4/17/2017

Tortoise daily report

A collection of research and systems signals designed to provide a robust framework for developing daily trading plans that can support 3 different trading timeframes: intraday, swing, position trading.

Pages 2-5: primary resource for developing daily plans

Pages 6-22: additional level of research detail.

Daily report

4/17/2017	Volatile	Normal	Quiet
Bullish			
Sideways			
Bearish			

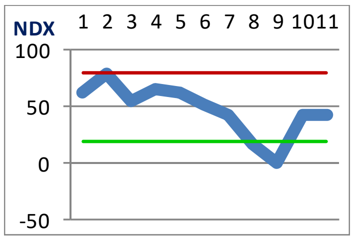
	Annual	10 Day
Overbought		
Neutral	64	42
Oversold		

4/17/2017	Comment	Measure	Value	Comment
	(Weekly RSI of >70 and <30 are extreme readings)	WeeklyRSI(14)	64.2	Neutral
	(Long term trend) Price relative to 200day MA	200dma	6.12%	Bullish
	5day slope of the 50dMA	Slope50dMA	0.31%	Neutral
	Intermediate trend strength (ADX over last 14 days)	ADX(14)	15.6	Neutral
	Short term trend (close compared to hi/lo of last 10 days)	Ndx(10)	42.2	Neutral
	Relative Volatility (ATR% vs StDev over last 100 days)	ATR%(100)	0.72%	Normal
	Risk Index: ^VIX MA(30/10); <=1.0 is Risk Off	^VIX MA(30/10)	0.903	Risk Off
	Z score of ^VIX MA(30/10), n= 5000; normal between 1, -1	Risk Z	-1.19	

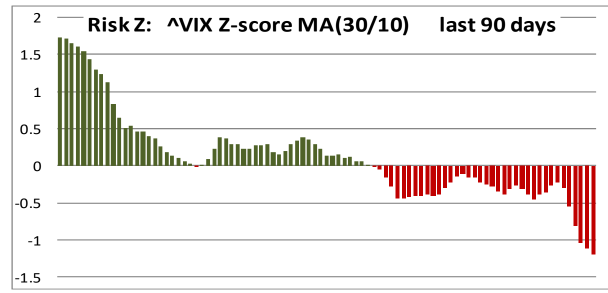
Gap stats	last 200 days			last 30 days		
gap down, drop	20%	39	-0.33%	17%	5	-0.22%
gap down, reverse	29%	57	0.40%	30%	9	0.29%
gap up, reverse	25%	50	-0.32%	37%	11	-0.35%
gap up, gain	28%	55	0.27%	17%	5	0.34%

Gaps:	SPY
max	0.88%
avg	0.03%
min	-0.83%
STD	0.27%

Intraday moves	
Max	2.2%
+1SD	1.0%
Avg	0.7%
-1SD	0.3%
Min	0.2%
StDev	0.4%



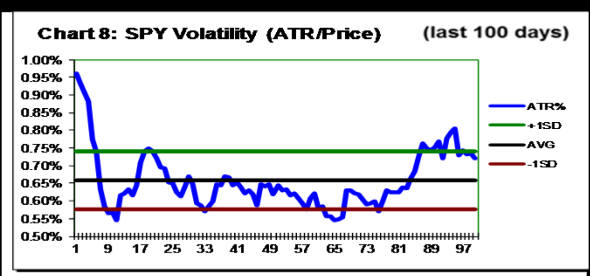
Risk Z	20 yr lookback VIX	Z VIX	Index	Z
max	80.9	7.10	1.30	3.28
+1sd	29.3	1.00	1.10	1.00
avg	20.8	0.00	1.01	0.00
-1sd	12.4	-1.00	0.92	-1.00
min	9.9	-1.30	0.64	-4.21
sd	8.4	1.00	0.09	1.00
today	14.7	-0.73	0.90	-1.19

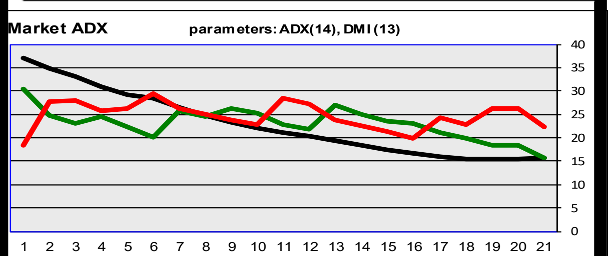


4/17/2017		Overreaction System:					Today's Signals				
Long Rules		SPY	QQQ	DIA	MDY	IWM	EFA	EPP	ILF	EEM	IEV
Rule 1	Close > 200DMA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Rule 2	Daily High < 10DMA	Yes	Yes	No	Yes	Yes	No	No	No	No	No
Rule 3	Close < Long Trigger	No	No	No	No	No	No	No	No	No	No
Short rules		SPY	QQQ	DIA	MDY	IWM	EFA	EPP	ILF	EEM	IEV
Rule 1	Close < 200DMA	No	No	No	No	No	No	No	No	No	No
Rule 2	Daily Low > 10DMA	No	No	No	No	No	No	No	No	No	No
Rule 3	Close > Short Trigger	No	No	No	No	No	No	No	No	No	No

Index Channelling Rules	SPY	QQQ	MDY	IWM	EFA	EPP	ILF	EEM	IEV
(1) Close > 200DMA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(2) Williams%R (10) < -80	No	No	No	No	No	No	No	No	No
(3) Buy another position if Williams%R(10) <-80 while in the trade									
(4) Exit when Williams%R >-30 at the close or the next morning									

Daily Pivots	SPY	DIA	QQQ	MDY	IWM
High	234.57	206.26	131.50	309.24	135.32
Low	232.88	204.86	130.72	305.46	133.68
Close	234.57	206.17	131.48	309.22	135.29
R3	236.82	208.07	132.53	314.27	137.49
R2	235.70	207.16	132.01	311.75	136.40
R1	235.13	206.67	131.75	310.49	135.85
Pivot	234.01	205.76	131.23	307.97	134.76
S1	233.44	205.27	130.97	306.71	134.21
S2	232.32	204.36	130.45	304.19	133.12
S3	231.75	203.87	130.19	302.93	132.57





4/17/2017	10 day Min Pain	10 day Max Pain
Dow 30	TRV, KO , JNJ, UNH, NKE	DD, CVX, CAT, INTC, CSCO
ETF100	XLP, VNQ, SHY, IYR, SHV	UVXY, XME, IWD, VXX, XOP
SP100	CVS, TWX, KO, MO, JNJ	QCOM, FCX, NOV, FDX, WFC
NAS100	#N/A	#N/A

Swing setups	ETF	Large Caps
Channeling	XME	CSCO, INTC, DD
Overreaction	XME	DD
Washout		
5 days down		AAPL, MSFT, CAT
Triple Screen	EFA	
551w	QQQ	UTX
Autoframer	CVX, XIV, CLF, XLE, CAT, DD, INTC, IBM, CSCO, WYNN, XLB, GE, XOM, MRK, XME	

Dow 30 tactical summary: a summarized and integrated set of signals and indicators

Dow Summary													4/17/2017								2	Price Change%						NDX		
doji	Ch	OR long	OR short	WO	5dd	TS	551w	max pain	mprc	AF R:R	Name	Sym	Price	Rg stat	Frog SD	FQN	Gap stat	Gain Stat	Fail Stat	SN ratio	RSI2	1d	10d	1m	3m	6m	12m	10d	1m	3m
	2.0							1.0	1	2.9	Cisco	CSCO	32.61	0.46	0.12	2.8	0.19	0.16	0.18	0.44	50	0.6	-2.0	-3.9	9.1	5.4	20.6	15	11	65
1.0	2.0							1.0	2	3.1	Intel	INTC	35.48	0.63	0.17	2.7	0.24	0.21	0.26	0.39	49	0.7	-1.9	1.0	-3.3	-5.4	14.1	17	38	23
1.0								1.0	3	4.5	Chevron	CVX	106.17	1.93	0.53	2.6	0.58	0.51	0.89	0.46	7	0.1	-1.5	-1.6	-7.5	5.9	16.6	10	10	5
	2.0							1.0	4	3.5	duPont	DD	78.09	1.67	0.51	2.3	0.42	0.53	0.66	0.44	45	0.8	-2.0	-3.1	6.0	14.3	25.7	19	16	59
									5	3.2	Apple	AAPL	141.83	2.17	0.74	1.9	1.17	0.72	0.71	0.42	58	0.6	-1.3	0.8	19.0	25.7	30.5	33	47	87
								1.0		3.0	IBM	IBM	171.10	2.39	0.62	2.9	0.74	0.75	1.02	0.42	69	0.9	-1.9	-3.5	2.8	10.9	18.1	29	21	38
								1.0		2.2	AmExpress	AXP	76.67	1.29	0.30	3.3	0.52	0.47	0.50	0.44	58	1.2	-2.0	-3.5	0.1	24.8	30.4	30	25	24
1.0										2.7	GE	GE	29.64	0.45	0.13	2.4	0.13	0.16	0.15	0.39	34	0.3	-0.8	-0.4	-5.1	2.8	-1.1	10	33	26
										2.3	Merck	MRK	62.80	0.89	0.24	2.7	0.48	0.32	0.34	0.36	54	0.3	-1.1	-2.2	2.6	1.7	16.4	31	22	49
											JP Morgan	JPM	85.86	2.11	0.62	2.4	0.58	0.68	0.80	0.45	70	1.7	-1.3	-5.8	-0.8	27.9	49.9	36	19	30
											Goldman Sachs	GS	226.26	5.89	1.74	2.4	1.57	1.58	2.51	0.46	61	1.3	-1.2	-8.8	-7.7	36.1	47.8	33	18	16
1.0										2.4	ExxonMob	XOM	81.58	1.25	0.34	2.6	0.44	0.38	0.52	0.46	8	-0.1	-0.6	-0.6	-5.2	-4.6	1.4	11	26	18
											Pfizer	PFE	34.00	0.43	0.10	3.2	0.30	0.20	0.14	0.33	74	0.4	-0.7	-1.2	4.6	3.1	7.2	36	29	82
											3M	MMM	190.36	2.01	0.46	3.3	0.79	0.73	0.81	0.38	73	0.9	-0.2	0.0	7.7	12.3	17.1	46	36	85
											Microsoft	MSFT	65.48	0.87	0.21	3.1	0.45	0.34	0.33	0.44	71	0.8	-0.1	1.3	4.3	14.9	21.9	42	61	82
											Visa	V	89.81	1.41	0.51	1.8	0.48	0.52	0.38	0.33	95	1.1	0.5	-0.3	10.0	8.2	15.7	81	47	81
											Home Depot	HD	147.31	1.96	0.55	2.6	0.64	0.74	0.65	0.33	67	1.0	0.5	-1.0	9.2	14.4	11.1	48	35	84
											Verizon	VZ	48.81	0.67	0.17	2.9	0.25	0.22	0.28	0.43	63	0.4	0.4	-1.3	-5.8	-0.7	-4.7	73	39	29
											Disney	DIS	113.78	1.21	0.25	3.7	0.50	0.48	0.48	0.36	96	0.5	0.5	1.9	4.0	23.5	18.5	79	85	94
											United Health	UNH	167.18	2.41	0.50	3.8	0.93	1.00	0.91	0.45	85	1.4	1.0	-2.4	3.7	23.4	32.8	93	47	70
											Boeing	BA	179.02	3.14	0.94	2.3	0.85	1.00	1.15	0.53	79	1.9	1.3	0.5	13.3	35.4	44.6	75	79	78
											J&J	JNJ	125.72	1.53	0.43	2.5	0.46	0.73	0.40	0.37	80	0.6	0.8	-2.1	10.3	7.3	18.1	95	35	83
											Nike	NKE	56.24	1.17	0.31	2.7	0.41	0.46	0.38	0.38	89	1.6	1.2	-2.4	7.1	8.8	-5.6	95	47	63
											P&G	PG	90.39	0.86	0.21	3.2	0.48	0.39	0.28	0.35	78	0.4	0.8	-1.1	8.8	2.9	11.3	89	50	83
											Travelers	TRV	121.92	1.30	0.22	5.0	0.66	0.46	0.65	0.47	76	1.2	1.3	-0.7	4.2	8.9	7.6	99	57	70
											United Tech	UTX	113.27	2.11	0.86	1.5	0.50	0.56	0.68	0.41	80	1.1	1.2	0.8	2.7	12.3	15.7	65	72	86
											McDonalds	MCD	131.35	1.26	0.30	3.1	0.58	0.52	0.43	0.25	75	0.5	1.3	2.6	9.5	17.1	6.2	84	88	96
											Coke	KO	43.07	0.38	0.07	4.2	0.17	0.17	0.14	0.39	81	0.7	1.6	1.9	5.8	5.1	-4.7	99	99	100
										3.6	Caterpillar	CAT	94.14	2.35	0.66	2.6	0.70	0.87	0.86	0.42	45	1.1	2.0	1.4	0.3	7.2	29.8	46	50	42
											WalMart	WMT	73.49	0.93	0.23	3.0	0.36	0.47	0.23	0.40	75	0.5	2.3	4.3	8.0	7.5	9.5	87	92	96

Identifies specific swing trade signals that fire.

Doji = Doji on daily candle

Ch = Channeling system

OR= Overreaction System

WO = Washout system

5DD = 5 Days Down

TS = Triple Screen

551w – 551w swing system

Maxpain = lost the most% since its 10d Hi

Mprc = maxpain range compression (%lost since 10d Hi / today's range)

AF R:R = reward: risk ratio if auto-framed to test 10d hi with mechanical entry

Intraday stats:

RgStat = AvgRange(30)+ 1 SD

FrogSD = 1SD of AvgRange(30)

FQN = AvgRange/SD >3 is good

Gapstat = SD of the last 200 gaps

Failstat = Avg (Open-Low)

SNratio = Avg((C-O)/(H - L))

RSI2: short term extreme (<=10)

Price Change %

Identifies % gains or losses over the different lookback periods

Red highlight: exceptionally large losses

Green highlight: exceptionally large gains

NDX

Computed the index value of the symbols over the different lookback periods

>100 = closed above the Hi of the lookback

<0 = closed below the Low of the lookback period

ETF30 tactical summary: a summarized and integrated set of signals and indicators

