.17	23.55	0.94	15.81	13.35	1.18	16.63	19.38	0.86
Consumer Staples	18.38	8.76	2.10	19.00	9.13	2.08	20.06	10.54	1.90
Energy	19.01	27.75	0.69	53.34	18.07	2.95	29.72	16.38	1.81
Financials	13.67	10.60	1.29	14.49	10.52	1.38	15.69	13.01	1.21
Health Care	18.00	11.65	1.55	25.13	15.46	1.63	40.28	17.68	2.28
Industrials	17.08	12.81	1.33	18.44	13.16	1.40	21.21	15.92	1.33
Information Technology	19.76	15.10	1.31	21.70	15.54	1.40	22.16	14.49	1.53
Materials	16.05	12.16	1.32	13.33	14.15	0.94	17.20	16.83	1.02
Telecommunication Services	9.79	8.89	1.10	23.98	5.91	4.05	-196.87	10.46	-18.82
Utilities	16.87	3.56	4.74	21.11	0.00	divide by zero	24.62	-2.15	-11.47
Real Estate	37.25	7.21	5.17	28.29	5.64	5.02	198.63	5.18	38.37

Source: Standard & Poor's (July 278, 2018)

Note	S&P 500 Sector	Proxy ETF	Correlaton To 10-Yr Treas Yield	Forward P/E	5-Yr Av	10-Yr Av	20-Yr Av	EGR ntm	20-Yr Av	Trailing P/E	20-Yr Av
1	Consumer Discretionary	XLY	0.26	21.2	18.4	16.9	18.0	13.8	9.5	21.8	18.9
	Consumer Staples	XLP	(0.37)	17.7	18.9	16.5	17.0	9.4	5.7	20.0	20.7
	Energy	XLE	0.44	17.7	28.3	19.7	17.6	68.4	11.5	19.4	17.4
	Financials	XLF	0.71	12.7	13.1	12.5	12.8	23.9	5.5	14.2	15.5
	Health Care	XLV	(0.02)	15.8	16.0	13.8	17.2	14.7	9.1	28.6	24.1
	Industrials	XLI	0.37	16.5	16.4	14.8	16.2	16.4	6.5	18.8	19.8
1	Information Technology	XLK	(0.20)	19.0	16.2	14.5	20.8	27.2	9.8	27.6	25.6
	Materials	XLB	0.32	15.6	15.0	15.0	14.0	25.3	8.9	21.6	18.6
1	Telecommunication Services	XLC	0.06	9.8	13.9	14.0	16.2	19.3	3.0	6.7	19.5
	Utilities	XLU	(0.53)	16.6	16.4	14.6	14.2	7.8	2.6	17.3	15.8
2	Real Estate	XLRE	(0.58)	17.4			15.2	4.4	2.8	37.4	35.9
	S&P 500	SPY	0.19	16.7	16.2	14.4	16.0	21.1	6.2	20.6	19.5

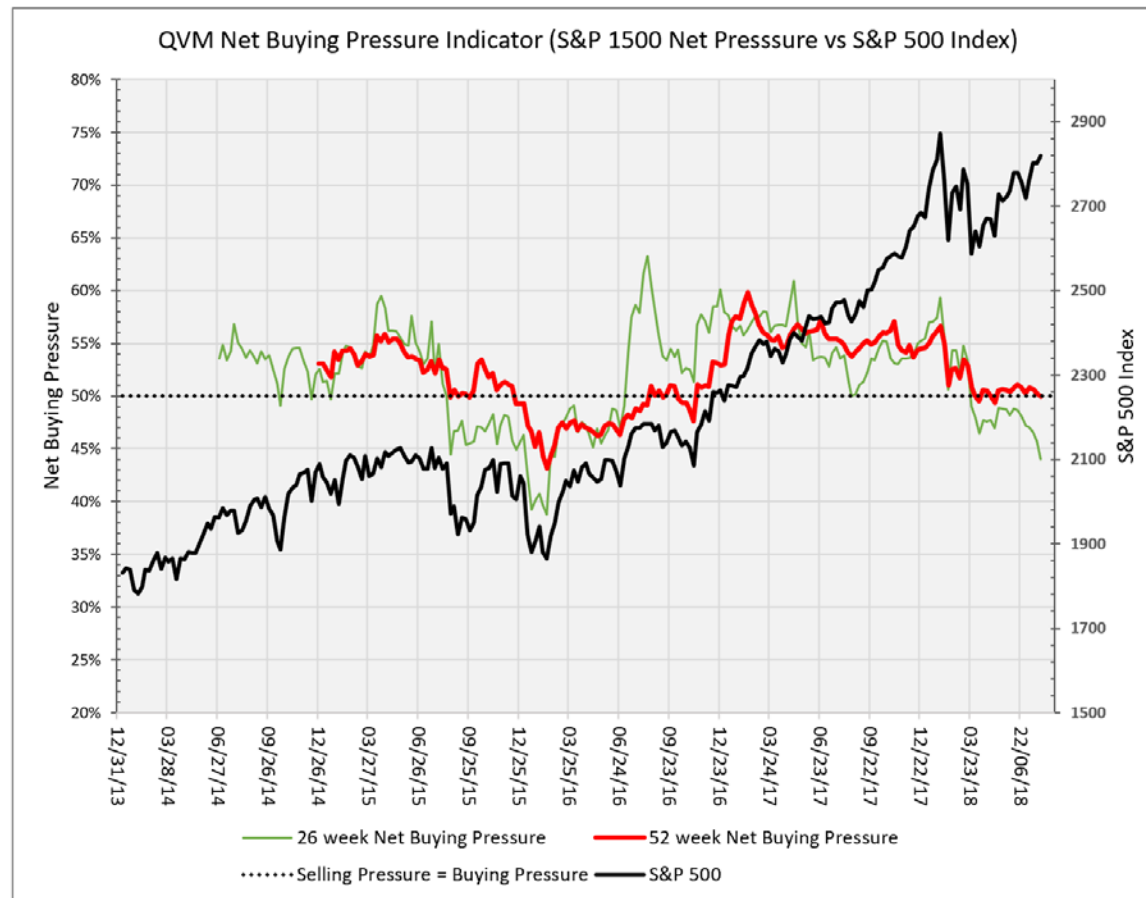
Sources: FactSet and JP Morgan Asset Management

Key Asset Category Representative ETFs		MONTHLY FOUR FACTORS - TREND CONDITION					Pressure Detail	Other Monthly Technical Indicators	
			100 , 50, or 0	50 or (50)	50 or (50)	50 or (50)			
Category Description	Proxy ETF	Intermed. Trend Condition Score	Major Trend 2 Month Tip Direction (10 Mo SMA)	Price vs Major Trend	Buying Pressure	(pSAR) Price vs Pace Over Time	Money Flow Index	OverBought - Oversold Indication (MFI 80,20)	MACD Signal (12,26,9)
US Stocks - Russell Largest 50 (Ultra-Mega-Cap)	XLG	100	UP	ABOVE	Net Buying	Long	66	---	Positive
US Stocks - S&P Largest 100 (Mega-Cap)	OEF	100	UP	ABOVE	Net Buying	Long	66	---	Positive
US Stocks - S&P Largest 500 (Large-Cap)	SPY	100	UP	ABOVE	Net Buying	Long	69	---	Positive
US Stocks - S&P Next Largest 400 (Mid-Cap)	MDY	100	UP	ABOVE	Net Buying	Long	68	---	Positive
US Stocks - S&P Next Largest 600 (Small-Cap)	IJR	100	UP	ABOVE	Net Buying	Long	80	---	Positive
US Stocks - Russell Micro-Cap (smallest 2000 of 4000)	IWC	100	UP	ABOVE	Net Buying	Long	75	---	Positive
US Factor Stocks - MSCI Value Index	VLUE	100	UP	ABOVE	Net Buying	Long	66	---	Positive
US Factor Stocks - MSCI Quality Index	QUAL	100	UP	ABOVE	Net Buying	Long	76	---	Positive
US Factor Stocks - MSCI Minium Volatility Index	USMV	100	UP	ABOVE	Net Buying	Long	69	---	Positive
US Factor Stocks - MSCI Momentum Index	MTUM	100	UP	ABOVE	Net Buying	Long	75	---	Positive
US Dividends Stocks -- Dividend Growth	VIG	100	UP	ABOVE	Net Buying	Long	63	---	Positive
US Dividend Stocks -- High Dividends	VYM	100	UP	BELOW	Net Buying	Long	69	---	Positive
INT'L Dividend Stocks -- World ex US High Yield	VYMI	0	DOWN	BELOW	Net Buying	Short	50	---	Positive
EM Dividend Stocks -- Emerging Markets	DVYE	0	DOWN	BELOW	Net Selling	Short	37	---	Positive
World Stocks - FTSE Global All Cap Index	VT	100	UP	BELOW	Net Buying	Long	58	---	Positive
INT'L Stocks - FTSE Global All-Cap ex US	VXUS	100	UP	BELOW	Net Buying	Long	65	---	Positive
DM Stocks - FTSE Developed Mkts	VEA	100	UP	BELOW	Net Buying	Long	66	---	Positive
DM Stocks - FTSE Europe	VGK	50	DOWN	BELOW	Net Buying	Long	61	---	Positive
DM Stocks - MSCI Japan	EWJ	100	UP	BELOW	Net Buying	Long	63	---	Positive
EM Stocks - FTSE Emerging Mkts	VWO	0	DOWN	BELOW	Net Buying	Short	65	---	Positive
EM Stocks - MSCI China	MCHI	100	UP	BELOW	Net Buying	Long	61	---	Positive
Frontier Mkt Stocks - MSCI Frontier 100	FM	0	DOWN	BELOW	Net Buying	Short	58	---	Positive
Real Assets - US Real Estate	VNQ	0	DOWN	ABOVE	Net Selling	Short	45	---	Negative
Real Assets - Global ex-US Real Estate	VNQI	50	DOWN	BELOW	Net Buying	Long	74	---	Positive
Real Assets - Gold Bullion - World Gold Trust	GLD	50	DOWN	BELOW	Net Buying	Long	53	---	Positive
Commodities - DBIQ Optimum Yld Diver. Commodities	DBC	100	UP	ABOVE	Net Buying	Long	70	---	Positive

Key Asset Category Representative ETFs			Key Fundamental Data						
			Own			All		Loan	
		Intermed. Trend Condition Score							
Category Description	Proxy ETF		P/CF	ROE	Debt/Capital	3-Yr Sharpe Ratio	12-Mo Trailing Yield	30-day SEC Yield	Effective Duration in Years
US Stocks - Russell Largest 50 (Ultra-Mega-Cap)	XLG	100	14.79	23.58	41.80	1.13	1.80	-	-
US Stocks - S&P Largest 100 (Mega-Cap)	OEF	100	14.03	22.73	43.04	1.04	1.88	1.86	-
US Stocks - S&P Largest 500 (Large-Cap)	SPY	100	13.78	21.96	42.63	1.08	1.82	-	-
US Stocks - S&P Next Largest 400 (Mid-Cap)	MDY	100	12.09	15.27	37.99	0.89	1.30	-	-
US Stocks - S&P Next Largest 600 (Small-Cap)	IJR	100	12.45	10.62	34.17	0.96	1.17	1.32	-
US Stocks - Russell Micro-Cap (smallest 2000 of 4000)	IWC	100	-	(0.83)	34.03	0.67	0.99	0.77	-
US Factor Stocks - MSCI Value Index	VLUE	100	8.10	17.66	42.24	0.86	2.24	2.24	-
US Factor Stocks - MSCI Quality Index	QUAL	100	15.01	32.33	36.83	1.13	1.76	1.89	-
US Factor Stocks - MSCI Minium Volatility Index	USMV	100	14.33	23.69	43.04	1.31	1.86	2.01	-
US Factor Stocks - MSCI Momentum Index	MTUM	100	17.85	29.06	44.38	1.46	1.08	1.21	-
US Dividends Stocks -- Dividend Growth	VIG	100	16.43	25.89	43.09	1.15	1.91	2.02	-
US Dividend Stocks -- High Dividends	VYM	100	10.88	21.15	45.22	1.04	2.99	3.19	-
INT'L Dividend Stocks -- World ex US High Yield	VYMI	0	7.80	15.32	36.48	-	3.67	-	-
EM Dividend Stocks -- Emerging Markets	DVYE	0	6.10	20.12	30.68	0.22	5.13	5.50	-
World Stocks - FTSE Global All Cap Index	VT	100	11.36	18.20	37.80	0.76	2.26	-	-
INT'L Stocks - FTSE Global All-Cap ex US	VXUS	100	9.43	15.88	32.10	0.45	2.91	-	-
DM Stocks - FTSE Developed Mkts	VEA	100	9.46	15.45	33.12	0.48	3.06	-	-
DM Stocks - FTSE Europe	VGK	50	10.28	17.58	36.64	0.37	3.44	-	-
DM Stocks - MSCI Japan	EWJ	100	8.57	12.24	28.30	0.50	1.48	1.32	-
EM Stocks - FTSE Emerging Mkts	VWO	0	9.25	17.01	27.86	0.26	2.60	-	-
EM Stocks - MSCI China	MCHI	100	11.20	18.83	27.39	0.39	1.79	0.91	-
Frontier Mkt Stocks - MSCI Frontier 100	FM	0	-	22.87	27.74	0.15	4.19	2.22	-
Real Assets - US Real Estate	VNQ	0	12.67	11.45	50.97	0.55	3.59	-	-
Real Assets - Global ex-US Real Estate	VNQI	50							
Real Assets - Gold Bullion - World Gold Trust	GLD	50	-	-	-	0.14	0.00	-	-
Commodities - DBIQ Optimum Yld Diver. Commodities	DBC	100	-	-	-	(0.02)	0.00	-	-

Key Asset Category Representative ETFs		MONTHLY FOUR FACTORS - TREND CONDITION					Pressure Detail	Other Monthly Technical Indicators	
			100 , 50, or 0	50 or (50)	50 or (50)	50 or (50)			
Category Description	Proxy ETF	Intermed. Trend Condition Score	Major Trend 2 Month Tip Direction (10 Mo SMA)	Price vs Major Trend	Buying Pressure	(pSAR) Price vs Pace Over Time	Money Flow Index	OverBought - Oversold Indication (MFI 80,20)	MACD Signal (12,26,9)
US Gov't Bonds - Bloomberg Barclays US 1–3 Year	VGSH	0	DOWN	BELOW	Net Selling	Short	23	---	Negative
US Gov't Bonds - Bloomberg Barclays US 3-10 Year	VGIT	0	DOWN	BELOW	Net Selling	Short	30	---	Negative
US Gov't Bonds - Bloomberg Barclays US 10+ Year	VGLT	0	DOWN	BELOW	Net Selling	Short	55	---	Negative
US Gov't Bonds - Blmbrg Barclays U.S. Short-Term TIPS	VTIP	0	DOWN	BELOW	Net Selling	Long	38	---	Negative
US Gov't Bonds - Blmbrg Barclays U.S. Total Mkt TIPS	TIP	0	DOWN	BELOW	Net Selling	Short	29	---	Negative
US Corp. Bonds - Bloomberg Barclays 1-5 Yr	VCSH	0	DOWN	BELOW	Net Selling	Short	31	---	Negative
US Corp. Bonds - Bloomberg Barclays 5-10 Yr	VCIT	0	DOWN	BELOW	Net Selling	Short	26	---	Negative
US Corp. Bonds - Bloomberg Barclays 10+ Yr	VCLT	0	DOWN	BELOW	Net Selling	Short	57	---	Negative
US Corp. Bonds - Markit iBox USD Liquid High Yield	HYG	0	DOWN	BELOW	Net Selling	Short	38	---	Negative
US Corporate Perpetual Debt - Preferred Stocks	FPE	0	DOWN	BELOW	Net Selling	Long	33	---	Positive
US Bonds - Bloomberg Barclays US Aggregate	BND	0	DOWN	BELOW	Net Selling	Short	19	OverSold	Negative
INT'L Bonds - Bloomberg Barclays Gbl Agg ex-US	BNDX	0	DOWN	ABOVE	Net Selling	Short	50	---	Positive
EM Bonds -Bloomberg Barclays USD EM Gov't Bonds	VWOB	0	DOWN	BELOW	Net Selling	Short	25	---	Negative
Tax-Exmpt Muni - Short-Term	VWSTX	100	UP	ABOVE	Net Selling	Long	100	OverBought	Positive
Tax-Exmpt Muni - Limited-Term	VMLTX	50	DOWN	ABOVE	Net Selling	Long	100	OverBought	Positive
Tax-Exmpt Muni - Intermediate-Term	VWITX	50	DOWN	ABOVE	Net Selling	Long	100	OverBought	Positive
Tax-Exmpt Muni - Long-Term	VWLTX	100	UP	ABOVE	Net Selling	Long	100	OverBought	Positive
Tax-Exmpt Muni - Below Inv Grade	VWAHX	100	UP	ABOVE	Net Selling	Long	100	OverBought	Positive

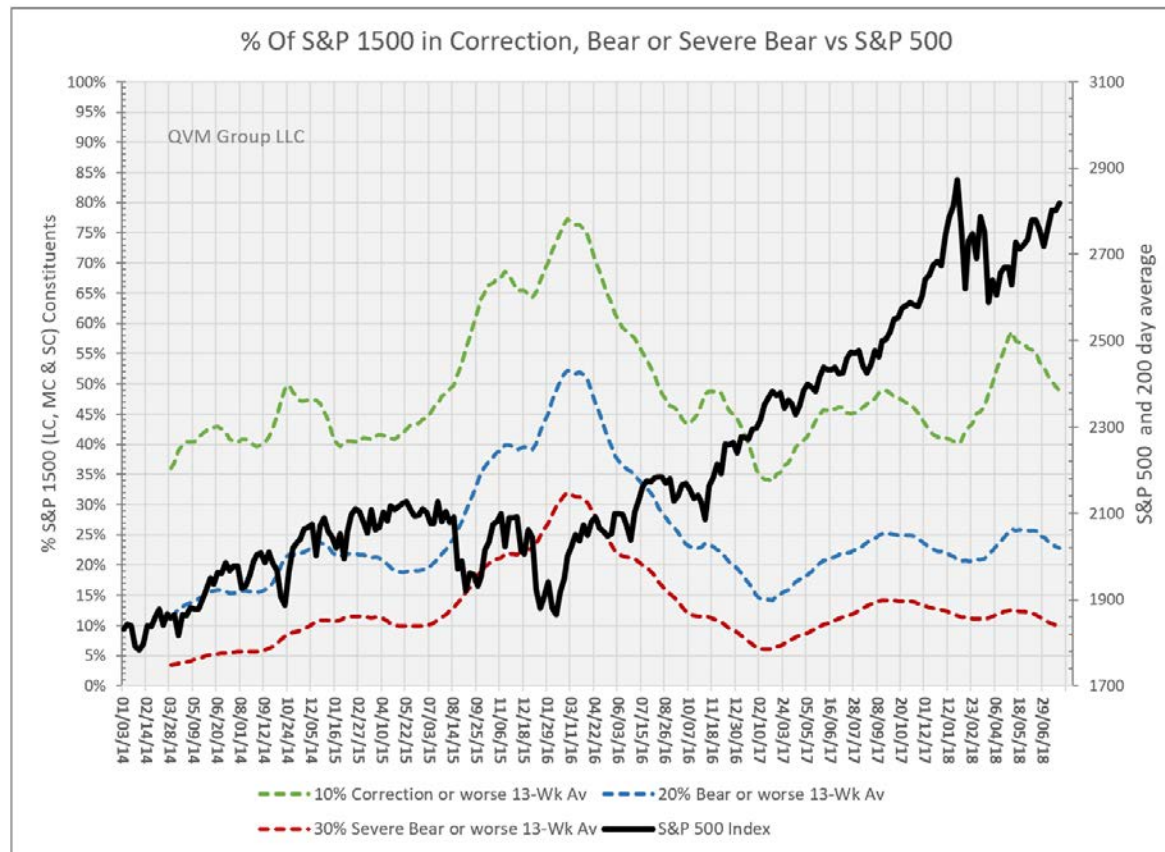
Key Asset Category Representative ETFs			Key Fundamental Data							
		Intermed. Trend Condition Score	Own			All		Loan		
Category Description	Proxy ETF		P/CF	ROE	Debt/Capital	3-Yr Sharpe Ratio	12-Mo Trailing Yield	30-day SEC Yield	Effective Duration in Years	Average Credit Quality
US Gov't Bonds - Bloomberg Barclays US 1–3 Year	VGSH	0	-	-	-	(0.47)	1.34	2.52	1.93	AAA
US Gov't Bonds - Bloomberg Barclays US 3-10 Year	VGIT	0	-	-	-	0.02	1.83	2.73	5.14	AAA
US Gov't Bonds - Bloomberg Barclays US 10+ Year	VGLT	0	-	-	-	0.33	2.67	2.97	17.18	AAA
US Gov't Bonds - Blmbrg Barclays U.S. Short-Term TIPS	VTIP	0	-	-	-	0.26	2.12	0.60	2.58	AAA
US Gov't Bonds - Blmbrg Barclays U.S. Total Mkt TIPS	TIP	0	-	-	-	0.38	2.50	5.39	7.63	AAA
US Corp. Bonds - Bloomberg Barclays 1-5 Yr	VCSH	0	-	-	-	0.57	2.41	3.38	2.79	A
US Corp. Bonds - Bloomberg Barclays 5-10 Yr	VCIT	0	-	-	-	0.51	3.45	4.06	6.36	BBB
US Corp. Bonds - Bloomberg Barclays 10+ Yr	VCLT	0	-	-	-	0.62	4.43	4.61	13.57	A
US Corp. Bonds - Markit iBox USD Liquid High Yield	HYG	0	-	-	-	0.66	5.14	5.84	3.85	B
US Corporate Perpetual Debt - Preferred Stocks	FPE	0	-	-	-	1.27	5.65	4.49	4.25	BB
US Bonds - Bloomberg Barclays US Aggregate	BND	0	-	-	-	0.34	2.63	3.13	6.07	AA
INT'L Bonds - Bloomberg Barclays Gbl Agg ex-US	BNDX	0	-	-	-	1.01	2.22	0.87	7.91	A
EM Bonds -Bloomberg Barclays USD EM Gov't Bonds	VWOB	0	-	-	-	0.61	4.70	5.01	6.20	B
Tax-Exmpt Muni - Short-Term	VWSTX	100	-	-	-	0.13	1.21	1.51	1.11	A
Tax-Exmpt Muni - Limited-Term	VMLTX	50	-	-	-	0.26	1.65	1.86	2.49	A
Tax-Exmpt Muni - Intermediate-Term	VWITX	50	-	-	-	0.56	2.77	2.32	5.13	A
Tax-Exmpt Muni - Long-Term	VWLTX	100	-	-	-	0.74	3.44	2.74	6.75	A
Tax-Exmpt Muni - Below Inv Grade	VWAHX	100	-	-	-	0.93	3.73	3.13	6.85	BBB



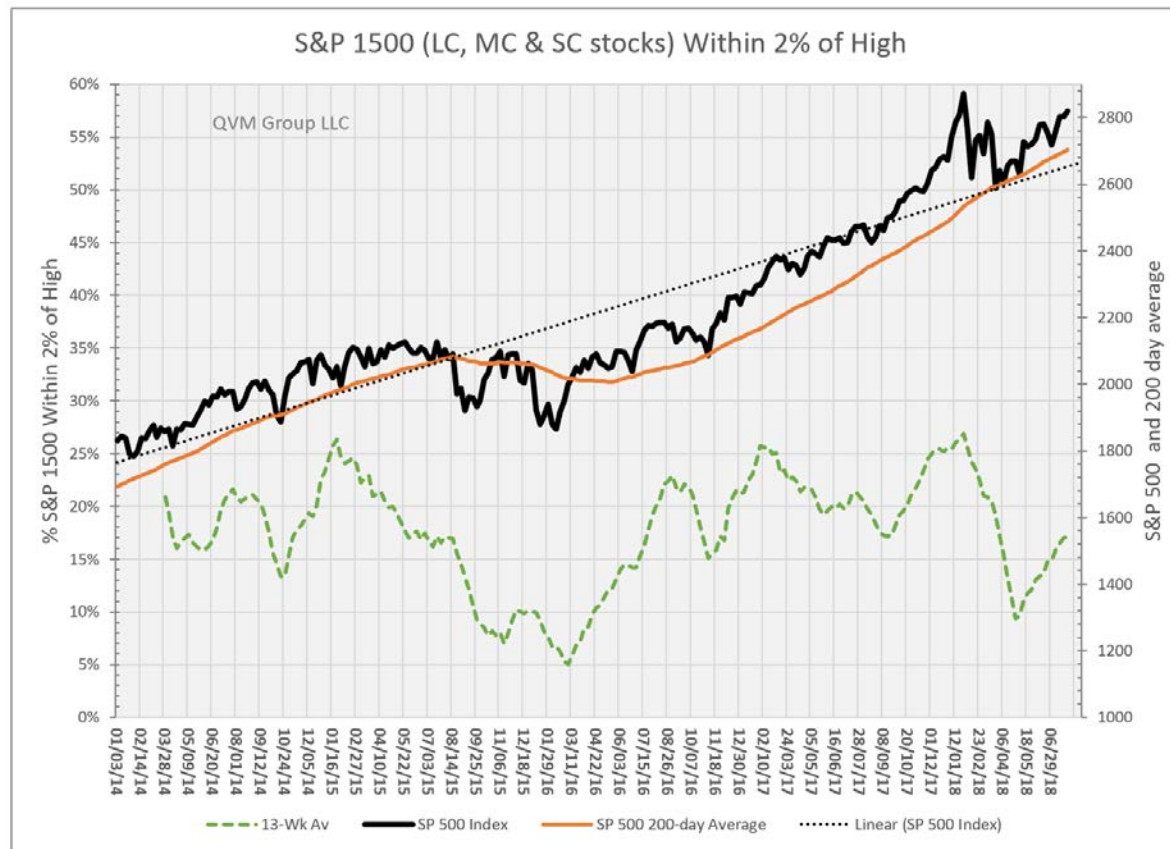
QVM BREADTH INDICATOR								
Buying Pressure (Supply and Demand)								
(for S&P 1500 since January 1, 2014)								
Net Buying Pressure Period	Pressure Minimum	Pressure Median	Pressure Maximum	Pressure Last Wk	Last Wk/ Median	Last Wk / 1 Wk Ago	Last Wk/ 4 Wks Ago	Last Wk/ 13 Wks Ago
1-week Net Pressure	0.90%	55.44%	96.24%	40.62%	0.73	1.10	2.24	0.87
4-week Net Pressure	12.63%	53.46%	89.48%	52.88%	0.99	1.08	1.13	1.03
13-week Net Pressure	30.26%	53.10%	65.39%	53.23%	1.00	0.98	1.01	1.42
26-week Net Pressure	38.78%	53.52%	63.31%	44.00%	0.82	0.96	0.93	0.92
52-week Net Pressure	43.11%	52.59%	59.81%	49.99%	0.95	1.00	0.99	1.00