ETF Summary													4/17/2017								2	Price Change%						NDX		
doji	Ch	OR long	OR short	WO	5dd	TS	551w	max pain	mprc	AF R:R	Name	Sym	Price	Rg stat	Frog SD	FQN	Gap stat	Gain Stat	Fail Stat	SN ratio	RSI2	1d	10d	1m	3m	6m	12m	10d	1m	3m
								1	1	4.2	Inverse VIX	XIV	65.84	3.67	1.12	2.3	1.05	1.28	1.24	0.49	71	4.9	-9.3	-9.4	19.0	71.0	152.6	28	27	58
	2							1	2	2.3	Metals & mining	XME	29.53	0.98	0.24	3.0	0.30	0.31	0.42	0.47	13	-0.2	-3.4	-5.0	-9.2	16.0	47.5	11	20	10
									3	2.1	Japan	EWJ	51.15	0.37	0.13	1.9	0.31	0.14	0.11	0.49	68	1.1	-1.2	-1.0	1.0	3.9	17.8	47	32	48
									4	2.8	S&P 500 Materials	XLB	51.68	0.75	0.22	2.5	0.18	0.26	0.27	0.45	47	0.7	-1.0	-0.8	1.6	9.3	17.5	24	33	47
									5		S&P 500 Finance	XLF	23.30	0.48	0.15	2.3	0.14	0.15	0.18	0.48	65	1.8	-1.6	-5.6	-0.8	19.7	30.8	38	21	22
											EAFE index	EFA	61.97	0.93	0.52	0.8	0.32	0.26	0.15	0.44	65	0.6	-0.4	-0.2	4.5	6.3	13.7	53	22	49
										3.7	S&P 500 Energy	XLE	69.46	1.29	0.37	2.5	0.44	0.37	0.56	0.47	21	0.2	-0.5	-0.6	-6.7	-1.1	15.7	16	44	22
											S&P 500 Technology	XLK	52.85	0.58	0.19	2.0	0.18	0.20	0.19	0.39	72	0.9	-0.8	-0.7	6.9	11.6	20.7	38	38	82
											Brazil	EWZ	37.55	1.13	0.31	2.6	0.44	0.36	0.45	0.55	76	4.1	-0.9	-0.8	4.2	8.2	52.2	58	58	48
										2.2	Nasdaq 100	QQQ	131.48	1.46	0.49	2.0	0.43	0.48	0.49	0.39	70	0.8	-0.6	-0.2	7.2	11.3	20.0	35	51	84
											Russell smallcaps	IWM	135.29	2.50	0.75	2.3	0.57	0.77	0.95	0.49	60	1.2	-0.5	-1.6	-0.5	10.0	24.7	36	49	36
											Russell midcap 400	MDY	309.22	4.45	1.30	2.4	1.12	1.41	1.67	0.50	60	1.2	-0.5	-1.5	1.1	10.8	19.9	46	47	44
											S&P 500	SPY	234.57	2.32	0.71	2.3	0.64	0.73	0.86	0.42	66	0.9	-0.3	-1.2	3.7	9.8	16.0	42	44	69
											S&P 500 Industrial	XLI	64.72	0.88	0.26	2.4	0.23	0.29	0.32	0.46	61	1.1	-0.3	-0.9	2.8	12.2	20.2	38	50	55
											Health care	XLV	74.25	1.12	0.50	1.2	0.26	0.29	0.33	0.31	70	0.4	-0.2	-1.8	5.3	4.1	7.3	42	46	72
											S&P 500 Cons disc	XLY	87.44	0.90	0.27	2.3	0.31	0.32	0.30	0.42	69	1.0	-0.2	0.2	4.7	10.1	12.7	52	69	85
											Emerging markets	EEM	39.55	0.48	0.17	1.8	0.28	0.15	0.15	0.63	81	1.1	-0.2	0.0	8.2	5.7	20.4	65	63	84
											Latin America	ILF	31.96	0.72	0.20	2.6	0.31	0.25	0.27	0.60	74	3.0	-0.1	0.9	9.8	11.3	34.7	57	67	77
											Europe	IEV	41.68	0.36	0.12	2.1	0.25	0.13	0.11	0.45	64	0.6	0.0	0.0	5.6	7.0	11.2	52	68	85
											Dow 30	DIA	206.17	1.89	0.57	2.3	0.61	0.56	0.73	0.43	69	0.9	0.0	-1.4	4.0	14.3	19.3	42	40	68
											Asia less Japan	EPP	44.75	0.43	0.15	1.8	0.26	0.14	0.13	0.45	76	0.6	0.1	0.9	6.4	8.2	21.4	72	74	90
											Mexico	EWW	51.79	0.95	0.25	2.8	0.55	0.40	0.31	0.47	71	1.2	0.3	5.0	23.8	5.0	1.1	63	91	96
											Silver	SLV	17.43	0.28	0.10	1.7	0.17	0.09	0.09	0.42	50	-0.6	1.1	6.3	9.8	6.0	21.5	80	90	92
											S&P 500 Cons stpls	XLP	55.23	0.37	0.09	3.4	0.15	0.17	0.11	0.42	78	0.7	1.4	0.2	7.7	6.6	5.4	100	86	97
											Treasuries	TLT	123.09	1.14	0.30	2.8	0.71	0.46	0.37	0.54	57	-0.3	1.2	4.6	1.4	-6.8	-3.9	83	90	91
											S&P 500 Utilities	XLU	51.91	0.66	0.18	2.7	0.20	0.23	0.26	0.41	78	0.5	1.2	1.9	7.8	11.9	10.5	98	78	93
											US real estate	IYR	80.79	1.11	0.32	2.5	0.31	0.39	0.39	0.36	90	1.3	2.8	4.7	6.2	7.9	8.5	99	100	100
											Gold	GLD	122.24	1.21	0.40	2.0	0.70	0.44	0.35	0.47	66	-0.3	2.4	4.7	7.7	2.2	4.5	82	91	92
											Oil	USO	11.06	0.27	0.10	1.7	0.14	0.07	0.10	0.53	27	-0.6	4.8	6.8	-2.7	-3.9	15.2	73	86	67
											VIX	VXX	17.36	0.87	0.26	2.4	0.27	0.30	0.31	0.44	28	-4.9	9.5	8.5	-19.0	-47.7	-75.0	66	66	29

Identifies specific swing trade signals that fire.
Doji = Doji on daily candle
Ch = Channeling system
OR= Overreaction System
WO = Washout system
5DD = 5 Days Down
TS = Triple Screen
551w – 551w swing system
Maxpain = lost the most% since its 10d Hi
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AF R:R = reward: risk ratio if auto-framed to test 10d hi with mechanical entry

Intraday stats:
RgStat = AvgRange(30)+ 1 SD

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FQN = AvgRange/SD >3 is good

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RSI2: short term extreme (<=10)

Price Change %
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NDX
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Autoframer

Concept: frame trades based on trade location, evaluated by reward:risk ratio, using a standard mechanical entry, price target and risk
Signal: no signal; each symbol is re-evaluated daily
Default parameters: mechanical entry: HOD + .05; Initial stop: .05 below the LOD ; Price target: 10d Hi
MyRisk: chooses the middle risk of 3 choices: 1x ATR, 1/4th ATR, and yesterday's range + .10(aka "RangeRisk")
Populations in this report: Dow30 and ETF30
Color coding: only those symbols with a reward:risk ratio > 2
Insights: symbols can be tradable using momentum on the basis of trade location alone, and don't need further justification

4/17/2017		Zone	framing data			Dollars R:R		ATR R:R			Risk calcs					Reference data					
Name	Symbol	Price	mEntry	iStop (myRisk)	iTgt Hi(10)	rwd: $	risk: $	rwd: ATR	risk: ATR	R:R	min ATR Risk	Range Risk	max ATR risk	My Risk	Range Max	hi	low	range	avg Range	ATR	ATR%
Chevron	CVX	106.17	106.53	105.60	110.67	4.14	0.93	2.85	0.64	4.5	0.36	0.93	1.45	0.93	2.81	106.48	105.65	0.83	1.40	1.45	1.37%
Inverse VIX	XIV	65.84	65.89	63.65	75.22	9.33	2.24	3.34	0.80	4.2	0.70	2.24	2.79	2.24	5.44	65.84	63.70	2.14	2.54	2.79	4.24%
Cliffs Nat Res	CLF	6.85	7.27	6.82	9.06	1.79	0.45	3.98	1.00	4.0	0.11	0.57	0.45	0.45	1.22	7.22	6.75	0.47	0.50	0.45	6.56%
S&P 500 Energy	XLE	69.46	69.58	69.07	71.49	1.91	0.51	1.96	0.52	3.7	0.24	0.51	0.97	0.51	2.01	69.53	69.12	0.41	0.92	0.97	1.40%
CATERPILLAR INC	CAT	94.14	94.40	93.44	97.89	3.49	0.96	1.98	0.55	3.6	0.44	0.96	1.76	0.96	3.30	94.35	93.49	0.86	1.69	1.76	1.87%
DU PONT E I DE NEM	DD	78.09	78.17	77.22	81.52	3.35	0.95	3.00	0.85	3.5	0.28	0.95	1.12	0.95	2.27	78.12	77.27	0.85	1.16	1.12	1.43%
INTEL CP	INTC	35.48	35.64	35.28	36.76	1.12	0.36	2.49	0.80	3.1	0.11	0.36	0.45	0.36	1.10	35.59	35.33	0.26	0.46	0.45	1.27%
IBM	IBM	171.10	171.35	169.68	176.33	4.98	1.67	2.98	1.00	3.0	0.42	1.78	1.67	1.67	3.52	171.30	169.62	1.68	1.77	1.67	0.98%
CISCO SYS	CSCO	32.61	32.72	32.40	33.65	0.93	0.32	2.46	0.85	2.9	0.09	0.32	0.38	0.32	0.68	32.67	32.45	0.22	0.34	0.38	1.16%
Wynn Resorts, Limited	WYNN	114.64	115.25	113.64	119.80	4.55	1.61	1.91	0.67	2.8	0.60	1.61	2.39	1.61	5.59	115.20	113.69	1.51	2.51	2.39	2.08%
S&P 500 Materials	XLB	51.68	51.75	51.30	52.99	1.24	0.45	2.44	0.88	2.8	0.13	0.45	0.51	0.45	1.11	51.70	51.35	0.35	0.53	0.51	0.98%
GE	GE	29.64	29.75	29.50	30.42	0.67	0.25	2.16	0.80	2.7	0.08	0.25	0.31	0.25	0.80	29.70	29.55	0.15	0.32	0.31	1.05%
EXXON MOBIL CP	XOM	81.58	82.02	81.38	83.55	1.53	0.64	1.50	0.63	2.4	0.25	0.64	1.02	0.64	1.93	81.97	81.43	0.54	0.90	1.02	1.25%
MERCK CO INC	MRK	62.80	62.89	62.34	64.15	1.26	0.55	2.21	0.97	2.3	0.14	0.55	0.57	0.55	1.28	62.84	62.39	0.45	0.65	0.57	0.91%
SPDR Metals & Mining	XME	29.53	29.92	29.25	31.45	1.53	0.67	2.14	0.94	2.3	0.18	0.67	0.71	0.67	1.41	29.87	29.30	0.57	0.74	0.71	2.42%
AMER EXPRESS INC	AXP	76.67	76.76	75.74	79.03	2.27	1.02	2.23	1.00	2.2	0.25	1.18	1.02	1.02	1.80	76.71	75.63	1.08	0.99	1.02	1.33%
Japan	EWJ	51.15	51.25	50.99	51.79	0.54	0.26	1.43	0.69	2.1	0.09	0.26	0.38	0.26	0.64	51.20	51.04	0.16	0.24	0.38	0.74%

RLFF (Regression Line Fractal Framework)

Concept: frame trades based on trade location, evaluated by reward:risk ratio; Reports top 5 excursions away from the RL270, above and below,

Reward: %distance between RL10 and RL270. **Risk:** normalized at 1x ATR

4/17/2017

These symbols are the most ATR below their own RL270

Dow30

symbol	ATR%	ATR	R:R
CVX	1.37%	1.45	5.06
INTC	1.27%	0.45	4.90
MRK	0.91%	0.57	4.65
IBM	0.98%	1.67	4.03
JPM	1.72%	1.47	3.79

ETF100

symbol	ATR%	ATR	R:R
DXJ	1.16%	0.56	6.16
XME	2.42%	0.71	5.49
RSX	1.60%	0.33	4.75
KRE	2.17%	1.14	4.68
SMH	1.16%	0.90	4.43

SP100

symbol	ATR%	ATR	R:R
QCOM	1.70%	0.90	11.83
TGT	1.70%	0.91	7.39
AIG	1.47%	0.88	7.04
APC	2.05%	1.26	6.93
HAL	1.98%	0.97	6.76

NAS100

symbol	ATR%	ATR	R:R
QCOM	1.70%	0.90	11.83
AKAM	1.98%	1.16	7.21
NVDA	2.72%	2.70	7.02
XLNX	1.38%	0.77	6.60
LLTC	0.54%	0.35	6.31

SP500

symbol	ATR%	ATR	R:R
QCOM	1.70%	0.90	11.83
STJ	0.85%	0.69	9.39
TGT	1.70%	0.91	7.39
AKAM	1.98%	1.16	7.21
AAP	1.67%	2.34	7.17

These symbols are the most ATR above their own RL270

Dow30

symbol	ATR%	ATR	R:R
MCD	0.78%	1.02	-8.31
KO	0.70%	0.30	-7.64
DIS	0.83%	0.95	-5.27
HD	0.92%	1.35	-5.13
JNJ	0.74%	0.93	-4.36

ETF100

symbol	ATR%	ATR	R:R
VXX	3.82%	0.66	-14.49
EWW	1.30%	0.67	-8.14
GLD	0.77%	0.94	-6.83
XLP	0.55%	0.30	-5.98
VGK	0.63%	0.33	-5.82

SP100

symbol	ATR%	ATR	R:R
PM	0.94%	1.08	-11.43
MCD	0.78%	1.02	-8.31
KO	0.70%	0.30	-7.64
LOW	1.13%	0.93	-7.03
CVS	0.93%	0.73	-6.45

NAS100

symbol	ATR%	ATR	R:R
SRCL	1.71%	1.42	-9.83
QVCA	1.94%	0.41	-8.68
CHKP	0.99%	1.03	-7.26
SBAC	1.43%	1.79	-6.68
TSLA	3.00%	9.05	-6.56

SP500

symbol	ATR%	ATR	R:R
MJN	0.30%	0.27	-33.53
PM	0.94%	1.08	-11.43
KMB	0.83%	1.11	-10.47
RAI	0.55%	0.35	-10.47
HAR	0.19%	0.21	-10.24

Squeezed on a daily chart, ready for a large intraday pop…

These are targets that have become compressed on a daily basis (Range is less than .7 of the Avg Range)
They have a large potential intraday move compared to the size of the range (Rangestat/myRisk is >2)

Risk calcs					Reference data						Yellow Zone trading: Day 1 trading										
min ATR Risk	Range Risk	max ATR risk	My Risk	Range Max	hi	low	range	avg Range	ATR	ATR%	mEntry	Rstat / myRisk	Rg/ AvgRg	Sym	Rstat	SD	AvgRg /SD	Max /SD	Range Avg	Range Max	Range Min
0.14	0.28	0.55	0.28	3.04	62.02	61.84	0.18	0.41	0.55	0.88%	62.07	3.3	0.44	EFA	0.93	0.52	0.79	5.83	0.41	3.04	0.17
0.24	0.51	0.97	0.51	2.01	69.53	69.12	0.41	0.92	0.97	1.40%	69.58	2.5	0.44	XLE	1.29	0.36	2.57	5.55	0.93	2.01	0.41
0.48	1.36	1.92	1.36	5.64	162.52	161.26	1.26	2.29	1.92	1.19%	162.57	2.4	0.54	AMGN	3.30	0.97	2.38	5.79	2.32	5.64	1.26
0.30	0.68	1.19	0.68	2.16	59.70	59.12	0.58	1.20	1.19	1.99%	59.75	2.4	0.48	BHI	1.63	0.42	2.83	5.09	1.20	2.16	0.47
0.22	0.48	0.90	0.48	1.64	53.13	52.75	0.38	0.79	0.90	1.70%	53.18	2.4	0.48	QCOM	1.15	0.35	2.27	4.68	0.80	1.64	0.38
0.26	0.62	1.04	0.62	1.95	64.15	63.63	0.52	1.01	1.04	1.62%	64.20	2.2	0.52	OXY	1.38	0.37	2.75	5.31	1.01	1.95	0.46
0.60	1.61	2.39	1.61	5.59	115.20	113.69	1.51	2.51	2.39	2.08%	115.25	2.2	0.60	WYNN	3.54	1.03	2.44	5.44	2.51	5.59	1.33
0.24	0.71	0.97	0.71	2.34	48.85	48.24	0.61	1.08	0.97	1.98%	48.90	2.2	0.56	HAL	1.53	0.45	2.43	5.24	1.09	2.34	0.48
0.21	0.61	0.84	0.61	1.87	37.79	37.28	0.51	0.92	0.84	2.23%	37.84	2.2	0.55	NOV	1.32	0.39	2.38	4.80	0.93	1.87	0.39
0.26	0.73	1.04	0.73	2.41	78.75	78.12	0.63	1.07	1.04	1.32%	78.80	2.1	0.58	TXN	1.56	0.47	2.29	5.09	1.08	2.41	0.40
0.18	0.55	0.74	0.55	1.61	77.41	76.96	0.45	0.83	0.74	0.95%	77.46	2.1	0.54	ETR	1.15	0.31	2.73	5.24	0.84	1.61	0.44
0.15	0.42	0.58	0.42	1.18	67.88	67.56	0.32	0.66	0.58	0.86%	67.93	2.1	0.48	AEP	0.87	0.21	3.15	5.59	0.66	1.18	0.32
0.29	0.73	1.18	0.73	2.01	78.42	77.79	0.63	1.14	1.18	1.51%	78.47	2.1	0.55	SLB	1.52	0.37	3.16	5.51	1.15	2.01	0.55
0.31	0.66	1.24	0.66	1.85	49.02	48.46	0.56	1.01	1.24	2.53%	49.07	2.1	0.55	COP	1.37	0.34	2.99	5.38	1.03	1.85	0.56
0.45	1.14	1.81	1.14	4.22	169.75	168.71	1.04	1.55	1.81	1.07%	169.80	2.0	0.63	COST	2.30	0.64	2.56	6.55	1.65	4.22	0.81