QVM Group LLC

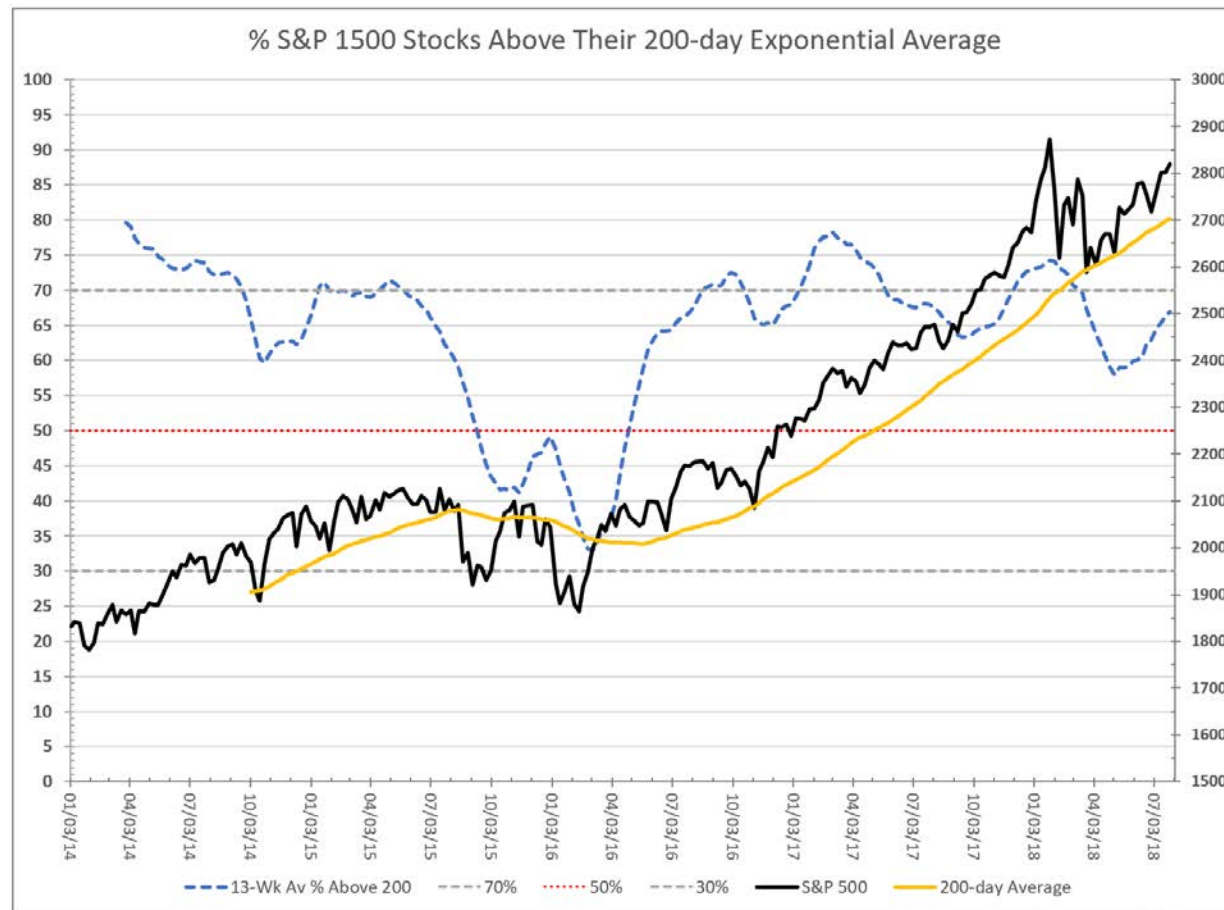
Sum(Vol. x Price Chg for Rising Stocks) / Sum (Vol. x Price Chg Rising and Falling Stocks)



QVM BREADTH INDICATOR								
% of S&P 1500 in 10% Correction or worse, 20% Bear or worse and 30% Severe Bear or worse								
(for S&P 1500 since January 1, 2014)								
% Of S&P 1500 Stocks	Minimum	Median	Maximum	Last Wk	Last Wk/ Median	Last Wk / 1 Wk Ago	Last Wk/ 4 Wks Ago	Last Wk/ 13 Wks Ago
1-WEEK INDICATOR								
in 10% Correction or worse	26.23%	45.92%	87.99%	48.99%	1.07	1.07	0.92	0.84
in 20% Bear or worse	8.37%	21.90%	63.53%	22.67%	1.04	1.06	0.94	0.83
in 30% Severe Bear or worse	2.70%	11.09%	40.88%	9.99%	0.90	1.10	1.07	0.86
13-WEEK INDICATOR								
in 10% Correction or worse	33.78%	46.10%	77.22%	48.86%	1.06	0.99	0.92	0.85
in 20% Bear or worse	11.47%	22.45%	52.20%	22.72%	1.01	0.98	0.93	0.89
in 30% Severe Bear or worse	3.47%	11.40%	31.87%	9.88%	0.87	0.99	0.90	0.79



QVM BREADTH INDICATOR							
% of S&P 1500 within 2% of the 12-Mo High							
(for S&P 1500 since January 1, 2014)							
% Of S&P 1500 Stocks	Minimum	Median	Maximum	Last Wk	Last Wk/ Median	Last Wk / 1 Wk Ago	Last Wk/ 4 Wks Ago
1-WEEK INDICATOR							
within 2% of 1 year high	1.15%	17.74%	42.85%	12.75%	0.72	0.67	1.86
13-WEEK INDICATOR							
within 2% of 1 year high	5.04%	18.30%	26.90%	17.12%	0.94	1.01	1.15



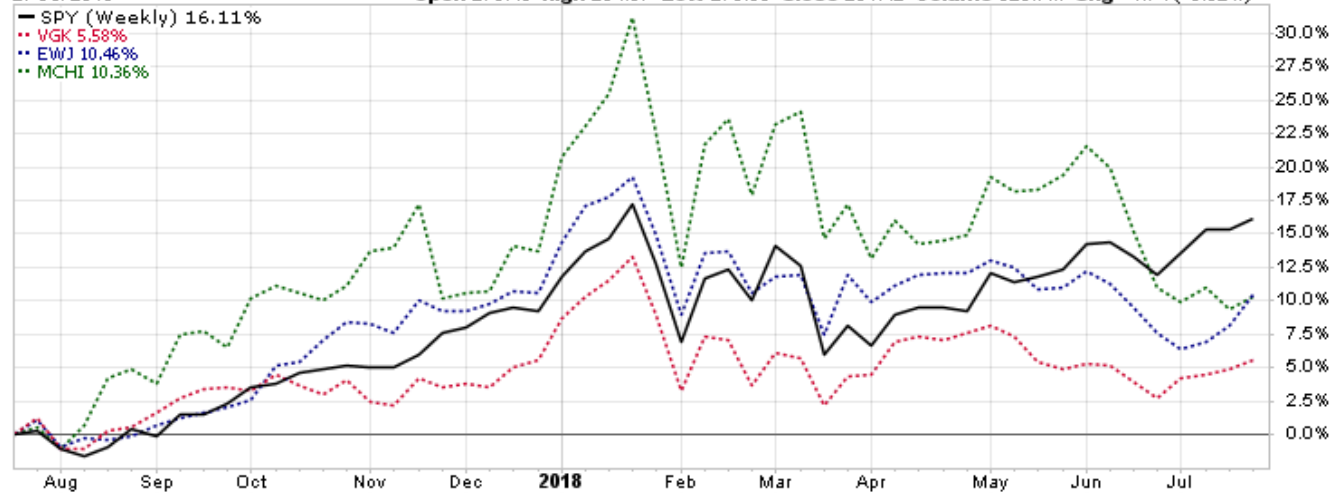
INDEX BREADTH		USA LC	EUROPE	JAPAN	CHINA 600
		S&P 500	STOXX 600	NIKKEI 225	most liquid 600
TREND TIP DIRECTION	% UP	65.74%	53.54%	57.78%	31.67%
PRICE POSITION vs TREND	% ABOVE	61.75%	53.54%	40.00%	21.00%
TREND STRENGTH	% UP & ABOVE	51.99%	43.94%	36.89%	18.00%
% Within 2% of 12-Mo High		15.34%	20.20%	8.44%	2.83%
% in 10% Correction or Worse		44.62%	49.83%	65.78%	90.83%
% in 20% Bear or Worse		16.53%	21.38%	34.67%	75.50%
% in 30% Severe Bear or Worse		5.58%	7.58%	10.67%	51.50%
90th Percentile % OFF HIGH		(0.54)	0.00	(0.68)	(6.05)
90th Percentile % OFF HIGH		(1.17)	(0.38)	(2.85)	(10.70)
75th Percentile % OFF HIGH		(3.62)	(3.15)	(7.95)	(20.31)
50th Percentile (median) % OFF HIGH		(8.68)	(9.93)	(14.79)	(30.63)
25th Percentile % OFF HIGH		(16.23)	(17.99)	(23.14)	(42.64)
10th Percentile % OFF HIGH		(23.89)	(27.21)	(30.46)	(52.32)
5th Percentile % OFF HIGH		(31.03)	(33.87)	(35.05)	(56.77)

QVM Group LLC

SPY SPDR S&P 500 ETF NYSE
27-Jul-2018

Open 279.45 High 284.37 Low 279.06 Close 281.42 Volume 328.7M Chg +1.74 (+0.62%) ▲

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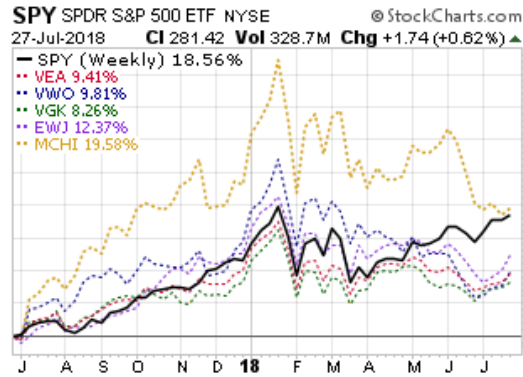


Relative Performance: Position, Direction, Velocity, Acceleration, Relative Volatility

Region, Mkt-Cap, Style, Factors, Fundamentals, Dividends

Symbol	Name	POSITION	DIRECTION		SPREAD to SPY RELATIVE VELOCITY				No Spread Abs. Velocity		No Spread ABS. VELOCITY		TOTAL \$ FLOW ACCELERATION	Ratio to SPY Volatility	Worst DrawDown	Tech Trend
		P vs SMA	200 SMA TIP	1-Yr SLOPE	12-Mo PR	6-Mo PR	3-Mo	1-Mo	12-Mo PR	6-Mo PR	3-Mo	1-Mo	Mo 1-3/4-6	12-Mo	12-Mo	ADX21
SPY	S&P 500 PR Index Benchmark	ABOVE	UP	UP	0.00	0.00	0.00	0.00	13.84	(1.80)	5.57	4.48	0.60	1.00	(10.16)	No, Pos
BND	US Aggregate Bond Index Benchmark	BELOW	UP	DOWN	(17.17)	(0.31)	(5.19)	(4.38)	(3.33)	(0.305)	(5.19)	(4.38)	0.85	0.22	(5.25)	No, Neg
.SPBDUB3T	T-Bill TR Index Benchmark	---	---	---	(12.46)	2.63	(5.11)	(4.32)	1.3833	0.8329	0.47	0.16	---	---	---	---
Regions	VTI Vanguard Total Stock Market Index Fund;ETF	ABOVE	UP	UP	0.44	T-Bills	0.17	(0.35)	14.28	(1.12)	5.75	4.13	0.58	0.98	(9.84)	No, Pos
	VEA Vanguard FTSE Developed Markets ETF	BELOW	UP	UP	(10.33)	T-Bills	T-Bills	(1.09)	3.52	(8.38)	(2.62)	3.39	0.68	0.89	(11.38)	No, Pos
	VWO Vanguard FTSE Emerging Markets Fund ETF	BELOW	UP	UP	(11.60)	T-Bills	T-Bills	1.86	2.24	(14.20)	(4.89)	6.35	0.78	1.27	(19.32)	No, Pos
Market-Cap	XLG Guggenheim S&P 500 Top 50 ETF	ABOVE	UP	UP	0.86	T-Bills	0.87	0.52	14.70	(1.72)	6.45	5.01	0.57	1.07	(10.96)	No, Pos
	IOE iShares S&P 100 ETF	ABOVE	UP	UP	0.06	T-Bills	0.76	0.63	13.90	(2.32)	6.34	5.11	0.57	1.05	(11.26)	No, Pos
	SPY SPDR S&P 500 ETF Trust	ABOVE	UP	UP	0.00	T-Bills	0.00	0.00	13.84	(1.80)	5.57	4.48	0.60	1.00	(10.16)	No, Pos
	MDY SPDR S&P MidCap 400 ETF	ABOVE	UP	UP	(2.37)	T-Bills	(1.13)	(2.72)	11.47	(0.86)	4.45	1.76	0.68	0.97	(9.69)	No, Neg
	IJR iShares Core S&P Small-Cap ETF	ABOVE	UP	UP	6.46	8.26	3.38	(2.04)	20.31	6.46	8.95	2.44	1.12	1.10	(8.72)	No, Neg
	IWC iShares Micro-Cap ETF	ABOVE	UP	UP	4.39	6.91	1.42	T-Bills	18.24	5.11	6.99	(0.66)	1.45	1.10	(9.45)	No, Neg
Style	RPG Guggenheim Invest S&P 500 Pure Growth ETF	ABOVE	UP	UP	7.04	3.88	1.50	(0.51)	20.88	2.08	7.07	3.97	0.96	1.18	(10.32)	No, Neg
	RPV Guggenheim Invest S&P 500 Pure Value ETF	ABOVE	UP	UP	(2.53)	T-Bills	(4.63)	(2.21)	11.31	(4.89)	0.94	2.27	0.65	1.03	(11.45)	No, Pos
	RFG Guggenheim Invest S&P MidCap 400 Pure Growth ETF	ABOVE	UP	UP	(0.11)	T-Bills	(1.58)	(3.18)	13.73	(2.46)	4.00	1.30	0.60	1.13	(10.02)	No, Neg
	RFV Guggenheim Invest S&P MidCap 400 Pure Value ETF	ABOVE	UP	UP	(3.79)	T-Bills	0.50	T-Bills	10.06	(2.85)	6.08	0.11	0.71	1.23	(13.42)	No, Pos
	RZG Guggenheim Invest S&P SmallCap 600 Pure Growth ETF	ABOVE	UP	UP	10.51	9.92	7.41	(0.71)	24.35	8.12	12.98	3.78	1.77	1.25	(10.61)	No, Pos
	RZV Guggenheim Invest S&P SmallCap 600 Pure Value ETF	ABOVE	UP	UP	4.31	3.72	1.18	T-Bills	18.15	1.92	6.75	(1.64)	0.85	1.28	(21.58)	No, Neg
Factors	QUAL iShares Edge MSCI USA Quality Factor ETF	ABOVE	UP	UP	0.52	T-Bills	(0.21)	0.22	14.36	(2.32)	5.37	4.71	0.90	0.99	(9.92)	No, Pos
	VLUE iShares Edge MSCI USA Value Factor ETF	ABOVE	UP	UP	(0.64)	T-Bills	(3.37)	(1.86)	13.20	(5.01)	2.20	2.62	0.62	1.06	(10.53)	No, Neg
	USMV iShares Edge MSCI Min Vol USA ETF	ABOVE	UP	UP	(3.74)	T-Bills	(0.86)	(0.40)	10.10	(0.87)	4.72	4.08	0.66	0.80	(9.17)	No, Pos
	SIZE iShares Edge MSCI USA Size Factor ETF	ABOVE	UP	UP	(4.36)	T-Bills	(1.81)	(1.06)	9.48	(2.18)	3.77	3.42	2.32	0.88	(8.04)	No, Pos
	MTUM iShares Edge MSCI USA Momentum Factor ETF	ABOVE	UP	UP	9.55	T-Bills	(0.01)	0.08	23.39	(0.31)	5.57	4.56	0.84	1.25	(10.23)	No, Neg
	LRGF iShares Edge MSCI Multifactor USA ETF	ABOVE	UP	UP	(0.76)	T-Bills	(2.32)	(0.87)	13.09	(2.63)	3.25	3.61	0.93	0.98	(10.30)	No, Pos
Dividends	VYM Vanguard High Dividend Yield ETF	ABOVE	UP	UP	(5.85)	T-Bills	(2.61)	(0.54)	8.00	(5.53)	2.96	3.95	0.67	0.94	(11.30)	No, Pos
	VIG Vanguard Dividend Appreciation Index Fund;ETF	ABOVE	UP	UP	0.23	T-Bills	(0.43)	(0.25)	14.08	(2.54)	5.14	4.23	0.58	0.95	(9.77)	No, Pos
	SDY SPDR S&P Dividend ETF	ABOVE	UP	UP	(8.09)	T-Bills	(1.66)	(1.10)	5.76	(2.96)	3.91	3.38	0.52	0.85	(9.81)	No, Pos
	QDF FlexShares Quality Dividend Index Fund	ABOVE	UP	UP	(2.39)	T-Bills	(0.96)	(0.92)	11.45	(2.98)	4.61	3.56	1.46	0.94	(10.99)	No, Pos
	SPHD PowerShares S&P 500 High Div Low Volatility Port	ABOVE	UP	DOWN	T-Bills	T-Bills	(2.52)	(3.57)	1.38	(4.83)	3.05	0.91	0.47	0.84	(11.70)	No, Pos
Alts & Real Assets	SCHH Charles Schwab US REIT ETF	ABOVE	UP	DOWN	T-Bills	4.32	(0.16)	T-Bills	(1.56)	2.52	5.42	(0.53)	0.95	1.06	(14.23)	No, Pos
	GLD SPDR Gold Shares ETF	BELOW	UP	DOWN	T-Bills	T-Bills	T-Bills	T-Bills	(3.31)	(9.56)	(7.71)	(2.32)	0.78	0.76	(15.91)	Yes, Neg
	USO United States Oil ETF	ABOVE	UP	UP	28.50	9.96	(1.28)	T-Bills	42.35	8.16	4.30	(2.25)	1.17	1.88	(25.87)	No, Pos
	DBC PowerShares DB Commodity Index Tracking Fund	ABOVE	UP	UP	2.16	T-Bills	T-Bills	T-Bills	16.01	0.00	(1.32)	(1.37)	0.82	1.00	(14.39)	No, Neg

REGION



MKT-CAP



STYLE



FACTORS



DIVIDENDS



ALTS & REAL ASSETS

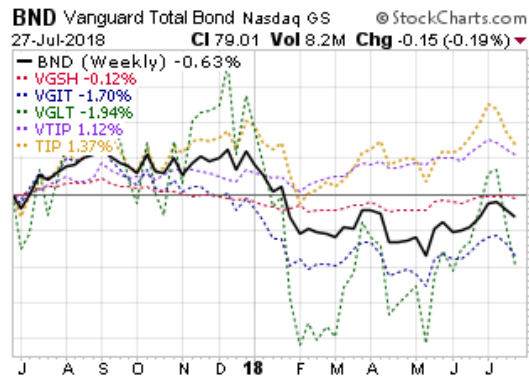


Relative Performance: Position, Direction, Velocity, Acceleration, Relative Volatility

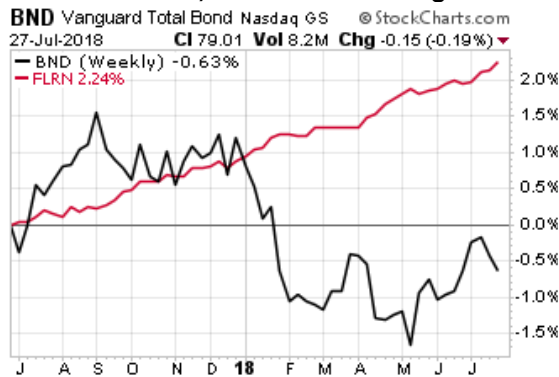
Key Bond Categories

	Symbol	Name	POSITION	DIRECTION		SPREAD to BND				No Spread		No Spread		TOTAL \$ FLOW	Ratio to BND	Worst	Tech
				200 SMA TIP	1-Yr SLOPE	RELATIVE VELOCITY				Abs. Velocity		ABS. VELOCITY		ACCELERATION	Volatility	DrawDown	Trend
			P vs SMA			12-Mo PR	6-Mo PR	3-Mo	1-Mo	12-Mo PR	6-Mo PR	3-Mo	1-Mo	Mo 1-3/4-6	12-Mo	12-Mo	ADX21
	SPY	S&P 500 PR Index Benchmark	ABOVE	UP	UP	17.17	0.31	5.19	4.38	13.84	(1.80)	5.57	4.48	0.60	4.57	(10.16)	No, Pos
	BND	US Aggregate Bond Index Benchmark	BELOW	UP	DOWN	0.00	0.00	0.00	0.00	(3.33)	(2.11)	0.38	0.10	0.85	1.00	(5.25)	No, Neg
	SP8DUB3T	T-Bill TR Index Benchmark	---	---	---	4.71	2.94	0.09	0.06	1.38	0.83	0.47	0.16	---	---	---	---
US Gov't Bonds	BIL	SPDR Barclays 1-3 Month T-Bill ETF	ABOVE	UP	UP	0.10	0.05	0.02	0.01	0.10	0.05	0.02	0.01	0.74	0.15	(0.15)	No, Pos
	VGSH	Vanguard Short-Term Government Bond	BELOW	UP	DOWN	T-Bills	T-Bills	T-Bills	T-Bills	(1.66)	(0.48)	(0.12)	(0.20)	1.78	0.33	(1.99)	No, Neg
	VGIT	Vanguard Intermediate-Term Govt Bd I	BELOW	UP	DOWN	T-Bills	T-Bills	T-Bills	T-Bills	(3.80)	(1.39)	0.00	(0.65)	2.03	0.99	(5.60)	No, Neg
	VGLT	Vanguard Long-Term Government Bond	BELOW	UP	DOWN	T-Bills	T-Bills	T-Bills	T-Bills	(3.37)	(3.20)	0.45	(2.09)	1.07	3.34	(16.17)	No, Neg
	VTIP	Vanguard Sht-Term Inflation-Protected	BELOW	UP	DOWN	T-Bills	T-Bills	T-Bills	T-Bills	(1.24)	0.02	(0.23)	(0.22)	0.53	0.68	(2.28)	No, Neg
	TIP	iShares TIPS Bond ETF	BELOW	UP	DOWN	T-Bills	T-Bills	T-Bills	T-Bills	(1.46)	(1.45)	(0.70)	(1.11)	0.75	1.17	(4.65)	No, Neg
	VMBS	Vanguard Mortgage-Backed Secs Idx F	BELOW	UP	DOWN	T-Bills	T-Bills	T-Bills	T-Bills	(2.83)	(1.50)	0.06	(0.31)	1.49	0.84	(4.35)	No, Neg
US IG Float	FLRN	SPDR Barclays Invest Grade Floating Ra	ABOVE	UP	UP	0.10	0.02	(0.03)	0.03	0.10	0.02	(0.03)	0.03	1.11	0.34	(0.52)	Yes, Pos
US Corp. Debt	VCSH	Vanguard Short-Term Corporate Bond	BELOW	UP	DOWN	T-Bills	T-Bills	T-Bills	T-Bills	(2.54)	(1.18)	0.03	(0.06)	0.73	0.49	(3.14)	No, Pos
	VCIT	Vanguard Intermediate-Term Corp Bon	BELOW	UP	DOWN	T-Bills	T-Bills	T-Bills	0.20	(4.67)	(3.23)	0.16	0.30	0.72	1.12	(6.59)	No, Pos
	VCLT	Vanguard Long-Term Corporate Bond I	BELOW	UP	DOWN	T-Bills	T-Bills	T-Bills	1.43	(4.68)	(6.47)	0.05	1.53	0.98	2.51	(9.97)	No, Pos
	HYG	iShares iBoxx \$ High Yield Corporate Bo	BELOW	UP	DOWN	T-Bills	T-Bills	T-Bills	0.35	(3.36)	(2.11)	0.17	0.46	0.75	1.55	(4.71)	No, Pos
	PFF	iShares US Preferred Stock ETF	BELOW	UP	DOWN	T-Bills	T-Bills	0.97	T-Bills	(4.03)	(0.79)	1.35	0.13	0.95	1.41	(8.42)	No, Pos
Tax-Exempt Muni Bonds	MEAR	iShares Short Maturity Municipal Bond	ABOVE	UP	DOWN	T-Bills	T-Bills	T-Bills	T-Bills	(0.16)	0.36	0.32	0.06	1.27	0.49	(1.08)	Yes, Neg
	SUB	iShares Short-Term National Muni Bon	ABOVE	UP	DOWN	T-Bills	T-Bills	0.45	0.09	(0.73)	0.20	0.83	0.19	0.80	0.38	(1.90)	Yes, Pos
	SHM	SPDR Nuveen Barclays Short Term Mur	ABOVE	UP	DOWN	T-Bills	T-Bills	0.48	T-Bills	(1.60)	(0.17)	0.86	0.00	0.69	0.53	(2.78)	No, Neg
	MUB	iShares National Muni Bond ETF	BELOW	UP	DOWN	T-Bills	T-Bills	0.62	T-Bills	(1.63)	(0.69)	1.00	(0.09)	0.94	0.85	(5.99)	No, Pos
	HYD	VanEck Vectors High-Yield Municipal In	ABOVE	UP	UP	4.71	T-Bills	1.07	T-Bills	1.38	0.67	1.45	0.13	0.65	1.23	(11.51)	No, Pos
Int'l	BND	Vanguard Total Bond Market Index Fun	BELOW	UP	DOWN	T-Bills	T-Bills	T-Bills	T-Bills	(3.33)	(2.11)	0.38	0.10	0.85	1.00	(5.25)	No, Neg
	BNDX	Vanguard Total International Bond Ind	ABOVE	UP	DOWN	T-Bills	3.07	T-Bills	T-Bills	0.59	0.96	0.20	(0.09)	1.10	0.85	(4.54)	No, Neg
	VWOB	Vanguard Emerging Markets Govt Bd Ic	BELOW	UP	DOWN	T-Bills	T-Bills	T-Bills	1.64	(4.68)	(4.56)	(0.79)	1.74	0.92	1.45	(8.13)	No, Pos