Market mosaic: describing market condition from different angles (1-4)

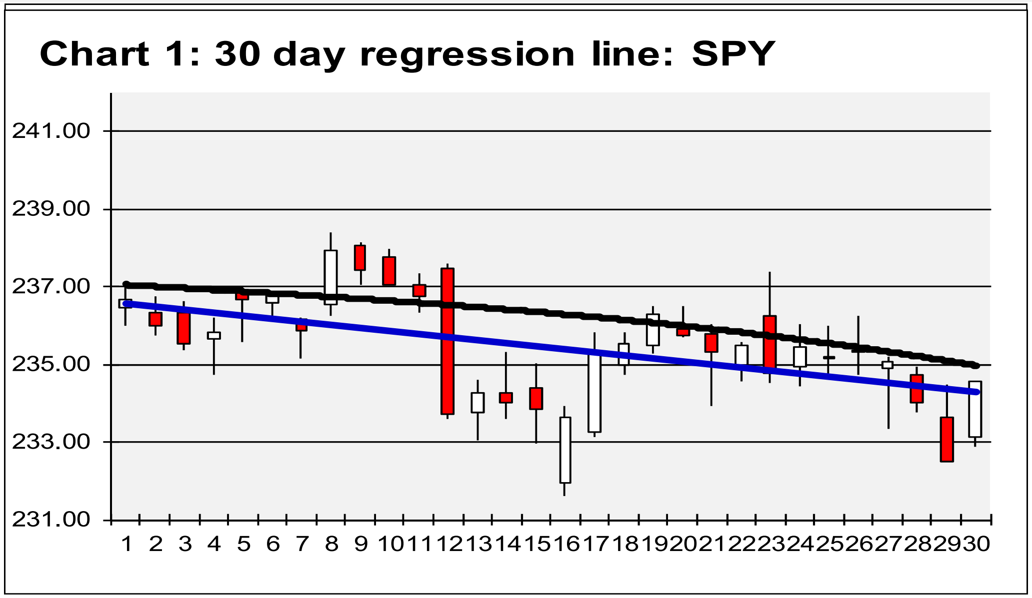
Market condition with the RL30: the best single line description of the price trend of the last 30 days.

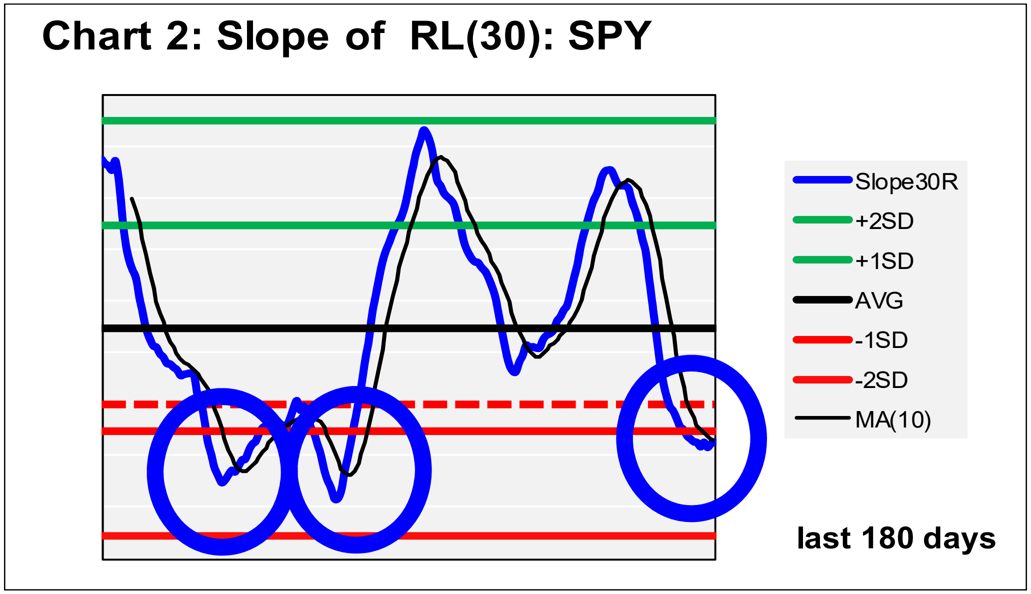
Chart 1: the RL30 of the last 30 days in blue, and a polynomial regression line in black, which is more adaptive and may offer insights into early changes in trend

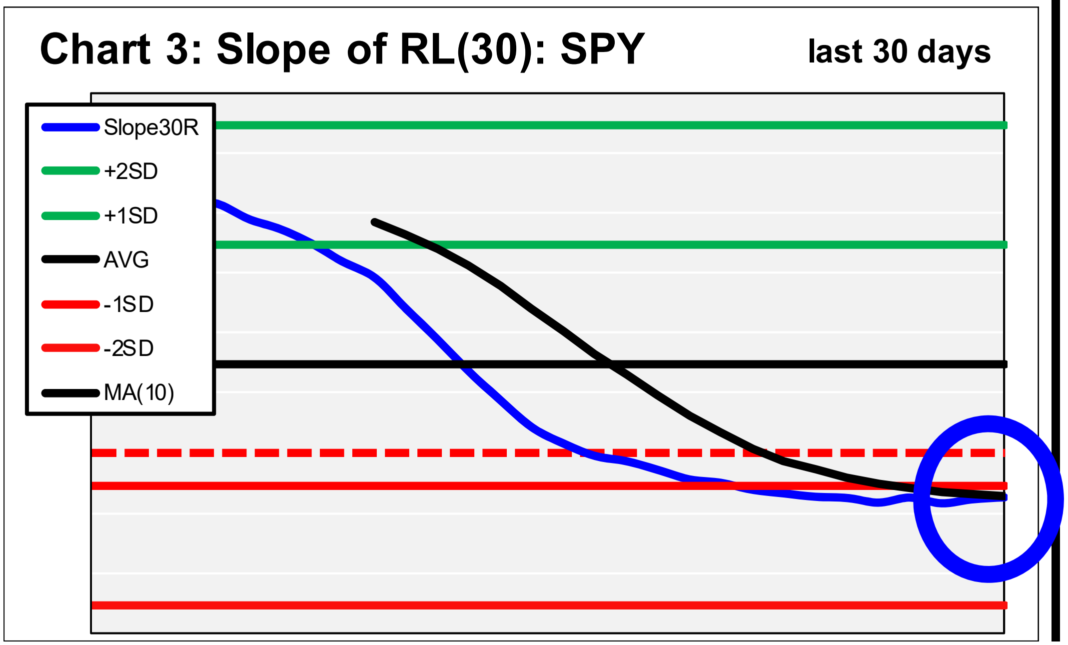
Chart 2: shows the 180 day time series trend line of the slope., within a statistical framework. Changes of direction after an extreme reading are confirmed when the blue line crosses the 10 day moving average (the black line). This has been a good early warning of change of trend.

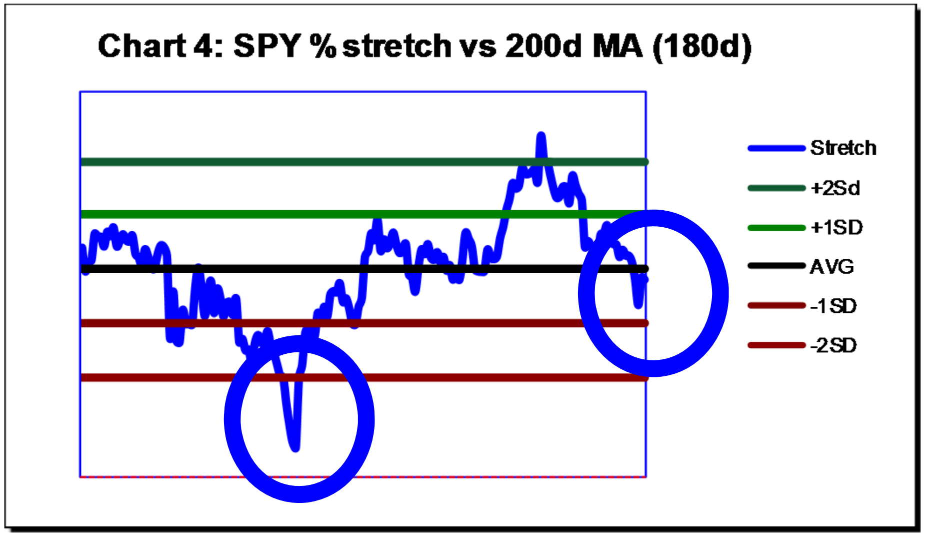
Chart 3: shows the 30 day time series trend line of the slope

Chart 4 shows the relationship between price and the 200dMA on a percentage basis, within a statistical framework









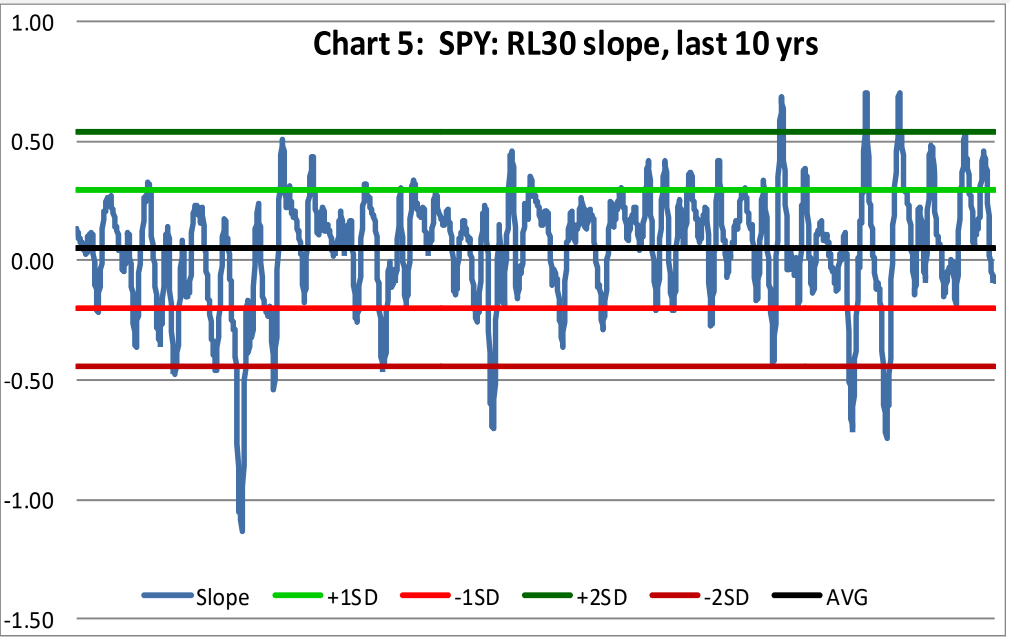
Market mosaic: describing market condition from different angles (5-8)

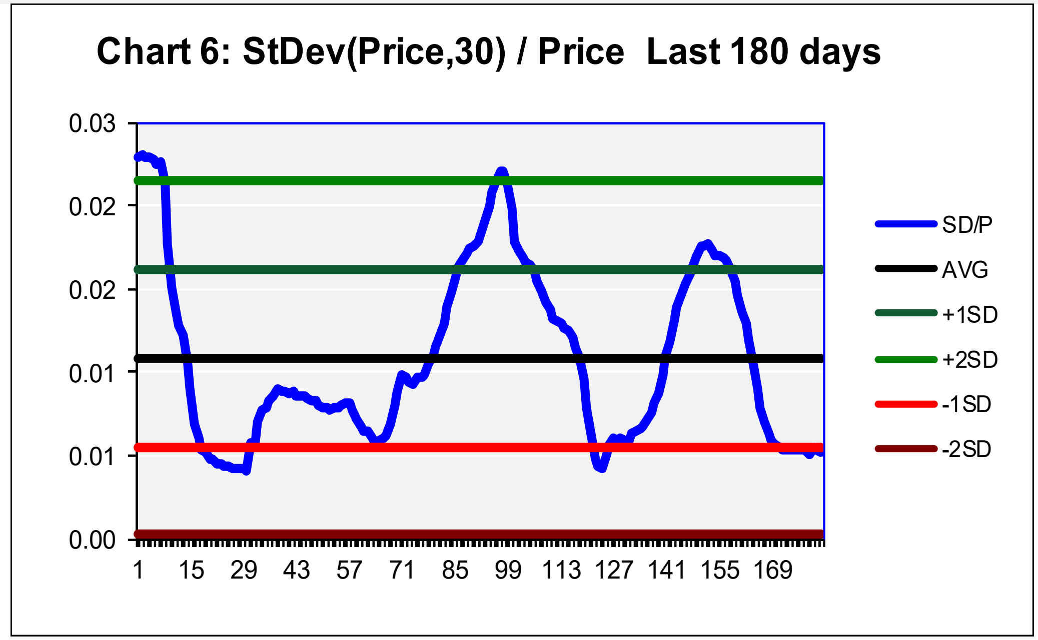
Market condition with the RL30: the best single line description of the price trend of the last 30 days.

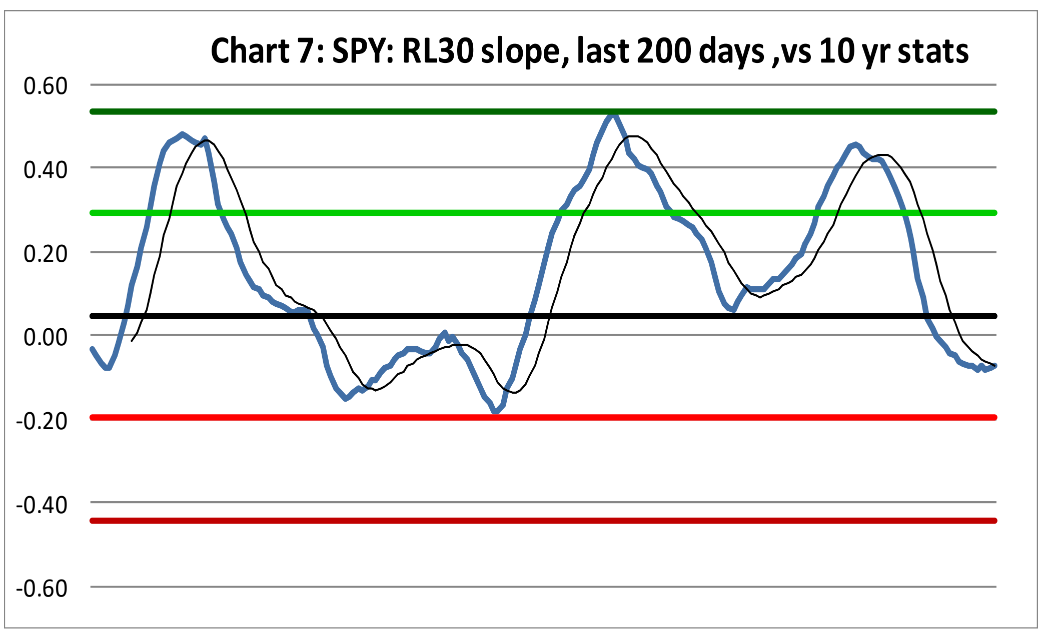
Charts 5,7 show the long term RL30 slope in the context of the last 10 years

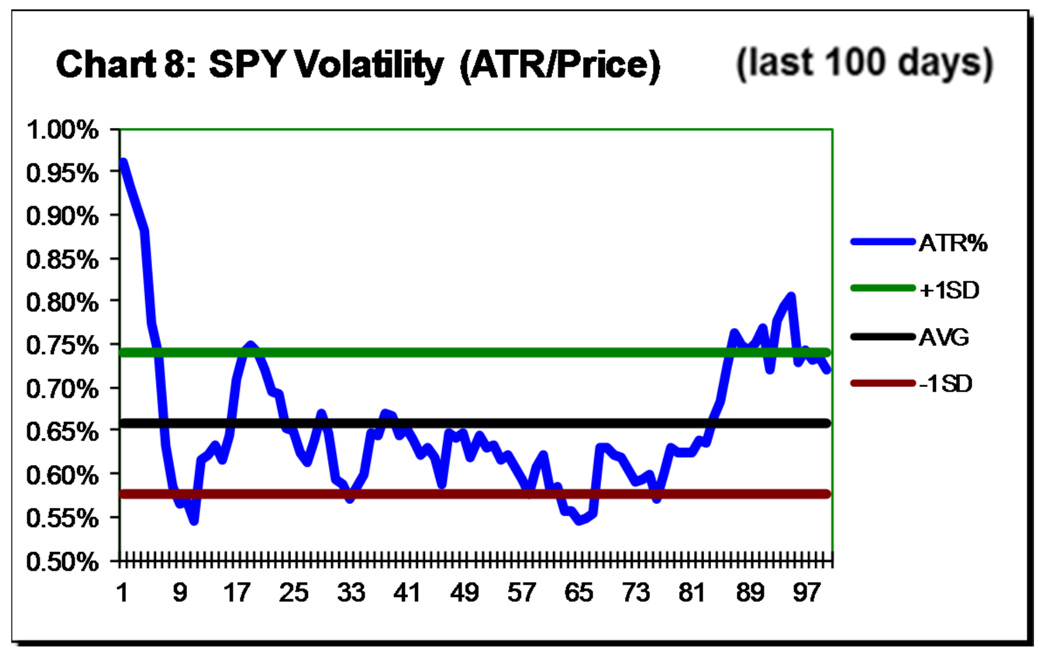
Market volatility:

Charts 6, 8 are 2 different ways to compare relative volatility of the market in a time-series









Seq#	Source	Name	Sym	SD	Fail Max	Fail Av +1sd	Fail Avg	Fail Avg - 1sd	Fail Min
1	1	Apple	AAPL	0.63	2.88	1.34	0.71	0.08	0.03
2	1	AmExpress	AXP	0.38	1.60	0.88	0.50	0.12	0.06
3	1	Boeing	BA	1.09	4.49	2.24	1.15	0.06	0.02
4	1	Caterpillar	CAT	0.72	3.29	1.58	0.86	0.13	0.05
5	1	Csico	CSCO	0.16	0.66	0.34	0.18	0.02	0.00
6	1	Chevron	CVX	0.66	2.71	1.55	0.89	0.23	0.07
7	1	duPont	DD	0.43	2.04	1.09	0.66	0.22	0.07
8	1	Disney	DIS	0.37	1.43	0.85	0.48	0.11	0.01
9	1	GE	GE	0.11	0.52	0.27	0.15	0.04	0.00
10	1	Goldman Sachs	GS	2.21	10.52	4.72	2.51	0.31	0.10
11	1	Home Depot	HD	0.47	2.07	1.12	0.65	0.18	0.04
12	1	IBM	IBM	0.70	3.27	1.72	1.02	0.32	0.13
13	1	Intel	INTC	0.21	0.91	0.46	0.26	0.05	0.01
14	1	J&J	JNJ	0.28	1.24	0.68	0.40	0.12	0.01
15	1	JP Morgan	JPM	0.70	3.28	1.50	0.80	0.09	0.04
16	1	Coke	KO	0.09	0.32	0.23	0.14	0.04	0.00
17	1	McDonalds	MCD	0.24	1.04	0.68	0.43	0.19	0.06
18	1	3M	MMM	0.58	1.98	1.39	0.81	0.23	0.02
19	1	Merck	MRK	0.26	1.23	0.61	0.34	0.08	0.01
20	1	Microsoft	MSFT	0.27	1.06	0.59	0.33	0.06	0.00
21	1	Nike	NKE	0.28	1.06	0.66	0.38	0.09	0.04
22	1	Pfizer	PFE	0.10	0.33	0.24	0.14	0.04	0.00
23	1	P&G	PG	0.15	0.56	0.43	0.28	0.13	0.02
24	1	Travelers	TRV	0.41	1.73	1.07	0.65	0.24	0.00
25	1	United Health	UNH	0.68	2.50	1.59	0.91	0.23	0.03
26	1	United Tech	UTX	0.86	4.82	1.54	0.68	-0.18	0.03
27	1	Visa	V	0.35	1.49	0.73	0.38	0.03	0.00
28	1	Verizon	VZ	0.18	0.75	0.46	0.28	0.10	0.00
29	1	WalMart	WMT	0.18	0.77	0.41	0.23	0.05	0.00
30	1	ExxonMob	XOM	0.39	1.40	0.91	0.52	0.13	0.03
31	2	Metals & mining	XME	0.28	1.21	0.70	0.42	0.15	0.06
32	2	Mexico	EWW	0.22	0.79	0.53	0.31	0.10	0.00
33	2	Dow 30	DIA	0.65	3.08	1.38	0.73	0.09	0.07
34	2	Emerging markets	EEM	0.13	0.67	0.28	0.15	0.02	0.00
35	2	EAFE index	EFA	0.17	0.80	0.31	0.15	-0.02	0.00
36	2	Asia less Japan	EPP	0.14	0.69	0.27	0.13	-0.01	0.00
37	2	Japan	EWJ	0.13	0.62	0.24	0.11	-0.02	0.00
38	2	Brazil	EWZ	0.33	1.31	0.78	0.45	0.12	0.01
39	2	Gold	GLD	0.29	1.16	0.65	0.35	0.06	0.01
40	2	Europe	IEV	0.13	0.58	0.24	0.11	-0.02	0.00
41	2	Latin America	ILF	0.21	0.80	0.47	0.27	0.06	0.01
42	2	Russell smallcaps	IWM	0.94	4.58	1.89	0.95	0.01	0.00
43	2	US real estate	IYR	0.28	1.17	0.67	0.39	0.12	0.09
44	2	Healthcare	XLV	0.49	2.80	0.83	0.33	-0.16	0.00
45	2	Russell midcap 400	MDY	1.59	7.78	3.26	1.67	0.08	0.00
46	2	Nasdaq 100	QQQ	0.50	2.58	0.99	0.49	-0.01	0.05
47	2	Silver	SLV	0.09	0.48	0.18	0.09	0.00	0.01
48	2	S&P 500	SPY	0.74	3.89	1.60	0.86	0.12	0.13
49	2	Long term treasuries	TLT	0.33	1.30	0.71	0.37	0.04	0.03
50	2	Inverse VIX	XIV	1.15	4.85	2.40	1.24	0.09	0.06
51	2	Oil	USO	0.10	0.49	0.20	0.10	0.00	0.01
52	2	VIX	VXX	0.23	1.14	0.54	0.31	0.08	0.08
53	2	S&P 500 Materials	XLB	0.23	1.00	0.50	0.27	0.04	0.02
54	2	S&P 500 Energy	XLE	0.40	1.59	0.96	0.56	0.16	0.05
55	2	S&P 500 Finance	XLF	0.16	0.85	0.34	0.18	0.02	0.00
56	2	S&P 500 Industrial	XLI	0.28	1.27	0.59	0.32	0.04	0.00
57	2	S&P 500 Technology	XLK	0.19	0.94	0.38	0.19	0.00	0.00
58	2	S&P 500 Cons stpls	XLP	0.09	0.32	0.20	0.11	0.02	0.00
59	2	S&P 500 Utilities	XLU	0.18	0.61	0.44	0.26	0.08	0.03
60	2	S&P 500 Cons disc	XLY	0.29	1.37	0.59	0.30	0.01	0.00

Fail-stat

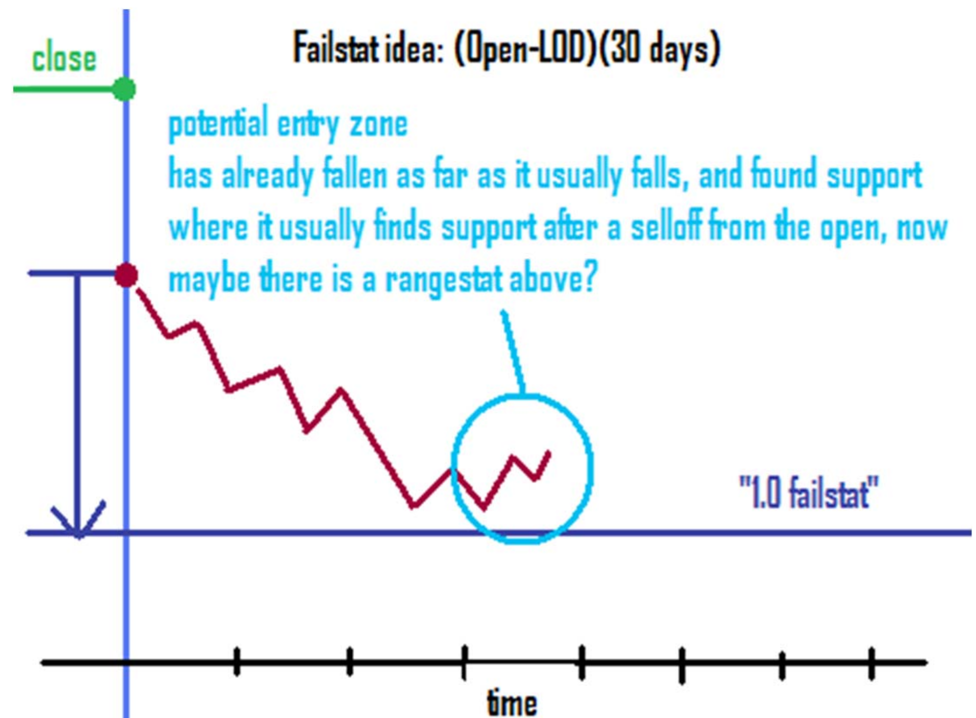
Concept: examine how far the symbol fails from the open to the low of the day for the look back period.

Default parameters: 30 day lookback

Populations in this report: Dow30 and ETF30

Color coding: none

Insights: use this for refining entry and exits for intraday trading. Use this in conjunction with the standard deviation lens in order to construct a trading framework for the intraday trade



Name	Sym	SD	Gain Max	Gain Av +1sd	Gain Avg	Gain Avg -1sd	Gain Min
Apple	AAPL	0.67	3.13	1.39	0.72	0.05	0.00
AmExpress	AXP	0.35	1.34	0.82	0.47	0.11	0.01
Boeing	BA	0.78	3.24	1.78	1.00	0.22	0.00
Caterpillar	CAT	0.63	2.35	1.50	0.87	0.24	0.01
Cisco	CSCO	0.10	0.42	0.26	0.16	0.06	0.02
Chevron	CVX	0.40	1.46	0.91	0.51	0.11	0.00
duPont	DD	0.52	1.98	1.04	0.53	0.01	0.00
Disney	DIS	0.35	1.27	0.83	0.48	0.12	0.02
GE	GE	0.14	0.59	0.30	0.16	0.03	0.00
Goldman Sachs	GS	1.27	4.17	2.85	1.58	0.31	0.00
Home Depot	HD	0.57	2.30	1.31	0.74	0.17	0.06
IBM	IBM	0.51	1.63	1.25	0.75	0.24	0.00
Intel	INTC	0.14	0.55	0.35	0.21	0.07	0.00
J&J	JNJ	0.49	1.95	1.21	0.73	0.24	0.07
JP Morgan	JPM	0.57	1.99	1.24	0.68	0.11	0.02
Coke	KO	0.11	0.45	0.29	0.17	0.06	0.02
McDonalds	MCD	0.35	1.69	0.88	0.52	0.17	0.03
3M	MMM	0.46	1.72	1.19	0.73	0.28	0.00
Merck	MRK	0.22	0.87	0.54	0.32	0.10	0.05
Microsoft	MSFT	0.26	1.02	0.59	0.34	0.08	0.01
Nike	NKE	0.38	1.35	0.84	0.46	0.08	0.00
Pfizer	PFE	0.12	0.57	0.32	0.20	0.07	0.00
P&G	PG	0.20	0.89	0.59	0.39	0.19	0.04
Travelers	TRV	0.38	1.39	0.84	0.46	0.08	0.00
United Health	UNH	0.69	2.61	1.69	1.00	0.30	0.07
United Tech	UTX	0.41	1.74	0.98	0.56	0.15	0.00
Visa	V	0.40	1.76	0.92	0.52	0.12	0.02
Verizon	VZ	0.19	0.98	0.41	0.22	0.02	0.00
WalMart	WMT	0.28	1.24	0.75	0.47	0.19	0.11
ExxonMob	XOM	0.38	1.84	0.77	0.38	0.00	0.00
Metals & mining	XME	0.24	1.19	0.55	0.31	0.08	0.05
Mexico	EWW	0.31	1.41	0.71	0.40	0.09	0.03
Dow 30	DIA	0.51	1.99	1.07	0.56	0.05	0.00
Emerging markets	EEM	0.16	0.87	0.32	0.15	-0.01	0.01
EAFE index	EFA	0.52	2.93	0.79	0.26	-0.26	0.02
Asia less Japan	EPP	0.16	0.87	0.30	0.14	-0.02	0.00
Japan	EWJ	0.11	0.54	0.25	0.14	0.03	0.00
Brazil	EWZ	0.33	1.36	0.69	0.36	0.03	0.00
Gold	GLD	0.41	1.96	0.86	0.44	0.03	0.00
Europe	IEV	0.11	0.55	0.24	0.13	0.03	0.00
Latin America	ILF	0.24	1.03	0.49	0.25	0.01	0.00
Russell smallcaps	IWM	0.60	2.31	1.37	0.77	0.17	0.02
US real estate	IYR	0.31	1.58	0.71	0.39	0.08	0.00
Healthcare	XLV	0.23	1.00	0.52	0.29	0.06	0.00
Russell midcap 400	MDY	1.11	4.02	2.52	1.41	0.30	0.00
Nasdaq 100	QQQ	0.33	1.37	0.81	0.48	0.15	0.00
Silver	SLV	0.08	0.42	0.17	0.09	0.01	0.00
S&P 500	SPY	0.61	2.54	1.34	0.73	0.13	0.05
Long term treasuries	TLT	0.38	1.42	0.85	0.46	0.08	0.00
Inverse VIX	XIV	0.93	4.73	2.21	1.28	0.35	0.39
Oil	USO	0.05	0.22	0.12	0.07	0.02	0.00
VIX	VXX	0.26	1.06	0.56	0.30	0.04	0.01
S&P 500 Materials	XLB	0.19	0.71	0.45	0.26	0.06	0.04
S&P 500 Energy	XLE	0.32	1.10	0.69	0.37	0.05	0.00
S&P 500 Finance	XLF	0.13	0.49	0.28	0.15	0.01	0.00
S&P 500 Industrial	XLI	0.24	1.09	0.53	0.29	0.05	0.04
S&P 500 Technology	XLK	0.14	0.55	0.34	0.20	0.06	0.00
S&P 500 Cons stpls	XLP	0.11	0.50	0.28	0.17	0.07	0.03
S&P 500 Utilities	XLU	0.23	0.89	0.46	0.23	-0.01	0.00
S&P 500 Cons disc	XLY	0.22	0.86	0.53	0.32	0.10	0.01

Gain-stat

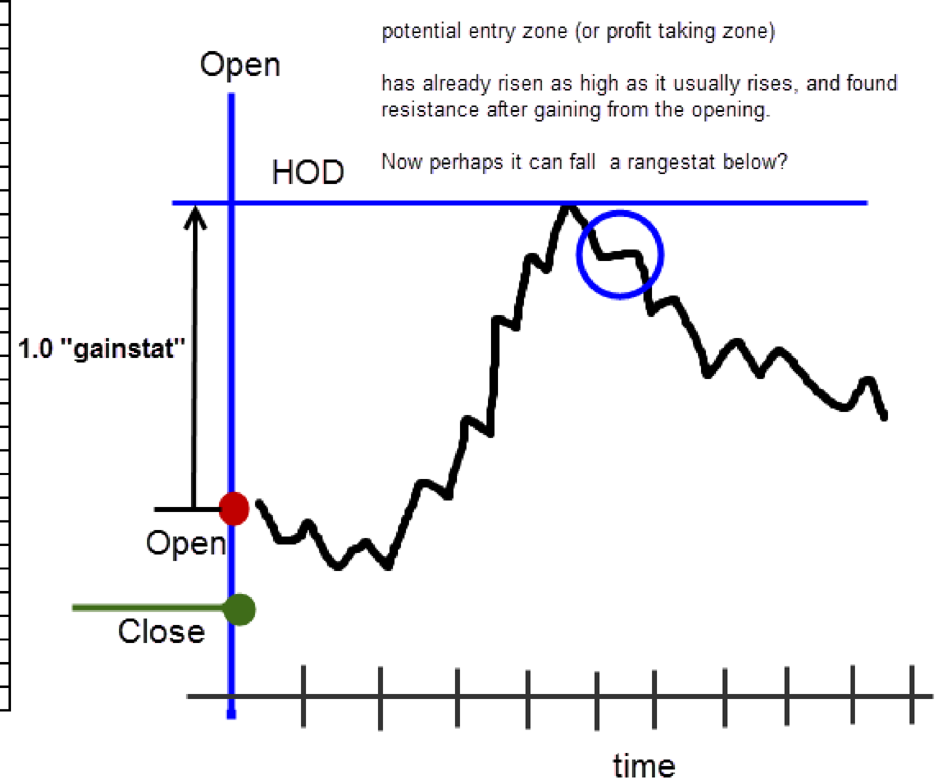
Concept: examine how far the symbol gains from the open to the High of the day for the look back period.