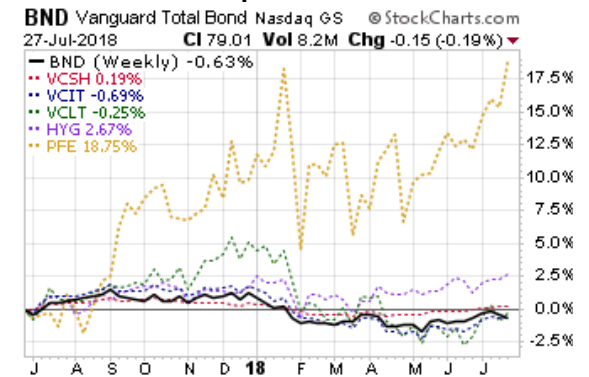
US Government Bonds



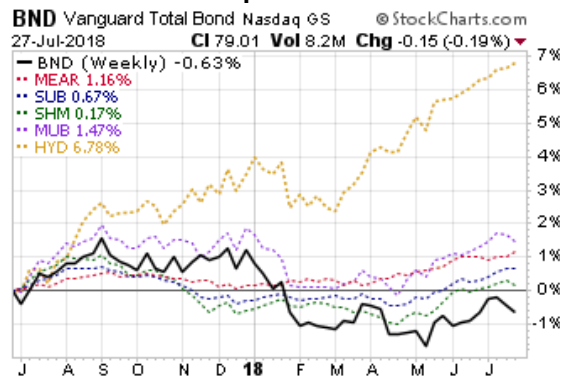
US Ultra-Short, Inv Grade Floating Rate



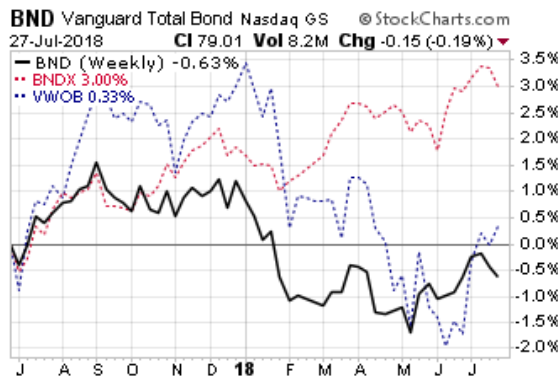
US Corporate Bonds



Municipal Bonds



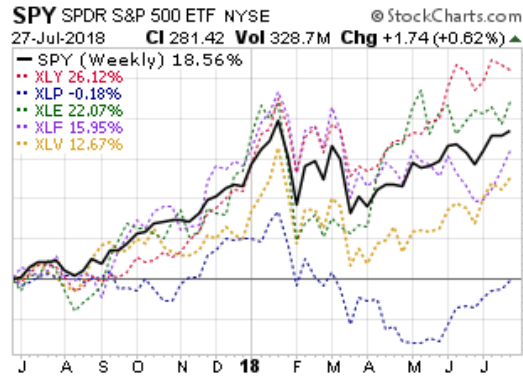
International Bonds



Relative Performance: Position, Direction, Velocity, Acceleration, Relative Volatility

US Sectors

					SPREAD to SPY				No Spread		No Spread		TOTAL \$ FLOW	Ratio to SPY	Worst	Tech	
			POSITION	DIRECTION		RELATIVE VELOCITY				Abs. Velocity		ABS. VELOCITY		ACCELERATION	Volatility	DrawDown	Trend
	Symbol	Name	P vs SMA	200 SMA TIP	1-Yr SLOPE	12-Mo PR	6-Mo PR	3-Mo	1-Mo	12-Mo PR	6-Mo PR	3-Mo	1-Mo	Mo 1-3/4-6	12-Mo	12-Mo	ADX21
	SPY	S&P 500 PR Index Benchmark	ABOVE	UP	UP	0.00	0.00	0.00	0.00	13.84	(1.80)	5.57	4.48	0.60	1.00	(10.16)	No, Pos
	BND	US Aggregate Bond Index Benchmark	BELOW	UP	DOWN	(17.17)	(0.31)	(5.19)	(4.38)	(3.33)	(0.305)	(5.19)	(4.38)	0.85	0.22	(5.25)	No, Neg
	.SPBDUB3T	T-Bill TR Index Benchmark	---	---	---	(12.46)	2.63	(5.11)	(4.32)	1.3833	0.8329	0.47	0.16	---	---	---	---
Large-Cap Sectors	SPY	SPDR S&P 500 ETF Trust	ABOVE	UP	UP	0.00	T-Bills	0.00	0.00	13.84	(1.80)	5.57	4.48	0.60	1.00	(10.16)	No, Pos
	XLV	Consumer Discretionary Select Sector SPDR Fund	ABOVE	UP	UP	7.39	4.22	1.66	(1.36)	21.23	2.42	7.23	3.12	0.72	1.07	(9.70)	No, Pos
	XLP	Consumer Staples Select Sector SPDR Fund	BELOW	UP	DOWN	T-Bills	T-Bills	(0.43)	(0.95)	(4.35)	(9.08)	5.14	3.53	0.79	0.95	(16.57)	Yes, Pos
	XLE	Energy Select Sector SPDR Fund	ABOVE	UP	UP	1.30	T-Bills	(1.77)	(3.08)	15.15	(1.14)	3.81	1.40	0.94	1.37	(20.34)	No, Pos
	XLF	Financial Select Sector SPDR Fund	ABOVE	UP	UP	(0.92)	T-Bills	(4.02)	2.23	12.93	(6.76)	1.55	6.71	0.80	1.32	(12.63)	No, Pos
	XLV	Health Care Select Sector SPDR Fund	ABOVE	UP	UP	(3.28)	T-Bills	(0.28)	1.27	10.56	(3.91)	5.29	5.75	0.77	1.10	(13.10)	No, Pos
	XLI	Industrial Select Sector SPDR Fund	ABOVE	UP	UP	(2.46)	T-Bills	(1.72)	2.01	11.39	(5.76)	3.85	6.49	0.73	1.17	(11.65)	No, Pos
	XLK	Technology Select Sector SPDR Fund	ABOVE	UP	UP	11.11	5.65	3.47	0.16	24.96	3.84	9.05	4.65	0.78	1.34	(10.38)	No, Neg
	XLC	Communications Services (NEW)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	XLB	Materials Select Sector SPDR Fund	BELOW	UP	UP	(6.53)	T-Bills	(2.91)	(1.62)	7.31	(7.47)	2.67	2.86	0.73	1.21	(13.09)	No, Pos
	XLRE	Real Estate Select Sector SPDR Fund	ABOVE	UP	DOWN	T-Bills	2.70	(0.93)	(4.05)	(0.64)	0.90	4.64	0.43	0.55	1.01	(13.30)	No, Pos
	XLU	Utilities Select Sector SPDR Fund	ABOVE	UP	DOWN	T-Bills	4.94	(3.78)	(3.06)	(0.90)	3.13	1.80	1.43	0.83	1.02	(16.37)	No, Pos
Large-Cap & Mid-Cap Sectors	VTI	Vanguard Total Stock Market Index Fund;ETF	ABOVE	UP	UP	0.44	T-Bills	0.17	(0.35)	14.28	(1.12)	5.75	4.13	0.58	0.98	(9.84)	No, Pos
	VCR	Vanguard Consumer Discretionary Index Fund;ETF	ABOVE	UP	UP	4.99	2.72	0.71	(2.31)	18.83	0.92	6.29	2.17	0.68	1.04	(9.92)	No, Neg
	VDC	Vanguard Consumer Staples Index Fund;ETF	ABOVE	UP	DOWN	T-Bills	T-Bills	(0.59)	(2.21)	(3.24)	(8.19)	4.98	2.27	0.88	0.94	(15.59)	No, Pos
	VDE	Vanguard Energy Index Fund;ETF	ABOVE	UP	UP	2.26	T-Bills	(1.50)	(4.28)	16.11	(0.46)	4.08	0.20	0.83	1.44	(22.31)	No, Pos
	VFH	Vanguard Financials Index Fund;ETF	ABOVE	UP	UP	(1.43)	T-Bills	(3.94)	0.87	12.41	(5.48)	1.63	5.36	0.76	1.27	(10.38)	No, Pos
	VHT	Vanguard Health Care Index Fund;ETF	ABOVE	UP	UP	(0.76)	T-Bills	0.72	0.57	13.08	(2.09)	6.30	5.05	0.64	1.11	(12.29)	No, Pos
	VIS	Vanguard Industrials Index Fund;ETF	ABOVE	UP	UP	(2.52)	T-Bills	(1.25)	0.92	11.33	(5.03)	4.32	5.40	0.75	1.15	(11.17)	No, Pos
	VGT	Vanguard Information Technology Index Fund;ETF	ABOVE	UP	UP	14.19	7.27	4.53	0.67	28.03	5.47	10.11	5.15	0.64	1.35	(10.31)	No, Neg
	VAW	Vanguard Materials Index Fund;ETF	ABOVE	UP	UP	(5.70)	T-Bills	(2.87)	(1.80)	8.14	(6.78)	2.71	2.68	0.46	1.17	(12.85)	No, Neg
	VNQ	Vanguard REIT Index Fund;ETF	ABOVE	UP	DOWN	T-Bills	2.87	(0.14)	T-Bills	(4.55)	1.07	5.43	0.01	0.76	1.03	(15.74)	No, Pos
	VOX	Vanguard Telecommunication Services Index Fund;ETF	BELOW	UP	DOWN	T-Bills	T-Bills	T-Bills	T-Bills	(10.43)	(8.97)	(3.20)	(0.31)	0.77	1.25	(19.46)	No, Neg
	VPU	Vanguard Utilities Index Fund;ETF	ABOVE	UP	DOWN	T-Bills	5.60	(3.51)	(4.14)	0.30	3.80	2.06	0.34	0.72	1.00	(15.79)	No, Pos

S&P 500 LC Sectors**S&P 500 LC Sectors****MSCI LC+MC Sectors****MSCI LC+MC Sectors****MSCI LC+MC Sectors**

Relative Performance: Position, Direction, Velocity, Acceleration, Relative Volatility

Regions, Sub-Regions, 10 Top DM and 10 Top EM Countries

			POSITION	DIRECTION		SPREAD to SPY				No Spread		No Spread		TOTAL \$ FLOW	Ratio to SPY	Worst	Tech
						RELATIVE VELOCITY				Abs. Velocity		ABS. VELOCITY		ACCELERATION	Volatility	DrawDown	Trend
Symbol	Name	P vs SMA	200 SMA TIP	1-Yr SLOPE	12-Mo PR	6-Mo PR	3-Mo	1-Mo	12-Mo PR	6-Mo PR	3-Mo	1-Mo	Mo 1-3/4-6	12-Mo	12-Mo	ADX21	
SPY	S&P 500 PR Index Benchmark	ABOVE	UP	UP	0.00	0.00	0.00	0.00	13.84	(1.80)	5.57	4.48	0.60	1.00	(10.16)	No, Pos	
BND	US Aggregate Bond Index Benchmark	BELOW	UP	DOWN	(17.17)	(0.31)	(5.19)	(4.38)	(3.33)	(0.305)	(5.19)	(4.38)	0.85	0.22	(5.25)	No, Neg	
.SPBDUB3T	T-Bill TR Index Benchmark	---	---	---	(12.46)	2.63	(5.11)	(4.32)	1.3833	0.8329	0.47	0.16	---	---	---	---	
Regions	VT	Vanguard Total World Stock Index Fund;ETF	ABOVE	UP	UP	(5.03)	T-Bills	(4.22)	(0.61)	8.81	(5.37)	1.36	3.87	0.59	0.92	(9.88)	No, Neg
	VTI	Vanguard Total Stock Market Index Fund;ETF	ABOVE	UP	UP	0.44	T-Bills	0.17	(0.35)	14.28	(1.12)	5.75	4.13	0.58	0.98	(9.84)	No, Pos
	VXUS	Vanguard Total International Stock Index Fund;ETF	BELOW	UP	UP	(10.54)	T-Bills	T-Bills	(0.62)	3.30	(9.45)	(2.98)	3.86	0.74	0.94	(12.82)	No, Pos
Sub-Reg.	VGK	Vanguard FTSE Europe ETF	BELOW	UP	UP	(11.67)	T-Bills	T-Bills	(0.37)	2.18	(9.10)	(3.32)	4.11	0.75	0.96	(12.69)	No, Pos
	VVO	Vanguard FTSE Emerging Markets Fund ETF	BELOW	UP	UP	(11.60)	T-Bills	T-Bills	1.86	2.24	(14.20)	(4.89)	6.35	0.78	1.27	(19.32)	No, Pos
	FM	iShares MSCI Frontier 100 ETF	BELOW	UP	UP	T-Bills	T-Bills	T-Bills	(1.67)	0.27	(17.72)	(11.17)	2.81	1.03	1.09	(21.85)	Yes, Neg
Top 10 DM Countries	EWJ	iShares MSCI Japan ETF	BELOW	UP	UP	(4.64)	T-Bills	T-Bills	(2.07)	9.21	(8.10)	(2.22)	2.41	0.64	1.01	(12.12)	No, Pos
	EWU	iShares MSCI United Kingdom ETF	BELOW	UP	UP	(11.55)	T-Bills	T-Bills	(2.96)	2.29	(8.18)	(4.29)	1.52	0.55	0.99	(10.45)	No, Neg
	EWQ	iShares MSCI France ETF	BELOW	UP	UP	(7.10)	T-Bills	T-Bills	(0.01)	6.74	(6.55)	(3.84)	4.47	0.96	1.04	(10.55)	No, Pos
	EWG	iShares MSCI Germany ETF	BELOW	UP	DOWN	(11.59)	T-Bills	T-Bills	0.84	2.26	(12.07)	(4.29)	5.33	0.78	1.17	(17.17)	No, Neg
	EWK	iShares MSCI Canada ETF	ABOVE	UP	UP	(9.27)	T-Bills	(2.63)	(0.62)	4.57	(4.22)	2.94	3.86	0.66	0.92	(10.98)	No, Pos
	EWL	iShares MSCI Switzerland Capped ETF	BELOW	UP	DOWN	T-Bills	T-Bills	(4.67)	3.26	0.29	(8.53)	0.91	7.74	0.46	0.88	(15.10)	No, Pos
	EWA	iShares MSCI Australia ETF	ABOVE	UP	DOWN	T-Bills	T-Bills	(3.52)	(1.55)	0.35	(5.27)	2.06	2.93	0.64	1.13	(10.24)	No, Pos
	EWY	iShares MSCI South Korea Capped ETF	BELOW	UP	UP	T-Bills	T-Bills	T-Bills	T-Bills	(6.21)	(15.76)	(12.50)	(0.31)	0.80	1.67	(17.79)	Yes, Neg
	EWH	iShares MSCI Hong Kong ETF	BELOW	UP	UP	(11.56)	T-Bills	T-Bills	(1.77)	2.29	(8.51)	(3.34)	2.71	0.83	1.11	(13.21)	No, Neg
EWN	iShares MSCI Netherlands ETF	BELOW	UP	UP	(10.08)	T-Bills	T-Bills	0.69	3.76	(6.79)	(1.89)	5.17	0.93	0.96	(11.37)	No, Pos	
Top 10 EW Countries	MCHI	iShares MSCI China ETF	BELOW	UP	UP	(4.43)	T-Bills	T-Bills	(2.53)	9.41	(16.23)	(4.02)	1.95	0.96	1.73	(18.08)	No, Neg
	EWT	iShares MSCI Taiwan ETF	ABOVE	UP	DOWN	(11.59)	T-Bills	(1.69)	2.68	2.25	(3.78)	3.89	7.17	0.85	1.29	(10.55)	No, Pos
	INDA	iShares MSCI India ETF	ABOVE	UP	DOWN	(10.80)	T-Bills	(4.95)	3.27	3.05	(7.57)	0.63	7.75	0.94	1.36	(15.50)	No, Pos
	EWZ	iShares MSCI Brazil Capped ETF	BELOW	UP	DOWN	T-Bills	T-Bills	T-Bills	14.00	(1.05)	(22.40)	(14.70)	18.48	1.43	2.19	(34.50)	Yes, Neg
	EZA	iShares MSCI South Africa ETF	BELOW	UP	UP	T-Bills	T-Bills	T-Bills	7.52	(0.79)	(20.91)	(10.54)	12.00	0.85	2.24	(29.39)	No, Neg
	THD	iShares MSCI Thailand Capped ETF	BELOW	UP	UP	(2.30)	T-Bills	T-Bills	2.76	11.54	(11.97)	(10.51)	7.24	0.80	1.21	(19.86)	Yes, Neg
	RSX	VanEck Vectors Russia ETF	BELOW	UP	UP	(7.43)	T-Bills	(5.06)	(0.50)	6.41	(9.36)	0.52	3.98	0.67	1.82	(17.85)	No, Neg
	EWM	iShares MSCI Malaysia ETF	BELOW	UP	UP	(11.58)	T-Bills	T-Bills	2.07	2.26	(9.82)	(8.50)	6.55	0.91	1.29	(16.31)	Yes, Neg
	EWV	iShares MSCI Mexico Capped ETF	ABOVE	UP	DOWN	T-Bills	T-Bills	T-Bills	9.24	(8.41)	(4.07)	0.39	13.73	1.06	1.60	(24.02)	Yes, Pos
EIDO	iShares MSCI Indonesia ETF	BELOW	UP	DOWN	T-Bills	T-Bills	T-Bills	2.10	(9.73)	(21.07)	(5.49)	6.58	0.93	1.53	(28.14)	No, Neg	