Default parameters: 30 day lookback

Populations in this report: Dow30 and ETF30

Color coding: none

Insights: use this for refining entry and exits for intraday trading. Use this in conjunction with the standard deviation lens in order to construct a trading framework for the intraday trade



Seq#	Source	Name	Sym	SD$	SD	Gap Max	Gap Av +1sd	Gap Avg	Gap -1sd	Gap Min
1	1	Apple	AAPL	1.169	0.82%	7.86%	0.86%	0.03%	-0.79%	-3.33%
2	1	AmExpress	AXP	0.517	0.67%	6.68%	0.79%	0.11%	-0.56%	-1.27%
3	1	Boeing	BA	0.849	0.47%	1.89%	0.55%	0.08%	-0.39%	-1.33%
4	1	Caterpillar	CAT	0.703	0.75%	6.02%	0.87%	0.13%	-0.62%	-1.91%
5	1	Csico	CSCO	0.188	0.58%	1.72%	0.60%	0.02%	-0.56%	-5.26%
6	1	Chevron	CVX	0.585	0.55%	2.48%	0.61%	0.06%	-0.49%	-2.59%
7	1	duPont	DD	0.424	0.54%	2.07%	0.58%	0.04%	-0.50%	-4.42%
8	1	Disney	DIS	0.501	0.44%	2.34%	0.45%	0.01%	-0.43%	-2.21%
9	1	GE	GE	0.130	0.44%	1.44%	0.42%	-0.02%	-0.45%	-2.64%
10	1	Goldman Sachs	GS	1.573	0.70%	2.50%	0.75%	0.06%	-0.64%	-2.24%
11	1	Home Depot	HD	0.636	0.43%	1.82%	0.45%	0.02%	-0.42%	-2.66%
12	1	IBM	IBM	0.743	0.43%	1.84%	0.46%	0.03%	-0.41%	-3.07%
13	1	Intel	INTC	0.236	0.67%	3.17%	0.71%	0.04%	-0.62%	-4.45%
14	1	J&J	JNJ	0.459	0.37%	2.52%	0.37%	0.01%	-0.36%	-1.06%
15	1	JP Morgan	JPM	0.578	0.67%	2.50%	0.75%	0.07%	-0.60%	-2.04%
16	1	Coke	KO	0.168	0.39%	1.27%	0.40%	0.01%	-0.38%	-2.61%
17	1	McDonalds	MCD	0.575	0.44%	2.44%	0.46%	0.03%	-0.41%	-3.06%
18	1	3M	MMM	0.795	0.42%	1.86%	0.42%	0.00%	-0.42%	-3.03%
19	1	Merck	MRK	0.479	0.76%	5.70%	0.81%	0.05%	-0.71%	-2.22%
20	1	Microsoft	MSFT	0.453	0.69%	5.76%	0.80%	0.10%	-0.59%	-1.11%
21	1	Nike	NKE	0.412	0.73%	2.28%	0.74%	0.01%	-0.72%	-5.60%
22	1	Pfizer	PFE	0.301	0.89%	10.03%	0.95%	0.06%	-0.82%	-2.43%
23	1	P&G	PG	0.480	0.53%	4.03%	0.52%	-0.01%	-0.54%	-2.52%
24	1	Travelers	TRV	0.658	0.54%	1.48%	0.57%	0.03%	-0.51%	-4.22%
25	1	United Health	UNH	0.929	0.56%	3.78%	0.63%	0.08%	-0.48%	-2.84%
26	1	United Tech	UTX	0.503	0.44%	2.28%	0.52%	0.08%	-0.37%	-2.21%
27	1	Visa	V	0.475	0.53%	4.18%	0.60%	0.07%	-0.46%	-1.88%
28	1	Verizon	VZ	0.247	0.51%	1.09%	0.49%	-0.02%	-0.52%	-4.10%
29	1	WalMart	WMT	0.363	0.49%	2.65%	0.50%	0.00%	-0.49%	-3.24%
30	1	ExxonMob	XOM	0.437	0.54%	1.98%	0.55%	0.02%	-0.52%	-2.87%
31	2	Metals & mining	XME	0.297	1.00%	5.26%	1.15%	0.14%	-0.86%	-3.34%
32	2	Mexico	EWW	0.551	1.06%	4.15%	1.16%	0.10%	-0.96%	-9.95%
33	2	Dow 30	DIA	0.615	0.30%	1.38%	0.35%	0.05%	-0.25%	-0.79%
34	2	Emerging markets	EEM	0.280	0.71%	2.45%	0.76%	0.05%	-0.66%	-3.02%
35	2	EAFE index	EFA	0.319	0.51%	1.47%	0.50%	-0.02%	-0.53%	-1.29%
36	2	Asia less Japan	EPP	0.256	0.57%	1.66%	0.60%	0.02%	-0.55%	-2.34%
37	2	Japan	EWJ	0.314	0.61%	2.76%	0.60%	-0.02%	-0.63%	-1.40%
38	2	Brazil	EWZ	0.439	1.17%	3.93%	1.30%	0.13%	-1.03%	-4.96%
39	2	Gold	GLD	0.699	0.57%	2.19%	0.58%	0.01%	-0.56%	-1.72%
40	2	Europe	IEV	0.250	0.60%	1.82%	0.57%	-0.03%	-0.63%	-1.75%
41	2	Latin America	ILF	0.311	0.97%	3.55%	1.06%	0.08%	-0.89%	-5.56%
42	2	Russell smallcaps	IWM	0.574	0.42%	1.95%	0.51%	0.09%	-0.33%	-1.29%
43	2	US real estate	IYR	0.310	0.38%	1.09%	0.38%	0.00%	-0.39%	-2.27%
44	2	Healhcare	XLV	0.259	0.35%	1.64%	0.35%	0.00%	-0.35%	-1.67%
45	2	Russell midcap 400	MDY	1.120	0.36%	1.77%	0.41%	0.05%	-0.31%	-0.95%
46	2	Nasdaq 100	QQQ	0.433	0.33%	1.62%	0.39%	0.06%	-0.27%	-1.17%
47	2	Silver	SLV	0.172	0.98%	2.98%	1.04%	0.06%	-0.93%	-4.27%
48	2	S&P 500	SPY	0.642	0.27%	0.88%	0.30%	0.03%	-0.24%	-0.83%
49	2	Long term treasuries	TLT	0.709	0.58%	1.56%	0.53%	-0.05%	-0.63%	-2.21%
50	2	Inverse VIX	XIV	1.053	1.60%	8.64%	1.93%	0.33%	-1.27%	-5.35%
51	2	Oil	USO	0.138	1.24%	4.02%	1.30%	0.06%	-1.19%	-3.65%
52	2	VIX	VXX	0.273	1.57%	5.56%	1.30%	-0.28%	-1.85%	-8.65%
53	2	S&P 500 Materials	XLB	0.176	0.34%	1.16%	0.39%	0.04%	-0.30%	-1.08%
54	2	S&P 500 Energy	XLE	0.443	0.64%	3.47%	0.71%	0.07%	-0.56%	-1.52%
55	2	S&P 500 Finance	XLF	0.140	0.60%	2.75%	0.70%	0.10%	-0.50%	-2.12%
56	2	S&P 500 Industrial	XLI	0.231	0.36%	1.56%	0.39%	0.03%	-0.32%	-0.96%
57	2	S&P 500 Technology	XLK	0.178	0.34%	1.47%	0.39%	0.06%	-0.28%	-1.52%
58	2	S&P 500 Cons stpls	XLP	0.153	0.28%	0.85%	0.27%	-0.01%	-0.29%	-2.05%
59	2	S&P 500 Utilities	XLU	0.204	0.39%	0.81%	0.35%	-0.04%	-0.44%	-1.75%
60	2	S&P 500 Cons disc	XLY	0.308	0.35%	1.43%	0.37%	0.02%	-0.33%	-2.09%
61	6		XIV	1.053	1.60%	8.64%	1.93%	0.33%	-1.27%	-5.35%

Gap-stat

Concept: examine the statistics of how much the target has gapped over the last 200 days.

Default parameters: 200 day lookback

Populations in this report: Dow30 and ETF30

Color coding: none

Insights: use this for refining initial stops for swing trades and for intraday trades that you propose to hold overnight.

Because of the tendency of targets to gap both above and below zero, the “average” of the gaps of the last 200 days is usually very close to zero. So, the standard deviation of the gap is a better description of normal and abnormal sized gaps

The report reflects the Gapstat as a % of price and then multiplies that SD% by the current price o give a dollar value for 1x SD.

Consider using a multiple of SD as a guide to the amount of overnight risk you propose to take when converting intraday positions to overnight holdings. My default is minimum 3x SD. Consult GapMax and GapMin when making that decision.

The GapMax reflects the largest positive gap during the last 200 days

The GapMin reflects the largest negative gap during he last 200 days

Seq#	Source	Name	Sym	SD	S/N Max	S/N Av +1sd	S/N Avg	S/N Av -1sd	S/N Min
34	2	Emerging markets	EEM	0.86	5.00	1.48	0.63	-0.23	0.05
41	2	Latin America	ILF	0.26	0.93	0.85	0.60	0.34	0.10
38	2	Brazil	EWZ	0.27	0.94	0.82	0.55	0.28	0.08
49	2	Long term treasuries	TLT	0.24	0.88	0.78	0.54	0.30	0.02
51	2	Oil	USO	0.23	0.85	0.76	0.53	0.30	0.07
17	1	Boeing	BA	0.28	0.95	0.81	0.53	0.24	0.06
45	2	Russell midcap 400	MDY	0.26	0.98	0.76	0.50	0.23	0.03
42	2	Russell smallcaps	IWM	0.29	0.97	0.78	0.49	0.20	0.05
37	2	Japan	EWJ	0.26	0.89	0.75	0.49	0.23	0.06
	3	Inverse VXX	XIV	0.29	0.97	0.78	0.49	0.20	0.01
50	2	Inverse VIX	XIV	0.29	0.97	0.78	0.49	0.19	0.01
55	2	S&P 500 Finance	XLF	0.28	0.97	0.76	0.48	0.20	0.04
	3	Metals and mining	xme	0.25	0.91	0.72	0.47	0.23	0.07
54	2	S&P 500 Energy	XLE	0.25	0.89	0.72	0.47	0.22	0.01
39	2	Gold	GLD	0.27	0.94	0.74	0.47	0.20	0.08
32	2	Mexico	EWW	0.23	0.90	0.70	0.47	0.24	0.04
26	1	Travelers	TRV	0.26	0.91	0.73	0.47	0.20	0.01
22	1	Goldman Sachs	GS	0.26	0.99	0.72	0.46	0.21	0.01
56	2	S&P 500 Industrial	XLI	0.24	0.89	0.70	0.46	0.22	0.09
3	1	Chevron	CVX	0.25	0.93	0.71	0.46	0.21	0.00
12	1	ExxonMob	XOM	0.29	0.96	0.75	0.46	0.16	0.01
31	2	Ag	DBA	0.25	0.92	0.70	0.46	0.21	0.00
40	2	Europe	IEV	0.29	0.95	0.74	0.45	0.16	0.05
5	1	United Health	UNH	0.24	0.90	0.70	0.45	0.21	0.01
53	2	S&P 500 Materials	XLB	0.27	0.83	0.71	0.45	0.18	0.03
36	2	Asia less Japan	EPP	0.32	1.00	0.77	0.45	0.13	0.05
7	1	JP Morgan	JPM	0.28	0.93	0.73	0.45	0.16	0.03
24	1	Csico	CSCO	0.24	0.88	0.68	0.44	0.20	0.03
52	2	VIX	VXX	0.30	0.95	0.74	0.44	0.14	0.00
35	2	EAFE index	EFA	0.30	0.97	0.74	0.44	0.14	0.02
14	1	Microsoft	MSFT	0.24	0.92	0.68	0.44	0.20	0.04
6	1	AmExpress	AXP	0.25	0.83	0.69	0.44	0.18	0.00
18	1	duPont	DD	0.24	0.91	0.67	0.44	0.20	0.05
33	2	Dow 30	DIA	0.30	0.96	0.73	0.43	0.13	0.00
21	1	Verizon	VZ	0.25	1.00	0.68	0.43	0.18	0.00
60	2	S&P 500 Cons disc	XLY	0.28	1.00	0.70	0.42	0.15	0.00
13	1	IBM	IBM	0.28	0.89	0.70	0.42	0.14	0.00
25	1	Apple	AAPL	0.29	0.91	0.71	0.42	0.13	0.01
58	2	S&P 500 Cons stpls	XLP	0.21	0.97	0.63	0.42	0.20	0.04
10	1	Caterpillar	CAT	0.28	0.89	0.70	0.42	0.14	0.05
47	2	Silver	SLV	0.25	0.87	0.67	0.42	0.16	0.00
48	2	S&P 500	SPY	0.26	0.93	0.68	0.42	0.16	0.01
59	2	S&P 500 Utilities	XLU	0.26	0.82	0.67	0.41	0.15	0.02
	3	Alcoa	AA	0.27	0.89	0.68	0.41	0.14	0.00
27	1	United Tech	UTX	0.25	0.79	0.66	0.41	0.15	0.01
	3	Wynn	wynn	0.23	0.81	0.63	0.40	0.17	0.04
1	1	WalMart	WMT	0.26	0.95	0.66	0.40	0.13	0.01
57	2	S&P 500 Technology	XLK	0.26	0.94	0.66	0.39	0.13	0.00
11	1	Intel	INTC	0.22	0.92	0.62	0.39	0.17	0.05
30	1	GE	GE	0.23	0.90	0.63	0.39	0.16	0.00
2	1	Coke	KO	0.24	0.97	0.63	0.39	0.15	0.03
46	2	Nasdaq 100	QQQ	0.29	0.93	0.68	0.39	0.10	0.03
9	1	3M	MMM	0.27	0.98	0.64	0.38	0.11	0.01
28	1	Nike	NKE	0.28	0.84	0.66	0.38	0.10	0.01
29	1	J&J	JNJ	0.28	0.86	0.65	0.37	0.09	0.02
23	1	Disney	DIS	0.22	0.78	0.58	0.36	0.15	0.02
43	2	US real estate	IYR	0.23	0.87	0.59	0.36	0.13	0.00
4	1	Merck	MRK	0.24	0.90	0.60	0.36	0.11	0.03
16	1	P&G	PG	0.20	0.74	0.55	0.35	0.15	0.00
15	1	Home Depot	HD	0.26	0.91	0.59	0.33	0.07	0.00
8	1	Pfizer	PFE	0.24	0.82	0.57	0.33	0.09	0.00
19	1	Visa	V	0.20	0.84	0.52	0.33	0.13	0.00
44	2	Health care	XLV	0.25	0.84	0.55	0.31	0.06	0.00
20	1	McDonalds	MCD	0.20	0.70	0.45	0.25	0.05	0.01

Signal to Noise ratio (actually signal index as computed)

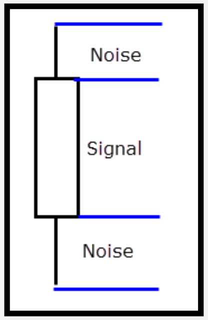
Concept: examine how much of the daily price action is signal vs noise

Signal: the directional component of the daily price action,. Defined as the absolute value of the difference between, Open and Close

=ABS(Close –Open)

Noise: the price action outside of the region between Open and Close

We'll compute the Signal strength on a scale of 0 to 1 using the formula:
=ABS(Close-Open)/Range



A day with all Signal and no noise, would be the case where:
Open = HOD and Close = LOD or
Open = LOD and Close = HOD

A day with all Noise and no Signal would be the case where:
Open = Close

Computing this daily, and then considering a lookback period and the stats of the lookback period will help us see which member of a population are currently the most directional intraday and how trending intraday a symbol is compared to its past behavior.