DM Largest Mkts 1-5



DM Largest Mkts 6-10



EM Largest Mkts 1-5



EM Largest Mkts 6-10

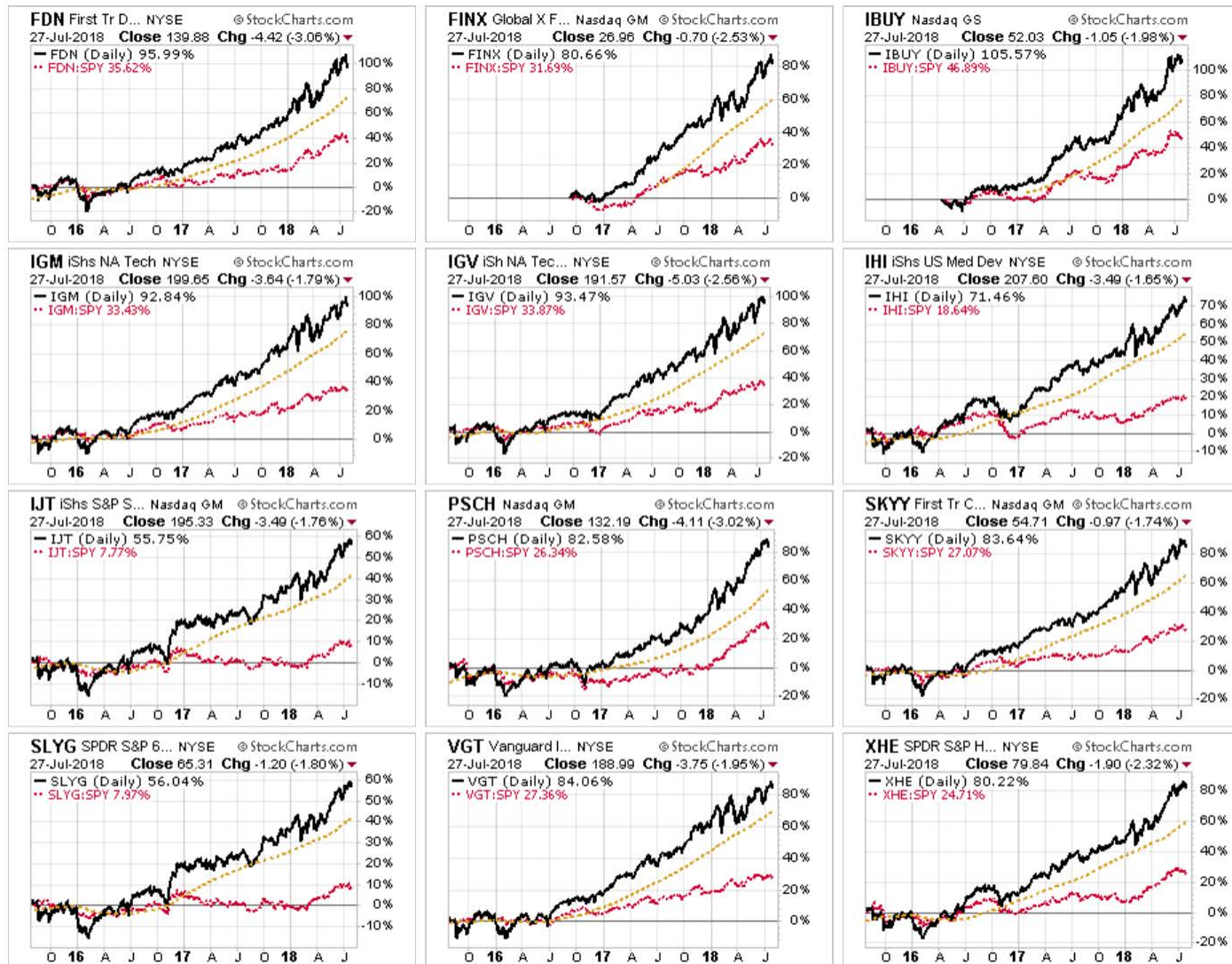


Relative Performance: Position, Direction, Velocity, Acceleration, Relative Volatility

Highest Momentum Long-Only ETFs with Most Attractive Price Chart Curves

Symbol	Name	POSITION	DIRECTION		SPREAD to SPY RELATIVE VELOCITY				No Spread Abs. Velocity		No Spread ABS. VELOCITY		TOTAL \$ FLOW ACCELERATION	Ratio to SPY Volatility	Worst DrawDown	Tech Trend
		P vs SMA	200 SMA TIP	1-Yr SLOPE	12-Mo PR	6-Mo PR	3-Mo	1-Mo	12-Mo PR	6-Mo PR	3-Mo	1-Mo	Mo 1-3/4-6	12-Mo	12-Mo	ADX21
SPY	S&P 500 PR Index Benchmark	ABOVE	UP	UP	0.00	0.00	0.00	0.00	13.84	(1.80)	5.57	4.48	0.60	1.00	(10.16)	No, Pos
BND	US Aggregate Bond Index Benchmark	BELOW	UP	DOWN	(17.17)	(0.31)	(5.19)	(4.38)	(3.33)	(0.305)	(5.19)	(4.38)	0.85	0.22	(5.25)	No, Neg
.SPBDUB3T	T-Bill TR Index Benchmark	---	---	---	(12.46)	2.63	(5.11)	(4.32)	1.3833	0.8329	0.47	0.16	---	---	---	---
FINX	Global X FinTech Thematic ETF	ABOVE	UP	UP	22.61	13.21	9.30	0.22	36.45	11.41	14.87	4.70	2.83	1.24	#N/A	No, Neg
IGV	iShares North American Tech-Software ETF	ABOVE	UP	UP	20.36	13.80	4.57	2.71	34.20	12.00	10.15	7.20	1.30	1.43	(9.01)	No, Neg
IGM	iShares North American Tech ETF	ABOVE	UP	UP	17.38	9.08	4.31	0.33	31.23	7.28	9.89	4.81	0.96	1.38	(10.20)	No, Neg
VGT	Vanguard Information Technology Index Fund;ETF	ABOVE	UP	UP	14.19	7.27	4.53	0.67	28.03	5.47	10.11	5.15	0.64	1.35	(10.31)	No, Neg
XAR	SPDR S&P Aerospace & Defense ETF	ABOVE	UP	UP	12.78	5.30	1.16	2.69	26.63	3.50	6.73	7.17	0.63	1.24	(8.85)	No, Pos
PSCH	PowerShares S&P SmallCap Health Care ETF	ABOVE	UP	UP	39.52	20.27	8.85	(1.00)	53.36	18.47	14.42	3.48	2.21	1.35	(17.32)	No, Neg
IBUY	Amplify Online Retail ETF	ABOVE	UP	UP	26.51	16.48	10.25	(1.41)	40.36	14.68	15.83	3.07	1.39	1.40	(8.51)	Yes, Pos
FDN	First Trust Dow Jones Internet Index Fund	ABOVE	UP	UP	25.81	16.06	7.27	(1.55)	39.66	14.26	12.84	2.94	1.05	1.43	(10.68)	No, Neg
SKYY	First Trust ISE Cloud Computing Index Fund	ABOVE	UP	UP	19.60	11.40	3.41	(0.13)	33.44	9.60	8.98	4.35	0.73	1.24	(9.46)	No, Neg
XHE	SPDR S&P Health Care Equipment ETF	ABOVE	UP	UP	16.27	14.51	5.58	(2.21)	30.12	12.70	11.15	2.27	3.97	1.18	(11.94)	No, Neg
IHI	iShares US Medical Devices ETF	ABOVE	UP	UP	11.56	8.99	3.23	(0.16)	25.41	7.19	8.81	4.32	1.48	1.16	(11.61)	No, Pos
IUT	iShares S&P Small-Cap 600 Growth ETF	ABOVE	UP	UP	9.60	10.58	5.36	(0.65)	23.44	8.78	10.93	3.83	1.32	1.14	(9.29)	No, Pos

Best Looking 3-Year Charts

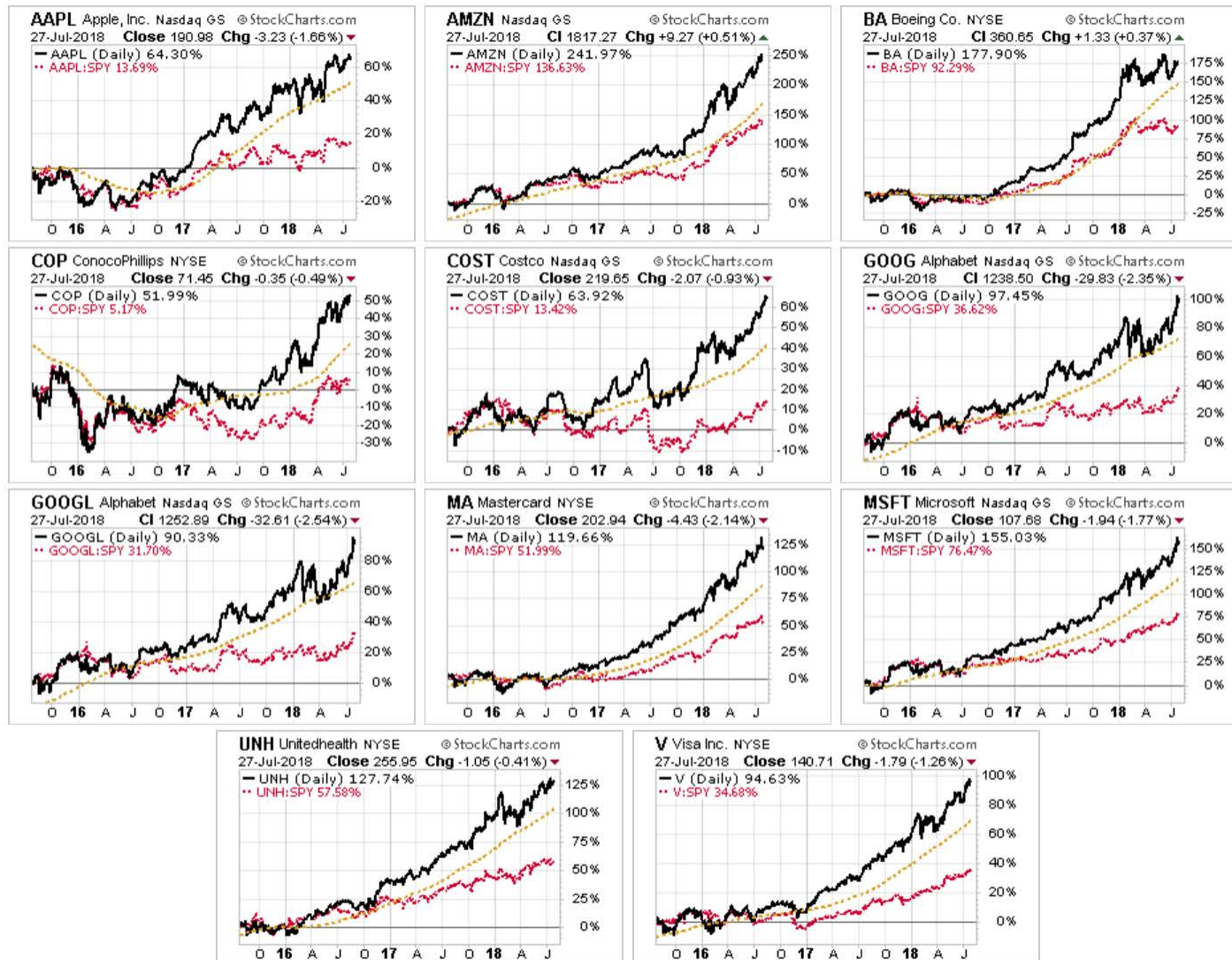


Relative Performance: Position, Direction, Velocity, Acceleration, Relative Volatility

Highest Momentum S&P 100 Stocks

Symbol	Name	POSITION	DIRECTION		SPREAD to SPY RELATIVE VELOCITY				No Spread Abs. Velocity		No Spread ABS. VELOCITY		TOTAL \$ FLOW ACCELERATION	Ratio to SPY Volatility	Worst DrawDown	Tech Trend
		P vs SMA	200 SMA TIP	1-Yr SLOPE	12-Mo PR	6-Mo PR	3-Mo	1-Mo	12-Mo PR	6-Mo PR	3-Mo	1-Mo	Mo 1-3/4-6	12-Mo	12-Mo	ADX21
SPY	S&P 500 PR Index Benchmark	ABOVE	UP	UP	0.00	0.00	0.00	0.00	13.84	(1.80)	5.57	4.48	0.60	1.00	(10.16)	No, Pos
BND	US Aggregate Bond Index Benchmark	BELOW	UP	DOWN	(17.17)	(0.31)	(5.19)	(4.38)	(3.33)	(0.305)	(5.19)	(4.38)	0.85	0.22	(5.25)	No, Neg
.SPBDUB3T	T-Bill TR Index Benchmark	---	---	---	(12.46)	2.63	(5.11)	(4.32)	1.3833	0.8329	0.47	0.16	---	---	---	---
AMZN	Amazon Com Ord Shs	ABOVE	UP	UP	59.89	31.42	9.98	4.96	73.74	29.62	15.56	9.44	0.70	2.11	(14.84)	No, Pos
MA	Mastercard Ord Shs Class A	ABOVE	UP	UP	43.56	20.94	9.77	0.57	57.40	19.14	15.35	5.05	0.90	1.59	(7.39)	No, Pos
BA	Boeing Ord Shs	ABOVE	UP	UP	35.80	6.88	0.23	4.87	49.65	5.08	5.80	9.35	0.63	1.98	(12.35)	No, Pos
MSFT	Microsoft Ord Shs	ABOVE	UP	UP	33.34	16.28	6.80	5.91	47.18	14.48	12.38	10.40	0.82	1.76	(10.53)	No, Pos
COST	Costco Wholesale Ord Shs	ABOVE	UP	UP	30.17	12.23	6.16	0.10	44.01	10.43	11.74	4.58	0.90	1.52	(17.43)	Yes, Pos
V	Visa Ord Shs Class A	ABOVE	UP	UP	27.47	13.19	6.09	2.91	41.32	11.39	11.67	7.40	0.91	1.46	(9.86)	No, Pos
GOOG	Alphabet Ord Shs Class C	ABOVE	UP	UP	18.75	7.13	14.66	7.70	32.59	5.33	20.24	12.19	0.75	1.79	(14.83)	No, Pos
NKE	Nike Ord Shs Class B	ABOVE	UP	UP	18.38	14.81	4.96	3.28	32.23	13.01	10.54	7.76	0.87	1.89	(17.60)	No, Pos
GOOGL	Alphabet Ord Shs Class A	ABOVE	UP	UP	17.69	7.30	15.89	7.69	31.54	5.50	21.47	12.17	0.79	1.81	(15.36)	No, Pos
LLY	Eli Lilly Ord Shs	ABOVE	UP	UP	2.51	12.73	11.19	9.61	16.36	10.93	16.77	14.09	0.82	1.48	(20.58)	Yes, Pos
COP	ConocoPhillips Ord Shs	ABOVE	UP	UP	46.14	20.11	4.43	(0.54)	59.99	18.31	10.01	3.94	1.03	1.90	(19.26)	No, Pos
TGT	Target Ord Shs	ABOVE	UP	UP	29.12	5.93	4.42	(0.24)	42.96	4.13	9.99	4.24	0.89	2.34	(36.17)	No, Pos
UNH	UnitedHealth Group Ord Shs	ABOVE	UP	UP	21.63	4.81	0.99	(1.35)	35.47	3.01	6.57	3.13	0.72	1.59	(14.46)	No, Pos
AAPL	Apple Ord Shs	ABOVE	UP	UP	13.00	13.15	12.08	(0.78)	26.85	11.35	17.66	3.70	0.70	1.70	(13.45)	No, Pos

Best Looking 3-Year Charts (min 50% gain)

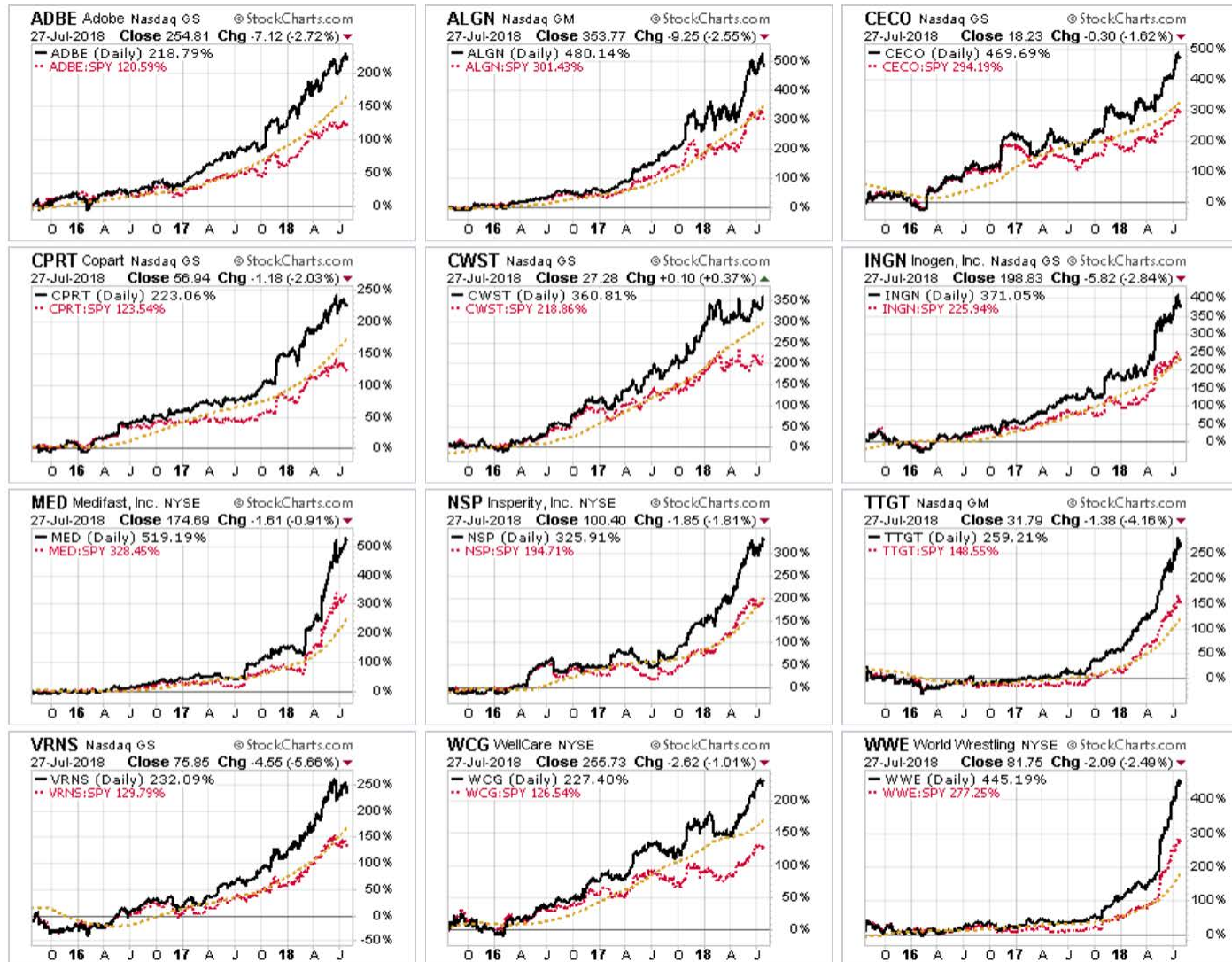


Relative Performance: Position, Direction, Velocity, Acceleration, Relative Volatility

Highest Momentum Russell 3000 Quality, Value Momentum Stocks

Symbol	Name	POSITION	DIRECTION		SPREAD to SPY RELATIVE VELOCITY				No Spread Abs. Velocity		No Spread ABS. VELOCITY		TOTAL \$ FLOW ACCELERATION	Ratio to SPY Volatility	Worst DrawDown	Tech Trend
		P vs SMA	200 SMA TIP	1-Yr SLOPE	12-Mo PR	6-Mo PR	3-Mo	1-Mo	12-Mo PR	6-Mo PR	3-Mo	1-Mo	Mo 1-3/4-6	12-Mo	12-Mo	ADX21
SPY	S&P 500 PR Index Benchmark	ABOVE	UP	UP	0.00	0.00	0.00	0.00	13.84	(1.80)	5.57	4.48	0.60	1.00	(10.16)	No, Pos
BND	US Aggregate Bond Index Benchmark	BELOW	UP	DOWN	(17.17)	(0.31)	(5.19)	(4.38)	(3.33)	(0.305)	(5.19)	(4.38)	0.85	0.22	(5.25)	No, Neg
.SPBDUB3T	T-Bill TR Index Benchmark	---	---	---	(12.46)	2.63	(5.11)	(4.32)	1.3833	0.8329	0.47	0.16	---	---	---	---
MED	Medifast Ord Shs	ABOVE	UP	UP	293.45	147.98	66.98	8.69	307.30	146.18	72.55	13.17	1.98	3.95	(14.45)	Yes, Pos
WWE	World Wrestling Entertainment Ord Shs Class A	ABOVE	UP	UP	259.62	139.79	97.28	10.90	273.46	137.99	102.85	15.38	2.64	2.73	(20.14)	Yes, Pos
TTGT	TechTarget Ord Shs	ABOVE	UP	UP	213.55	106.90	47.41	10.49	227.39	105.10	52.98	14.97	3.25	2.24	(15.32)	Yes, Pos
NSP	Insperity Ord Shs	ABOVE	UP	UP	161.27	64.79	25.67	3.53	175.11	62.99	31.24	8.02	1.62	2.63	(24.57)	Yes, Pos
HFC	HollyFrontier Ord Shs	ABOVE	UP	UP	143.61	53.55	16.98	6.92	157.46	51.75	22.55	11.40	2.34	2.52	(30.32)	No, Pos
HAE	Haemonetics Ord Shs	ABOVE	UP	UP	136.42	50.46	19.51	7.10	150.27	48.66	25.09	11.58	2.09	2.24	(12.59)	No, Pos
FCN	FTI Consulting Ord Shs	ABOVE	UP	UP	122.38	73.01	30.30	20.30	136.22	71.21	35.88	24.79	1.30	2.25	(31.48)	Yes, Pos
QLYS	Qualys Ord Shs	ABOVE	UP	UP	107.58	42.47	10.31	3.91	121.42	40.67	15.89	8.39	1.20	2.66	(19.96)	No, Neg
CECO	Career Education Ord Shs	ABOVE	UP	UP	97.15	46.37	32.74	8.26	111.00	44.57	38.32	12.74	2.46	2.60	(25.65)	Yes, Pos
INGN	Inogen Ord Shs	ABOVE	UP	UP	97.07	59.92	33.36	4.72	110.92	58.12	38.94	9.21	2.54	3.16	(17.68)	No, Neg
AEO	American Eagle Outfitters Ord Shs	ABOVE	UP	UP	93.58	35.94	11.79	3.18	107.42	34.14	17.37	7.66	1.28	2.95	(43.84)	No, Pos
PBF	PBF Energy Ord Shs Class A	ABOVE	UP	UP	92.06	39.65	17.20	5.06	105.90	37.85	22.78	9.54	1.41	2.57	(35.96)	No, Pos
KFRC	Kforce Ord Shs	ABOVE	UP	UP	88.85	43.96	34.20	6.43	102.70	42.16	39.78	10.91	1.71	2.42	(33.27)	No, Pos
KFY	Korn Ferry International Ord Shs	ABOVE	UP	UP	87.00	52.17	17.26	5.75	100.85	50.37	22.84	10.23	1.33	2.22	(18.42)	Yes, Pos
VG	Vonage Holdings Ord Shs	ABOVE	UP	UP	74.19	17.01	8.91	0.23	88.03	15.21	14.49	4.72	1.04	2.60	(26.18)	Yes, Pos
APPF	AppFolio Ord Shs Class A	ABOVE	UP	UP	69.35	50.37	30.24	1.74	83.19	48.57	35.81	6.22	1.89	2.79	(24.40)	No, Pos
CMTL	Comtech Telecommunications Ord Shs	ABOVE	UP	UP	68.82	55.64	3.94	0.46	82.66	53.84	9.51	4.94	0.89	3.37	(29.48)	Yes, Pos
RL	Ralph Lauren Ord Shs Class A	ABOVE	UP	UP	66.09	16.25	16.95	2.84	79.94	14.45	22.52	7.32	1.53	2.43	(41.85)	No, Pos
EHC	Healthsouth Ord Shs	ABOVE	UP	UP	61.90	40.24	15.91	6.97	75.74	38.44	21.48	11.45	1.59	1.79	(13.39)	Yes, Pos
FARO	FARO Technologies Ord Shs	ABOVE	UP	UP	60.78	30.09	31.15	22.98	74.62	28.29	36.73	27.47	0.88	3.36	(21.58)	No, Pos
ADBE	Adobe System Ord Shs	ABOVE	UP	UP	60.45	28.38	9.26	2.73	74.29	26.58	14.83	7.21	1.04	2.16	(10.20)	No, Pos
AKAM	Akamai Technologies Ord Shs	ABOVE	UP	UP	59.25	19.58	6.44	5.43	73.09	17.78	12.01	9.91	1.44	2.02	(36.85)	No, Pos
LPSN	LivePerson Ord Shs	ABOVE	UP	UP	59.12	96.38	34.25	8.87	72.96	94.58	39.82	13.35	1.68	3.02	(26.85)	Yes, Pos
VLO	Valero Energy Ord Shs	ABOVE	UP	UP	58.30	19.69	0.41	1.76	72.14	17.89	5.98	6.24	1.18	1.71	(14.75)	No, Pos
RHI	Robert Half Ord Shs	ABOVE	UP	UP	58.29	30.65	17.74	10.19	72.14	28.85	23.31	14.67	0.97	1.89	(15.07)	No, Pos