Looking at a time series will help identify relationships between periods of low and high relative trending.

These insights will help us understand which Frog trade candidates have been more trending lately.

Default parameters: 30 day lookback

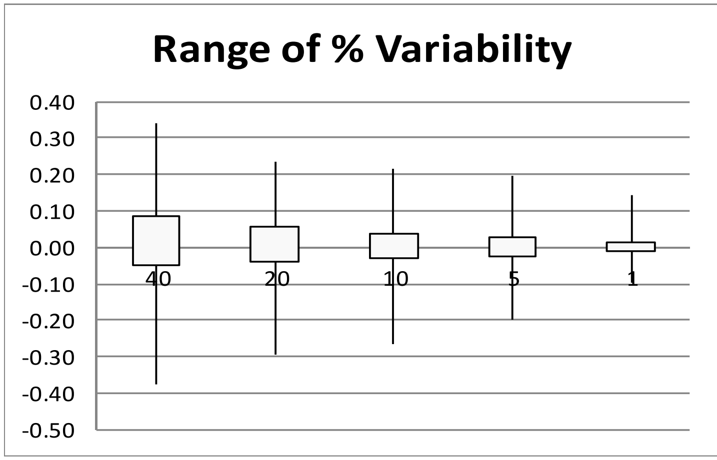
Populations in this report: Dow30 and ETF30

Color coding: 4 conditions, in the usual manner based on S/N average and SD of the 2 populations

Insights: the +1SD and -1SD thresholds help mark the boundaries of what is becoming an exceptionally trending or non trending kind of day, to inform entry and exit decisions

SPY volatility over different holding periods

	Holding "x" days, last 10 yrs				
SPY	40	20	10	5	1
zmax	5	5	6	7	11
max	33.9%	23.6%	21.6%	19.4%	14.5%
+1 stdev	8.4%	5.6%	3.9%	2.8%	1.4%
avg	1.7%	0.9%	0.4%	0.2%	0.0%
-1 stdev	-5.1%	-3.9%	-3.1%	-2.4%	-1.3%
min	-37.5%	-29.4%	-26.8%	-19.8%	-9.8%
zmin	-5.8	-6.3	-7.8	-7.6	-7.5
stdev	0.07	0.05	0.03	0.03	0.01
z-score	-0.21	-0.37	-0.22	-0.21	-0.03
today	0.21%	-0.93%	-0.32%	-0.33%	0.00%



SPY holding periods
Purpose: to appreciate the volatility of different time frames in SPY (the market). Note the long tails

Design goals: use statistics to provide a frame of reference to place current level of gains or losses within a disciplined, systematic context. Identify which symbols are in an extreme condition compared to their historical performance over intermediate term time frame holding periods

Application: Look for extreme conditions, and the beginning of a reversion to the mean as a way to identify a change in intermediate (swing) time frame conditions.

Method:
1. Calculate Gain/Loss % for each time period for today and daily for last 10 years
2. Calculate descriptive statistics of last 10 years: (max, min, average, stdev)
3. Calculate today’s Z-score: (Current- Avg)/(StDev)

Swing Z-scores (Swing Z?)

4/17/2017	SPY	QQQ	DIA	MDY	IYM	IWM	EFA	EWJ	ILF	EEM	XLB	XLE	XLF	XLK	XLP	XLV	XLY	GLD	CLF	TLT	MSFT
40 days	-0.21	-0.11	-0.21	-0.45	-0.21	-0.49	0.22	-0.09	0.02	0.24	-0.23	-0.36	-0.52	-0.05	0.03	-0.16	-0.16	0.45	-1.30	0.25	-0.12
20 days	-0.37	-0.27	-0.47	-0.38	-0.37	-0.40	-0.09	-0.32	0.02	-0.19	-0.38	-0.09	-0.60	-0.41	-0.20	-0.50	-0.17	0.70	-1.18	0.70	-0.06
10 days	-0.22	-0.32	-0.14	-0.24	-0.33	-0.22	-0.13	-0.36	-0.02	-0.06	-0.29	-0.12	-0.35	-0.36	0.37	-0.24	-0.21	0.59	-1.10	0.30	-0.16
5 days	-0.21	-0.25	-0.13	-0.25	-0.56	-0.19	0.09	0.11	0.02	0.19	-0.55	-0.55	-0.20	-0.18	0.25	-0.12	-0.16	0.83	-1.14	0.64	-0.11

Z-score of "X" day holding periods

Purpose: to visualize a "heat map index" of gains/losses, within a 10 year historical context

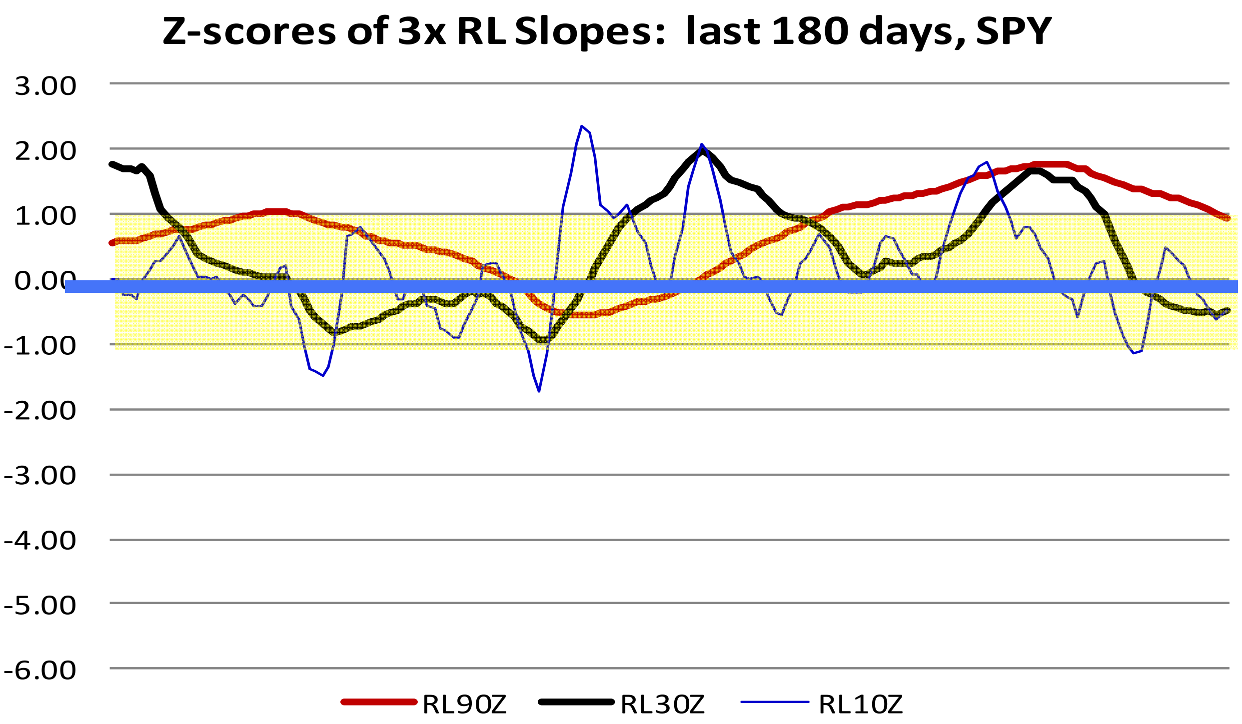
Design goals: use statistics to provide a frame of reference to place current level of gains or losses within a disciplined, systematic context. Identify which symbols are in an extreme condition compared to their historical performance over intermediate term time frame holding periods

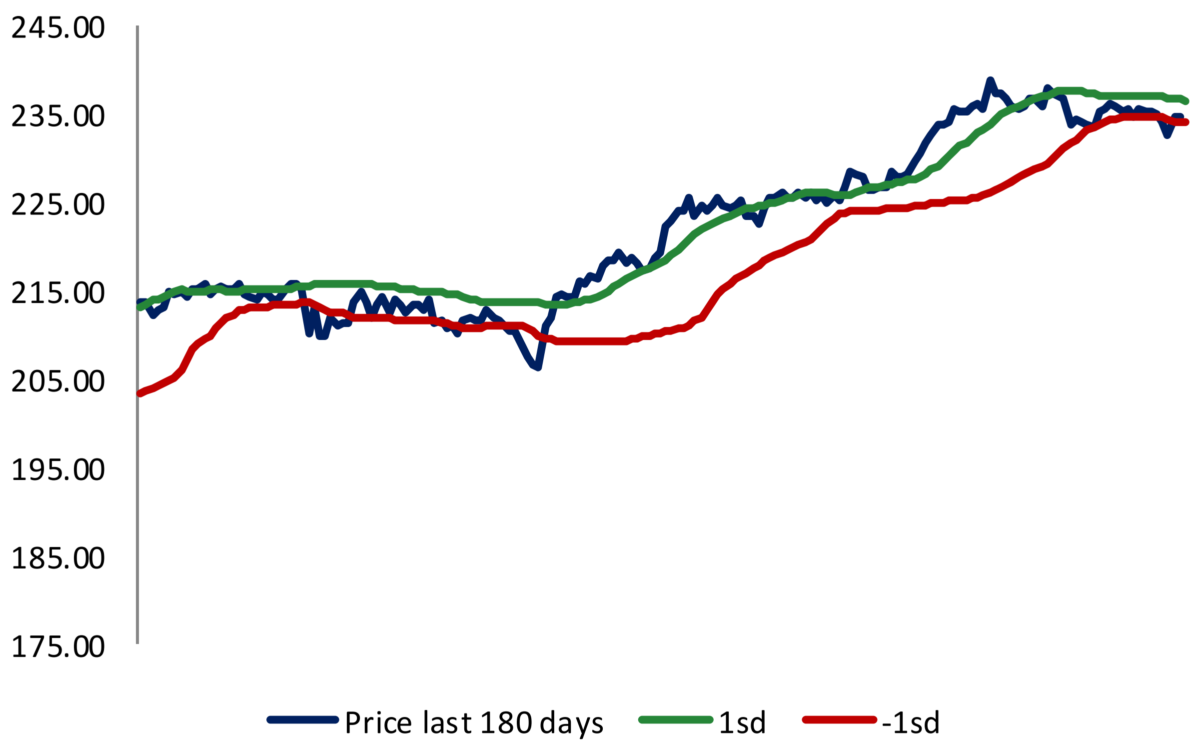
Application: Look for extreme conditions, and the beginning of a reversion to the mean as a way to identify a change in intermediate (swing) time frame conditions.

Method:
1. Calculate Gain/Loss % for each time period for today and daily for last 10 years
2. Calculate descriptive statistics of last 10 years: (max, min, average, stdev)
3. Calculate today's Z-score: (Current- Avg)/(StDev)
4. Color code into 4 categories using these thresholds:

Zscore
>1
$1 > t > 0$
$0 > t > -1$
< -1

Comments:
1. Summarizes the detailed charts to make it easier for pattern recognition and decision-making
2. Added Jan 19, 2013
3. Musing about the utility of an average, or blended rating; I already like the idea of keeping the time frames separated in order to see changes in time





Regression Line Z-Scores

Regression lines are the best fitting straight line for the lookback period

This study uses 3 lookback periods: 10day, 30 day and 90 day

Each regression line has a slope. The steeper the slope when positive, the stronger the bullish trend. The steeper the slope when negative the stronger the bearish trend.

If the slope is 0, then we have a sideways trend

In order to "normalize ' the slope readings for interpretation, we use the Z-Score

Z scores measure the number of Standard Deviations that today's slope value is from the Mean

This study uses 10 years of daily slope values to establish the Mean and the Standard Deviation

We use Z-scores between +1 and -1 to define the normal range of slopes

Z-score Formula: (Slope –Avg)/(SD)

Use: The trader should know if the current trend status, as measured by the regression line slope, is within the bounds of normal or is exceptionally strong or weak. At extreme readings, there are 2 trade ideas: a continued runaway in the current direction, or a reversion to the mean trade. Both trade ideas should be framed, based on Support and resistance.

				R% * FQN			Daily			Weekly			Monthly		
Seq#	Source	Name	Sym	Rng%	TVratio	Rank	Rstat	SD	FQN	Rstat	SD	FQN	Rstat	SD	FQN
35	2	EAFE index	EFA	0.66%	0.52	66	0.93	0.52	0.8	1.61	0.58	1.8	5.46	1.71	2.2
37	2	Japan	EWJ	0.48%	0.90	65	0.37	0.13	1.9	1.21	0.35	2.4	10.65	6.43	0.7
44	2	Healthcare	XLV	0.83%	1.04	64	1.12	0.50	1.2	2.55	0.87	1.9	8.00	3.30	1.4
36	2	Asia less Japan	EPP	0.61%	1.07	63	0.43	0.15	1.8	1.22	0.35	2.5	4.06	1.28	2.2
40	2	Europe	IEV	0.58%	1.22	62	0.36	0.12	2.1	0.99	0.28	2.6	3.85	1.19	2.2
39	2	Gold	GLD	0.66%	1.33	61	1.21	0.40	2.0	4.48	1.49	2.0	9.97	2.67	2.7
34	2	Emerging markets	EEM	0.78%	1.38	60	0.48	0.17	1.8	1.55	0.57	1.7	3.89	1.04	2.7
46	2	Nasdaq 100	QQQ	0.74%	1.45	59	1.46	0.49	2.0	3.49	1.02	2.4	11.99	4.58	1.6
33	2	Dow 30	DIA	0.64%	1.47	58	1.89	0.57	2.3	4.31	1.38	2.1	13.55	4.60	1.9
57	2	S&P 500 Technology	XLK	0.74%	1.52	57	0.58	0.19	2.0	1.41	0.42	2.3	4.68	1.78	1.6
48	2	S&P 500	SPY	0.69%	1.57	56	2.32	0.71	2.3	5.20	1.61	2.2	15.90	5.17	2.1
11	1	United Tech	UTX	1.10%	1.61	55	2.11	0.86	1.5	4.08	1.27	2.2	11.28	3.24	2.5
31	2	Ag	DBA	0.64%	1.63	54	0.17	0.05	2.6	0.52	0.15	2.5	1.52	0.45	2.4
60	2	S&P 500 Cons disc	XLY	0.72%	1.68	53	0.90	0.27	2.3	2.25	0.63	2.6	7.15	2.50	1.9
58	2	S&P 500 Cons stpls	XLP	0.52%	1.76	52	0.37	0.09	3.4	1.32	0.46	1.9	3.50	1.12	2.1
17	1	Visa	V	1.01%	1.79	51	1.41	0.51	1.8	3.54	1.21	1.9	50.32	37.43	0.3
47	2	Silver	SLV	1.03%	1.80	50	0.28	0.10	1.7	1.01	0.37	1.7	2.20	0.56	2.9
49	2	Long term treasuries	TLT	0.68%	1.90	49	1.14	0.30	2.8	4.42	1.53	1.9	9.11	2.54	2.6
10	1	Apple	AAPL	1.01%	1.95	48	2.17	0.74	1.9	5.63	1.85	2.1	16.22	4.79	2.4
15	1	J&J	JNJ	0.87%	2.21	46	1.53	0.43	2.5	4.40	1.36	2.2	9.72	3.32	1.9
23	1	McDonalds	MCD	0.73%	2.30	45	1.26	0.30	3.1	3.60	0.95	2.8	10.61	3.28	2.2
3	1	P&G	PG	0.72%	2.30	44	0.86	0.21	3.2	3.40	1.17	1.9	6.62	1.93	2.4
56	2	S&P 500 Industrial	XLI	0.96%	2.31	43	0.88	0.26	2.4	1.89	0.57	2.3	4.73	1.37	2.4
43	2	US real estate	IYR	0.98%	2.45	42	1.11	0.32	2.5	3.19	0.90	2.5	6.00	1.33	3.5
45	2	Russell midcap 400	MDY	1.02%	2.45	41	4.45	1.30	2.4	8.95	2.27	3.0	26.38	9.67	1.7
27	1	Home Depot	HD	0.96%	2.46	40	1.96	0.55	2.6	5.51	1.77	2.1	15.21	5.54	1.7
53	2	S&P 500 Materials	XLB	1.03%	2.53	39	0.75	0.22	2.5	1.64	0.47	2.5	4.85	1.39	2.5
22	1	GE	GE	1.07%	2.56	38	0.45	0.13	2.4	1.12	0.32	2.5	3.39	1.22	1.8
59	2	S&P 500 Utilities	XLU	0.94%	2.58	37	0.66	0.18	2.7	2.07	0.72	1.9	3.63	0.87	3.2
51	2	Oil	USO	1.54%	2.62	36	0.27	0.10	1.7	0.88	0.31	1.9	3.81	1.37	1.8
30	1	3M	MMM	0.81%	2.71	35	2.01	0.46	3.3	5.98	1.90	2.1	13.43	3.87	2.5
16	1	WalMart	WMT	0.94%	2.82	34	0.93	0.23	3.0	2.96	0.91	2.3	7.55	2.49	2.0
19	1	Merck	MRK	1.04%	2.85	33	0.89	0.24	2.7	3.18	1.09	1.9	6.75	2.24	2.0
24	1	Boeing	BA	1.23%	2.87	32	3.14	0.94	2.3	7.43	2.11	2.5	19.53	5.92	2.3
6	1	ExxonMob	XOM	1.11%	2.90	31	1.25	0.34	2.6	3.51	1.08	2.2	8.65	2.44	2.5
42	2	Russell smallcaps	IWM	1.29%	2.97	30	2.50	0.75	2.3	5.48	1.66	2.3	11.66	3.40	2.4
18	1	Csico	CSCO	1.05%	2.98	29	0.46	0.12	2.8	1.38	0.50	1.8	3.64	1.13	2.2
14	1	IBM	IBM	1.04%	2.99	28	2.39	0.62	2.9	7.20	2.33	2.1	15.83	3.83	3.1
4	1	Verizon	VZ	1.02%	3.00	27	0.67	0.17	2.9	2.28	0.73	2.1	5.29	1.71	2.1
8	1	Coke	KO	0.72%	3.03	26	0.38	0.07	4.2	1.36	0.46	2.0	3.55	1.09	2.3
2	1	Microsoft	MSFT	1.01%	3.08	25	0.87	0.21	3.1	2.66	0.88	2.0	6.77	2.17	2.1
9	1	Disney	DIS	0.84%	3.13	24	1.21	0.25	3.7	3.77	1.29	1.9	13.58	5.52	1.5
21	1	Pfizer	PFE	0.97%	3.16	23	0.43	0.10	3.2	1.74	0.67	1.6	3.94	1.30	2.0
55	2	S&P 500 Finance	XLF	1.44%	3.29	22	0.48	0.15	2.3	0.98	0.32	2.1	2.83	1.21	1.3
54	2	S&P 500 Energy	XLE	1.33%	3.30	21	1.29	0.37	2.5	3.42	1.10	2.1	8.75	2.29	2.8
28	1	duPont	DD	1.49%	3.42	20	1.67	0.51	2.3	3.64	1.15	2.2	9.94	3.14	2.2
5	1	Chevron	CVX	1.32%	3.47	19	1.93	0.53	2.6	4.81	1.39	2.5	12.02	3.16	2.8
20	1	Intel	INTC	1.31%	3.56	18	0.63	0.17	2.7	1.86	0.60	2.1	4.09	1.06	2.9
32	2	Mexico	EWW	1.35%	3.77	17	0.95	0.25	2.8	3.97	1.74	1.3	7.14	2.17	2.3
1	1	JP Morgan	JPM	1.73%	4.18	16	2.11	0.62	2.4	4.28	1.34	2.2	9.43	3.21	1.9
7	1	Nike	NKE	1.53%	4.20	15	1.17	0.31	2.7	2.90	0.98	2.0	19.86	12.67	0.6
26	1	AmExpress	AXP	1.29%	4.23	14	1.29	0.30	3.3	3.60	1.26	1.9	9.10	2.94	2.1

<u>"Frog list"</u>

1. **Frogs:** targets likely to jump the furthest as measured by a multiple of their standard deviation
2. **Sample populations:**
   1. Dow30
   2. ETF30
   3. etc
3. **Method:** calculate the following:
   1. Ranges of the last "x" days
   2. AverageRange (x)
   3. MaxRange (x)
   4. MinRange(x)
   5. Stdev of ranges(x)
4. **Compute:**
   1. Rangestat = AvgRange +1SD
   2. Frog ratio = AvgRange/SD (FQN)
   3. MaxFrog ratio = MaxRange/SD
5. **Techniques:** trade targets that have moved an SD from the HOD/LOD after a waiting period:
   1. Slow frog: Open + 60 min
   2. Quick frog: Open +30 min
   3. Leap frog: adding pattern analysis and MACD-H
6. **Format:** Green highlight: exceptionally froggy compared to the sample populations

Holding "x" days: this table summarizes the rolling, last 10 years of trading data for the symbols show. It answers the question: "What has happened historically for gains & losses if you bought and held the symbol for "x" days ?" "Max" & "Min" show the absolute best and worst performance over the time periods, and then a range of performance between +/- 1 StDev, which creates a range of normal. The z-score tells you how many standard deviations from average we are today and the most extreme Z-scores of the lookback period

Holding "x" days

40	SPY	QQQ	DIA	MDY	IWM	EFA	EWJ	ILF	EEM	FXI	XLB	XLE	XLF
zmax	4.79	4.51	4.41	5.07	5.14	4.53	3.92	3.89	4.71	4.16	5.25	2.89	7.79
max	33.93%	36.28%	29.13%	43.20%	46.89%	37.95%	28.68%	46.92%	48.96%	46.50%	49.53%	27.36%	91.71%
+1 stdev	8.40%	9.87%	7.87%	10.02%	10.61%	8.84%	7.71%	12.22%	10.86%	11.71%	10.41%	9.76%	13.16%
avg	1.65%	2.35%	1.64%	1.88%	1.85%	0.59%	0.54%	0.19%	0.59%	0.69%	1.22%	0.45%	1.60%
-1 stdev	-5.09%	-5.17%	-4.59%	-6.27%	-6.91%	-7.66%	-6.64%	-11.84%	-9.69%	-10.33%	-7.98%	-8.85%	-9.97%
min	-37.54%	-38.41%	-30.90%	-44.70%	-45.19%	-40.99%	-31.64%	-56.33%	-51.81%	-53.88%	-46.35%	-45.09%	-54.90%
zmin	-5.81	-5.42	-5.23	-5.72	-5.37	-5.04	-4.48	-4.70	-5.10	-4.95	-5.17	-4.89	-4.89
stdev	0.07	0.08	0.06	0.08	0.09	0.08	0.07	0.12	0.10	0.11	0.09	0.09	0.12
z-score	-0.21	-0.11	-0.21	-0.45	-0.49	0.22	-0.09	0.02	0.24	-0.06	-0.23	-0.36	-0.52
today	0.21%	1.50%	0.34%	-1.76%	-2.47%	2.43%	-0.08%	0.41%	3.02%	0.00%	-0.87%	-2.91%	-4.44%

20	SPY	QQQ	DIA	MDY	IWM	EFA	EWJ	ILF	EEM	FXI	XLB	XLE	XLF
zmax	4.77	4.60	4.78	4.78	4.71	4.35	3.68	4.01	5.47	5.60	4.54	3.69	7.32
max	23.62%	25.58%	22.17%	28.51%	30.84%	25.24%	18.92%	32.98%	39.32%	44.38%	30.19%	24.83%	58.37%
+1 stdev	5.62%	6.50%	5.31%	6.73%	7.30%	6.06%	5.36%	8.30%	7.46%	8.24%	7.16%	6.91%	8.68%
avg	0.85%	1.20%	0.85%	0.96%	0.95%	0.33%	0.30%	0.10%	0.33%	0.38%	0.64%	0.24%	0.82%
-1 stdev	-3.92%	-4.09%	-3.61%	-4.81%	-5.40%	-5.40%	-4.77%	-8.10%	-6.80%	-7.48%	-5.87%	-6.42%	-7.04%
min	-29.41%	-28.16%	-26.82%	-34.67%	-33.22%	-33.74%	-26.85%	-48.10%	-44.62%	-40.11%	-35.17%	-36.83%	-36.65%
zmin	-6.35	-5.55	-6.20	-6.18	-5.38	-5.95	-5.36	-5.88	-6.30	-5.15	-5.50	-5.56	-4.77
stdev	0.05	0.05	0.04	0.06	0.06	0.06	0.05	0.08	0.07	0.08	0.07	0.07	0.08
z-score	-0.37	-0.27	-0.47	-0.38	-0.40	-0.09	-0.32	0.02	-0.19	-0.41	-0.38	-0.09	-0.60
today	-0.93%	-0.25%	-1.26%	-1.25%	-1.58%	-0.21%	-1.33%	0.28%	-1.00%	-2.88%	-1.81%	-0.34%	-3.92%

10	SPY	QQQ	DIA	MDY	IWM	EFA	EWJ	ILF	EEM	FXI	XLB	XLE	XLF
zmax	6.05	5.15	5.76	5.58	5.63	5.85	5.46	5.01	5.51	6.43	5.00	4.43	9.09
max	21.58%	20.25%	19.11%	23.53%	26.14%	24.54%	20.38%	29.72%	28.86%	37.02%	23.96%	22.42%	52.96%
+1 stdev	3.93%	4.42%	3.67%	4.62%	5.03%	4.34%	3.86%	5.99%	5.38%	5.92%	5.06%	5.19%	6.21%
avg	0.44%	0.61%	0.43%	0.49%	0.48%	0.17%	0.16%	0.07%	0.17%	0.19%	0.33%	0.16%	0.43%
-1 stdev	-3.06%	-3.21%	-2.81%	-3.64%	-4.07%	-4.00%	-3.55%	-5.85%	-5.04%	-5.54%	-4.40%	-4.87%	-5.35%
min	-26.77%	-24.05%	-24.65%	-28.62%	-28.89%	-29.10%	-27.12%	-40.48%	-35.97%	-41.13%	-27.62%	-35.89%	-35.10%
zmin	-7.79	-6.47	-7.73	-7.05	-6.45	-7.02	-7.36	-6.85	-6.94	-7.21	-5.91	-7.17	-6.15
stdev	0.03	0.04	0.03	0.04	0.05	0.04	0.04	0.06	0.05	0.06	0.05	0.05	0.06
z-score	-0.22	-0.32	-0.14	-0.24	-0.22	-0.13	-0.36	-0.02	-0.06	-0.15	-0.29	-0.12	-0.35
today	-0.32%	-0.62%	-0.04%	-0.49%	-0.54%	-0.37%	-1.18%	-0.06%	-0.15%	-0.67%	-1.02%	-0.46%	-1.60%

5	SPY	QQQ	DIA	MDY	IWM	EFA	EWJ	ILF	EEM	FXI	XLB	XLE	XLF
zmax	7.32	5.03	6.77	7.22	6.66	6.15	5.81	6.98	7.61	7.11	6.21	6.74	7.85
max	19.40%	14.40%	16.62%	22.82%	22.87%	19.30%	16.15%	31.92%	30.57%	31.05%	21.70%	25.83%	34.82%
+1 stdev	2.84%	3.10%	2.64%	3.37%	3.64%	3.21%	2.85%	4.62%	4.10%	4.46%	3.64%	3.91%	4.62%
avg	0.22%	0.30%	0.21%	0.25%	0.24%	0.09%	0.08%	0.05%	0.10%	0.10%	0.17%	0.09%	0.21%
-1 stdev	-2.40%	-2.50%	-2.21%	-2.88%	-3.16%	-3.04%	-2.69%	-4.52%	-3.91%	-4.25%	-3.30%	-3.72%	-4.19%
min	-19.79%	-16.09%	-18.85%	-21.15%	-21.86%	-20.78%	-18.12%	-30.64%	-26.08%	-34.55%	-21.63%	-25.19%	-30.30%
zmin	-7.64	-5.85	-7.86	-6.85	-6.50	-6.68	-6.57	-6.72	-6.54	-7.96	-6.28	-6.62	-6.92
stdev	0.03	0.03	0.02	0.03	0.03	0.03	0.03	0.05	0.04	0.04	0.03	0.04	0.04
z-score	-0.21	-0.25	-0.13	-0.25	-0.19	0.09	0.11	0.02	0.19	-0.05	-0.55	-0.55	-0.20
today	-0.33%	-0.41%	-0.11%	-0.54%	-0.39%	0.36%	0.39%	0.13%	0.87%	-0.13%	-1.75%	-2.02%	-0.68%

4/17/2017	Intraday Range Percentages							
	30day				200 day			
	Stdev	Avg	Avg+1SD	Max	Stdev	Avg	Avg+1SD	Max
SPY	0.31%	0.68%	0.98%	1.72%	0.35%	0.68%	1.03%	2.20%
DIA	0.28%	0.63%	0.91%	1.54%	0.33%	0.63%	0.96%	2.58%
QQQ	0.38%	0.74%	1.11%	2.08%	0.43%	0.81%	1.24%	3.61%
MDY	0.43%	0.99%	1.43%	2.54%	0.40%	0.93%	1.33%	2.94%
IWM	0.58%	1.27%	1.85%	3.49%	0.49%	1.18%	1.67%	3.90%
EWJ	0.25%	0.47%	0.72%	1.24%	0.24%	0.56%	0.80%	1.47%
EPP	0.35%	0.61%	0.96%	1.95%	0.36%	0.69%	1.05%	2.37%
EFA	0.83%	0.66%	1.50%	4.87%	0.44%	0.64%	1.08%	4.87%
ILF	0.64%	1.63%	2.27%	3.72%	0.75%	1.64%	2.39%	4.83%
EEM	0.44%	0.77%	1.22%	2.49%	0.48%	0.90%	1.38%	2.94%
GLD	0.34%	0.67%	1.01%	1.92%	0.42%	0.81%	1.23%	2.95%
SLV	0.62%	1.06%	1.68%	3.10%	0.82%	1.46%	2.28%	7.23%
USO	0.95%	1.62%	2.57%	5.62%	1.19%	2.16%	3.35%	9.52%
VXX	1.55%	3.64%	5.19%	7.60%	1.88%	3.71%	5.59%	11.64%