Best Looking 3-Year Charts (min 200% gain)



Relative Performance: Position, Direction, Velocity, Acceleration, Relative Volatility

Highest Momentum Quality Dividend Stocks																
					SPREAD to SPY				No Spread		No Spread		TOTAL \$ FLOW	Ratio to SPY	Worst	Tech
		POSITION	DIRECTION		RELATIVE VELOCITY				Abs. Velocity		ABS. VELOCITY		ACCELERATION	Volatility	DrawDown	Trend
Symbol	Name	P vs SMA	200 SMA TIP	1-Yr SLOPE	12-Mo PR	6-Mo PR	3-Mo	1-Mo	12-Mo PR	6-Mo PR	3-Mo	1-Mo	Mo 1-3/4-6	12-Mo	12-Mo	ADX21
SPY	S&P 500 PR Index Benchmark	ABOVE	UP	UP	0.00	0.00	0.00	0.00	13.84	(1.80)	5.57	4.48	0.60	1.00	(10.16)	No, Pos
BND	US Aggregate Bond Index Benchmark	BELOW	UP	DOWN	(17.17)	(0.31)	(5.19)	(4.38)	(3.33)	(0.305)	(5.19)	(4.38)	0.85	0.22	(5.25)	No, Neg
.SPBDUB3T	T-Bill TR Index Benchmark	---	---	---	(12.46)	2.63	(5.11)	(4.32)	1.3833	0.8329	0.47	0.16	---	---	---	---
HFC	HollyFrontier Ord Shs	ABOVE	UP	UP	143.61	53.55	16.98	6.92	157.46	51.75	22.55	11.40	2.34	2.52	(30.32)	No, Pos
GWV	WW Grainger Ord Shs	ABOVE	UP	UP	88.78	20.76	13.96	6.64	102.62	18.95	19.54	11.12	0.84	2.72	(39.48)	No, Pos
VFC	VF Ord Shs	ABOVE	UP	UP	37.40	14.55	8.25	8.81	51.24	12.75	13.82	13.29	0.86	1.70	(25.80)	Yes, Pos
BA	Boeing Ord Shs	ABOVE	UP	UP	35.80	6.88	0.23	4.87	49.65	5.08	5.80	9.35	0.63	1.98	(12.35)	No, Pos
TSS	Total System Services Ord Shs	ABOVE	UP	UP	33.80	6.53	6.49	8.37	47.65	4.73	12.07	12.85	1.03	1.56	(9.04)	No, Pos
MSFT	Microsoft Ord Shs	ABOVE	UP	UP	33.34	16.28	6.80	5.91	47.18	14.48	12.38	10.40	0.82	1.76	(10.53)	No, Pos
UNP	Union Pacific Ord Shs	ABOVE	UP	UP	32.67	12.48	4.31	1.78	46.51	10.68	9.88	6.26	0.81	1.81	(12.56)	No, Pos
V	Visa Ord Shs Class A	ABOVE	UP	UP	27.47	13.19	6.09	2.91	41.32	11.39	11.67	7.40	0.91	1.46	(9.86)	No, Pos
PSX	Phillips 66 Ord Shs	ABOVE	UP	UP	26.72	13.25	1.12	2.82	40.56	11.45	6.69	7.30	1.22	1.47	(16.20)	No, Pos
SSNC	SS And C Technologies Holdings Ord Shs	ABOVE	UP	UP	24.93	10.52	3.42	1.69	38.77	8.72	9.00	6.17	0.89	1.85	(14.90)	No, Neg
MXIM	Maxim Integrated Products Ord Shs	ABOVE	UP	UP	19.86	5.07	6.26	0.61	33.70	3.27	11.84	5.09	0.72	2.17	(18.85)	No, Pos
CDW	CDW Ord Shs	ABOVE	UP	UP	19.79	13.68	12.66	0.22	33.63	11.88	18.24	4.70	1.08	1.70	(11.18)	No, Pos
DK	Delek US Holdings Ord Shs	ABOVE	UP	UP	77.12	44.79	5.61	(0.04)	90.97	42.99	11.19	4.44	1.77	2.83	(24.46)	No, Pos
NTAP	NetApp Ord Shs	ABOVE	UP	UP	66.68	27.23	12.30	(0.41)	80.53	25.43	17.88	4.07	1.10	2.25	(15.34)	Yes, Pos
BR	Broadridge Financial Solutions Ord Shs	ABOVE	UP	UP	41.55	22.22	3.65	(0.85)	55.39	20.41	9.23	3.63	1.80	1.34	(15.19)	No, Pos
TGT	Target Ord Shs	ABOVE	UP	UP	29.12	5.93	4.42	(0.24)	42.96	4.13	9.99	4.24	0.89	2.34	(36.17)	No, Pos
UNH	UnitedHealth Group Ord Shs	ABOVE	UP	UP	21.63	4.81	0.99	(1.35)	35.47	3.01	6.57	3.13	0.72	1.59	(14.46)	No, Pos
AAPL	Apple Ord Shs	ABOVE	UP	UP	13.00	13.15	12.08	(0.78)	26.85	11.35	17.66	3.70	0.70	1.70	(13.45)	No, Pos
DRI	Darden Restaurants Ord Shs	ABOVE	UP	UP	12.54	10.22	7.49	(3.62)	26.38	8.42	13.07	0.86	1.14	2.11	(16.87)	Yes, Pos
OKE	Oneok Ord Shs	ABOVE	UP	UP	10.00	18.38	11.53	(3.95)	23.84	16.58	17.10	0.53	0.95	1.55	(19.68)	No, Pos
FIS	Fidelity National Information Services Ord Shs	ABOVE	UP	UP	4.16	6.23	7.88	(2.02)	18.00	4.43	13.45	2.46	1.04	1.23	(9.86)	No, Pos
PK	Park Hotels & Resorts Ord Shs When Issued	ABOVE	UP	UP	2.39	7.83	2.32	(2.40)	16.23	6.03	7.89	2.09	0.78	1.51	#N/A	No, Pos
SRC	Spirit Realty Capital REIT	ABOVE	UP	UP	2.35	12.07	8.76	(4.12)	16.20	10.27	14.34	0.36	1.46	1.46	(51.66)	No, Pos

Best Looking 3-Year Charts



DEFINITIONS and METHODOLOGY:

DEFINITIONS of DATA POINTS

- **Location** = “ABOVE” if the price is above the 200-day moving average price
- **Direction (SMA Tip)** = “UP” if the current 200-day moving average is higher than 1 month ago
- **Direction (1-Yr Slope)** = “UP” if the 1-year linear regression slope is greater than zero
- **Velocity (12-Mo PR)** = “T-Bills” if the 12-month price return is less than the 12-month total return of T-Bills, otherwise it equals the 12-month price return minus the 12-month price return of a benchmark (SPY for OWN and BND for LOAN)
- **Velocity (6-Mo PR)** = “T-Bills” if the 6-month price return is less than the 6-month total return of T-Bills, otherwise it equals the 6-month price return minus the 6-month price return of a benchmark (SPY for OWN and BND for LOAN)
- **Velocity (3-Mo PR)** = “T-Bills” if the 3-month price return is less than the 3-month total return of T-Bills, otherwise it equals the 3-month price return minus the 3-month price return of a benchmark (SPY for OWN and BND for LOAN)
- **Velocity (1-Mo PR)** = “T-Bills” if the 1-month price return is less than the 1-month total return of T-Bills, otherwise it equals the 1-month price return minus the 1-month price return of a benchmark (SPY for OWN and BND for LOAN)
- **Absolute (3-Mo PR)** = Price return for most recent 3 months
- **Absolute (1-Mo PR)** = Price return for the most recent month
- **Acceleration (Mo 1-3/4-6)** = total Dollar volume traded over past months 1-3 divided by Dollar volume traded over past months 4-6
 - Note: Acceleration is non-directional. It refers acceleration in the direction of the trend.
 - Note: Mutual funds do not have reported volume, therefore Acceleration is not applicable
- **Relative Volatility (12-Mo)** = 12-mo. annualized volatility divided by 12-mo. volatility of a benchmark (SPY for OWN and BND for LOAN)
- **Worst Drawdown** = Largest price decline over preceding 252, 189, 126, 63, 21, 10, 5 or 2 days
- **Tech Trend (ADX21)** = Whether last 21 days is trending and in which direction

SHADING:

- **Symbol and name are shaded deep green if momentum is strong** (Location = Above, both Direction elements are UP, and each of 12-mo, 6-mo, 3-mo and 1-mo Velocity are positive).
- **Symbol and name are shaded light green if momentum is moderate** (Location = Above, both Direction elements are UP, and each of 12-mo, 6-mo are positive, but 3-mo and 1-mo are not).
- Location is shaded pink if the price is below the 200-day moving average.
- Direction is shaded pink if the direction is down.
- Relative Velocity is shaded deep pink if the text says "T-Bills", which only occurs when the price return for that period is lower than the total return of T-bills.
- Other than deep pink shading for T-Bills having a higher price return, Relative Velocity of stocks and other non-bond and non-preferred securities is shaded either yellow, or not at all. Yellow shading indicates that the price return of the security was lower than the price return of the Standard & Poor's 500 index. Lack of shading indicates that the price return was greater than that of the Standard & Poor's 500 index.
- Absolute return (simply the price return) is shaded pink if it is less than zero.
- Acceleration is shaded on a scale from red to green, with the strongest acceleration being green, and the weakest acceleration being pink. Values above 1 indicate acceleration (increasing commitment to whatever is going on), and values below 1 indicate deceleration (decreasing commitment to whatever's going on).
- Relative Volatility is also shaded on a scale from red to green versus other securities in the full list, with the lowest relative volatility shaded green, and the highest relative volatility shaded red.
- Worst Relative Drawdown is shaded on a scale from red to green versus other securities in the portfolio, with the lowest drawdown during any measured period in the last year being green, and the highest drawdown being red.
- Tech Trend ADX21 is shaded green for "Yes, Pos" (trending with average positive price changes greater than average negative price changes), yellow for "No, Pos" (not trending but average price changes greater than average negative prices), light pink for "Yes, Neg" (trending but average negative prices greater than average positive prices), and deep pink for "No, Neg" (not trending and negative average prices greater than positive average prices).

IMPORTANT NOTE:

The ETF and stock lists in this ChartBook are not specific purchase recommendations to any specific person for any particular purpose. They are presented as a manageable list of securities for you to evaluate individually for suitability for short-term tactical purposes, not for selection as core holdings or strategic allocation levels. Intermediate trends and relative performance have a limited life, and as such any position taken for short-term tactical purposes should be frequently monitored.

There is no element of fundamental or valuation or thematic or macro-economic evaluation of the security ratings and rankings in the presented lists.

The only purpose of the presented lists is to identify intermediate trend conditions or securities that are exhibiting superior price return. It is your sole responsibility to select or not select securities from these lists for inclusion in your portfolio. No attempt has been made to balance the listed momentum stocks among sectors or industries. It is probable that a preponderance of momentum stocks is concentrated in one or more sectors or industries.

Use these lists only as narrowed universes for further in-depth evaluation and determination of suitability of any of the securities for your needs and purposes.

All investment involves risk of loss. No investment should be made which could result in a loss you could not accept and withstand. No tactical investment should be made without a commitment to frequent monitoring to determine if acceptable relative performance persists.



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This trend and momentum study does not replace the need for fundamental, valuation and thematic evaluation of markets and securities, or determination of the suitability of momentum securities for your portfolio. This is a tool, not a complete investment decision solution. Do your homework before you invest.