Dow 30 Industrials	Intraday range Percentages							
	30day				200 day			
	Stdev	Avg	Avg+1SD	Max	Stdev	Avg	Avg+1SD	Max
AA	1.37%	3.66%	5.03%	7.05%	#VALUE!	#VALUE!	#VALUE!	#VALUE!
AXP	0.40%	1.24%	1.64%	2.33%	0.58%	1.38%	1.97%	4.54%
BA	0.52%	1.20%	1.72%	2.70%	0.64%	1.39%	2.04%	6.51%
BAC	1.18%	2.18%	3.36%	6.99%	0.83%	1.93%	2.76%	6.99%
CAT	0.68%	1.84%	2.53%	3.57%	0.79%	1.71%	2.50%	6.24%
CSCO	0.36%	1.03%	1.39%	2.04%	0.48%	1.21%	1.69%	3.06%
CVX	0.49%	1.29%	1.78%	2.65%	0.55%	1.35%	1.90%	3.93%
DD	0.63%	1.47%	2.10%	2.85%	0.75%	1.52%	2.26%	5.95%
DIS	0.22%	0.85%	1.07%	1.40%	0.49%	1.07%	1.56%	3.86%
GE	0.44%	1.06%	1.50%	2.64%	0.54%	1.11%	1.65%	3.32%
HD	0.38%	0.94%	1.32%	2.13%	0.58%	1.26%	1.83%	4.71%
HPQ	0.64%	1.69%	2.33%	3.15%	1.03%	2.01%	3.03%	7.50%
IBM	0.36%	1.01%	1.37%	2.04%	0.54%	1.20%	1.74%	4.77%
INTC	0.47%	1.31%	1.79%	3.13%	0.58%	1.42%	1.99%	4.06%
JNJ	0.36%	0.90%	1.25%	1.86%	0.49%	1.00%	1.50%	3.66%
JPM	0.72%	1.68%	2.40%	4.10%	0.62%	1.40%	2.02%	4.10%
UNH	0.30%	1.14%	1.44%	1.85%	0.62%	1.39%	2.02%	5.62%
KO	0.17%	0.73%	0.91%	1.16%	0.46%	0.96%	1.42%	3.44%
MCD	0.23%	0.74%	0.98%	1.48%	0.48%	1.02%	1.50%	3.42%
MMM	0.24%	0.81%	1.05%	1.26%	0.44%	0.97%	1.40%	3.03%
MRK	0.37%	1.04%	1.41%	2.00%	0.86%	1.43%	2.29%	9.65%
MSFT	0.33%	1.03%	1.36%	2.13%	0.53%	1.22%	1.74%	4.87%
PFE	0.29%	0.98%	1.28%	1.67%	0.69%	1.31%	2.00%	5.82%
PG	0.23%	0.74%	0.97%	1.19%	0.49%	1.02%	1.51%	4.24%
T	0.25%	0.92%	1.17%	1.58%	0.62%	1.25%	1.87%	4.56%
TRV	0.22%	0.91%	1.14%	1.63%	0.51%	1.07%	1.58%	3.89%
UTX	0.77%	1.11%	1.87%	4.73%	0.58%	1.12%	1.70%	4.73%
VZ	0.35%	1.01%	1.36%	1.97%	0.54%	1.24%	1.79%	3.36%
WMT	0.32%	0.99%	1.30%	1.85%	0.51%	1.20%	1.71%	4.01%
XOM	0.42%	1.10%	1.52%	2.31%	0.56%	1.27%	1.83%	4.48%

Intraday range percentages
These charts show the intraday ranges we can consider "normal" based on 30 and 200 day look back periods

Purpose: to calibrate our expectations for normal moves

Design goals: account for different measures of volatility; measure using descriptive statistics. Find limits of normal as well as the maximum moves in the 2 time periods

Application: when you have identified the tentative high or low of the day, these stats will help define what the rest of the day could be expected to be

Method:
1. Calc the daily ranges of each day of the last 30 and 200 days.
2. Calc the usual descriptive stats

Comments:
1. Related to the gap stat, but this covers the period of the day we can be trading with some degree of control

DOW 30 SQN report:
This reports the SQN ™ of the Dow 30 industrial companies, over various time periods. It can be used to find both short term and longer term momentum trade candidates, as well as a way to evaluate sector and regional rotations.

Color-coding analyzes where each symbols SQN falls within the range of SQN's of this peer group. Green is >1sd above average, Red is >1SD below Avg

Divergences measure the difference between a symbol's SQN over the 2 timeframes. Color-codes depend on where that symbol's divergence falls within the range of SQN's of this peer group.

The default sort is by the 31-260 time frame.

Divergence		Quality				Dow Quality Report		As Of:	4/17/2017
30-60	30-264	1-30	31-60	61-90	31-264	Name	Ticke	Pric	Change%
-5.9	-4.3	-2.7	3.2	0.3	1.6	JP Morgan	JPM	85.86	1.73
-6.1	-5.1	-3.6	2.5	0.4	1.5	Goldman Sachs	GS	226.26	1.32
-4.9	-2.2	-0.7	4.2	2.4	1.5	Boeing	BA	179.02	1.94
-2.0	-1.2	-0.1	2.0	0.3	1.1	United Health	UNH	167.18	1.35
-3.3	-2.8	-1.8	1.6	2.4	1.1	AmExpress	AXP	76.67	1.15
-8.5	-3.7	-2.7	5.8	1.2	1.0	Csico	CSCO	32.61	0.59
-6.3	-4.1	-3.2	3.2	1.7	1.0	IBM	IBM	171.1	0.93
-3.1	-1.5	-0.6	2.5	0.1	1.0	duPont	DD	78.09	0.84
-3.7	-0.2	0.8	4.4	5.0	0.9	Apple	AAPL	141.83	0.55
-2.9	0.0	1.0	3.9	0.9	0.9	J&J	JNJ	125.72	0.58
-2.1	-3.3	-2.4	-0.2	1.1	0.9	Chevron	CVX	106.17	0.07
-2.7	-0.4	0.5	3.2	2.0	0.9	3M	MMM	190.36	0.91
-6.5	-4.2	-3.4	3.1	0.3	0.9	Merck	MRK	62.8	0.3
-0.6	-1.0	-0.2	0.5	0.0	0.8	Caterpillar	CAT	94.14	1.12
-5.7	-1.8	-1.1	4.6	0.2	0.7	Pfizer	PFE	34	0.35
-0.3	1.2	1.9	2.2	3.0	0.7	Disney	DIS	113.78	0.51
-0.5	-0.2	0.5	1.0	1.3	0.7	United Tech	UTX	113.27	1.05
-0.2	0.6	1.3	1.5	1.4	0.7	Microsoft	MSFT	65.48	0.82
-2.1	0.1	0.8	2.9	2.2	0.6	Visa	V	89.81	1.06
-2.3	-0.7	-0.1	2.2	1.5	0.6	P&G	PG	90.39	0.4
-4.1	-0.4	0.2	4.3	1.7	0.6	Home Depot	HD	147.31	0.96
-0.2	-1.1	-0.6	-0.3	2.4	0.5	Intel	INTC	35.48	0.65
-3.4	-1.1	-0.7	2.8	1.1	0.4	Travelers	TRV	121.92	1.15
-0.9	2.5	2.8	3.7	1.4	0.3	McDonalds	MCD	131.35	0.45
1.9	2.9	3.1	1.1	-0.9	0.2	WalMart	WMT	73.49	0.46
0.3	-0.5	-0.4	-0.7	-1.0	0.1	ExxonMob	XOM	81.58	-0.13
0.3	-0.7	-0.7	-1.0	0.6	-0.1	GE	GE	29.64	0.27
0.5	-0.7	-0.8	-1.2	2.3	-0.1	Verizon	VZ	48.81	0.39
-2.5	0.1	-0.1	2.4	0.6	-0.2	Nike	NKE	56.24	1.63
0.4	2.2	1.9	1.5	0.6	-0.3	Coke	KO	43.07	0.65

ETF30 SQN report:

This reports the SQN ™ of the ETF30 over various time periods. It can be used to find both short term and longer term momentum trade candidates, as well as a way to evaluate sector and regional rotations.

Color-coding analyzes where each symbols SQN falls within the range of SQN's of this peer group. Green is >1sd above average, Red is >1SD below Avg

Divergences measure the difference between a symbol's SQN over the 2 timeframes. Color-codes depend on where that symbol's divergence falls within the range of SQN's of this peer group.

The default sort is by the 31-260 time frame.

Divergence		Quality				ETF Quality Report		As Of:	4/17/2017
30-60	30-2	1-30	31-60	61-90	31-26		Ticke	Pric	Change
0.84	0.22	1.85	1.01	-1.08	1.63	Coal	KOL	14.15	0.5
-5.41	-3.95	-2.55	2.87	0.42	1.40	S&P 500 Finance	XLF	23.3	1.75
-6.34	-2.77	-1.39	4.95	2.17	1.38	Dow 30	DIA	206.17	0.88
-5.07	-2.01	-0.90	4.17	2.03	1.11	S&P 500	SPY	234.57	0.89
-3.38	-2.11	-1.01	2.37	0.93	1.10	S&P 500 Industrial	XLI	64.72	1.09
-2.22	-1.88	-0.78	1.44	0.38	1.10	Russell smallcaps	IWM	135.29	1.17
-4.32	-0.78	0.31	4.63	3.06	1.09	S&P 500 Technology	XLK	52.85	0.92
-4.72	-0.62	0.46	5.18	3.54	1.08	Nasdaq 100	QQQ	131.48	0.83
-3.05	-1.97	-0.94	2.12	0.78	1.04	Russell midcap 400	MDY	309.22	1.23
-1.69	-1.27	-0.40	1.29	2.94	0.88	Brazil	EWZ	37.55	4.05
-2.44	-1.58	-0.72	1.72	0.66	0.86	S&P 500 Materials select	XLB	51.68	0.72
-2.23	-0.04	0.63	2.86	1.19	0.67	S&P 500 Consumer discretionary	XLY	87.44	1.03
-5.96	-1.96	-1.29	4.66	1.68	0.67	S&P 500 Healthcare select	XLV	74.25	0.36
-1.68	-0.47	0.19	1.87	1.99	0.66	Latin America	ILF	31.96	3
-0.60	0.81	1.48	2.08	1.73	0.66	Asia less Japan	EPP	44.75	0.56
0.03	-1.68	-1.02	-1.05	-0.47	0.65	S&P 500 Energy	XLE	69.46	0.22
-1.80	-0.78	-0.20	1.59	1.02	0.58	Japan	EWJ	51.15	1.07
-1.00	0.20	0.75	1.75	-0.04	0.55	China	FXI	38.46	0.52
-0.71	0.38	0.91	1.62	0.43	0.53	Silver	SLV	17.43	-0.57
-0.68	1.00	1.52	2.20	1.37	0.52	Emerging markets	EEM	39.55	1.05
-1.06	0.82	1.23	2.30	2.39	0.41	EAFE index	EFA	61.97	0.62
-0.76	-0.79	-0.39	0.37	-0.26	0.40	Oil	USO	11.06	-0.63
-3.09	0.38	0.75	3.84	2.18	0.37	S&P 500 Consumer staples	XLP	55.23	0.71
-1.86	0.43	0.79	2.65	1.88	0.35	S&P 500 Utilities	XLU	51.91	0.45
-0.67	0.90	1.24	1.91	1.58	0.33	US real estate	IYR	80.79	1.25
-0.76	1.10	1.39	2.16	2.72	0.29	Europe	IEV	41.68	0.63
4.30	1.65	1.80	-2.50	-0.65	0.15	Nat Gas	UNG	7.53	-1.7
0.90	2.12	2.18	1.28	1.28	0.06	Gold	GLD	122.24	-0.29
-1.52	-2.65	-2.71	-1.19	2.41	-0.06	Ag	DBA	19.68	-0.1
-0.62	2.80	2.62	3.23	-1.28	-0.18	Mexico	EWW	51.79	1.17
2.00	2.19	1.91	-0.09	0.42	-0.28	Long term treasuries	TLT	123.09	-0.31

Transportation sector SQN report:
This reports the SQN ™ of the Dow transportation sector companies, over various time periods. It can be used to find both short term and longer term momentum trade candidates, as well as a way to evaluate sector and regional rotations.

Color-coding analyzes where each symbols SQN falls within the range of SQN's of this peer group. Green is >1sd above average, Red is >1SD below Avg

Divergences measure the difference between a symbol's SQN over the 2 timeframes. Color-codes depend on where that symbol's divergence falls within the range of SQN's of this peer group.

The default sort is by the 31-260 time frame.

Divergence		Quality				Dow Trans Quality Report		As Of:	4/17/2017
30-6(	30-2	1-30	31-60	61-90	31-26		Ticke	Pric	Change
1.53	0.77	0.76	-0.78	0.50	-0.01	JetBlue Airways Corporation	JBLU	20.92	0.92
-4.43	-3.81	-3.21	1.23	2.30	0.60	Alaska Air Group, Inc.	ALK	86.91	0.67
-1.48	-1.87	-1.99	-0.50	-0.64	-0.12	Matson, Inc.	MATX	31.02	0.91
-1.52	-1.59	-1.04	0.48	1.69	0.55	United Continental Holdings, Inc.	UAL	70.77	2.46
-2.35	-1.90	-1.13	1.22	-1.35	0.77	FedEx Corporation	FDX	185.54	0.99
-4.04	-2.19	-1.49	2.55	1.59	0.71	Southwest Airlines Co.	LUV	54.72	0.75
-3.34	-3.17	-2.99	0.34	0.90	0.17	Delta Air Lines Inc.	DAL	44.35	0.73
-2.49	-1.09	-0.38	2.11	-0.45	0.71	Expeditors International of Washin	EXPD	56.02	1.21
-3.76	-3.34	-2.72	1.05	-1.06	0.63	JB Hunt Transport Services Inc.	JBHT	89.11	-0.03
-2.13	-2.23	-1.08	1.05	-0.52	1.15	Landstar System Inc.	LSTR	84.35	1.57
-3.29	-2.62	-1.19	2.11	1.84	1.44	CSX Corp.	CSX	47.23	1.74
-1.34	-1.07	-0.52	0.82	-1.72	0.54	Ryder System, Inc.	R	75.01	1.92
0.90	-0.61	-0.41	-1.31	-0.84	0.20	United Parcel Service, Inc.	UPS	104.87	1.09
-6.16	-3.15	-2.72	3.44	-0.73	0.43	CH Robinson Worldwide Inc.	CHRW	75.67	1.63
-2.08	-2.10	-0.96	1.11	1.03	1.14	Union Pacific Corporation	UNP	105.98	1.15
-1.24	0.07	0.30	1.53	-0.09	0.22	Kansas City Southern	KSU	89.88	2.14
-4.15	-3.28	-2.10	2.05	1.80	1.18	Norfolk Southern Corp.	NSC	113.19	1.44
-4.15	-3.28	-2.10	2.05	1.80	1.18	Con-way Inc.	NSC	113.19	1.44
-2.21	-1.10	-0.70	1.51	-0.17	0.40	Kirby Corporation	KEX	67.6	1.27

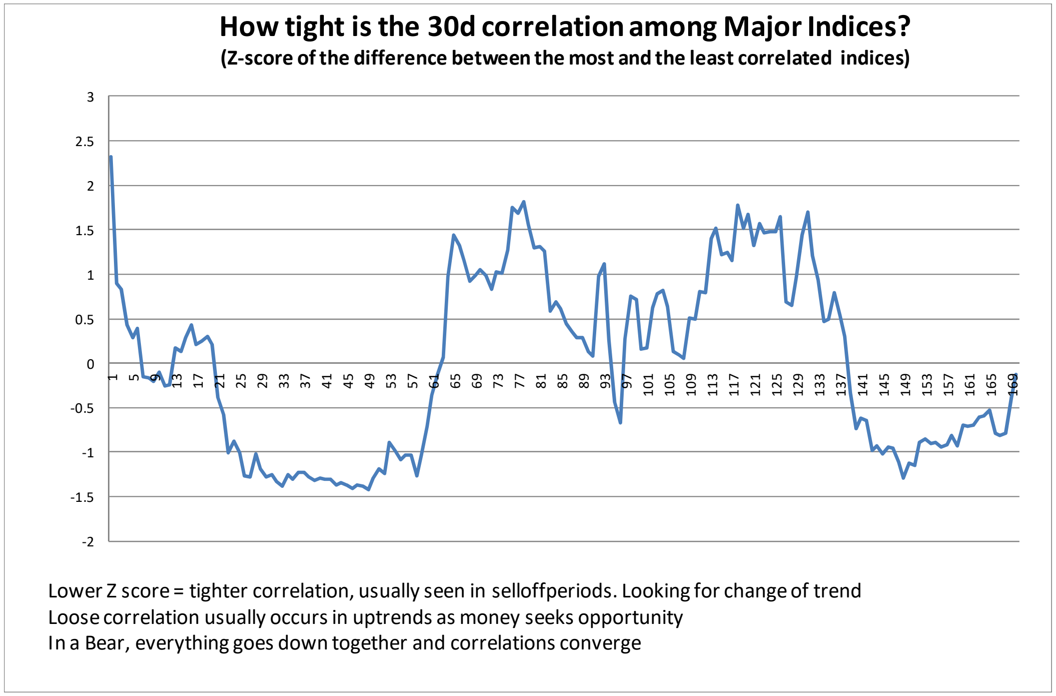
Index correlation report

Examines the correlation coefficient between major indices over different time periods

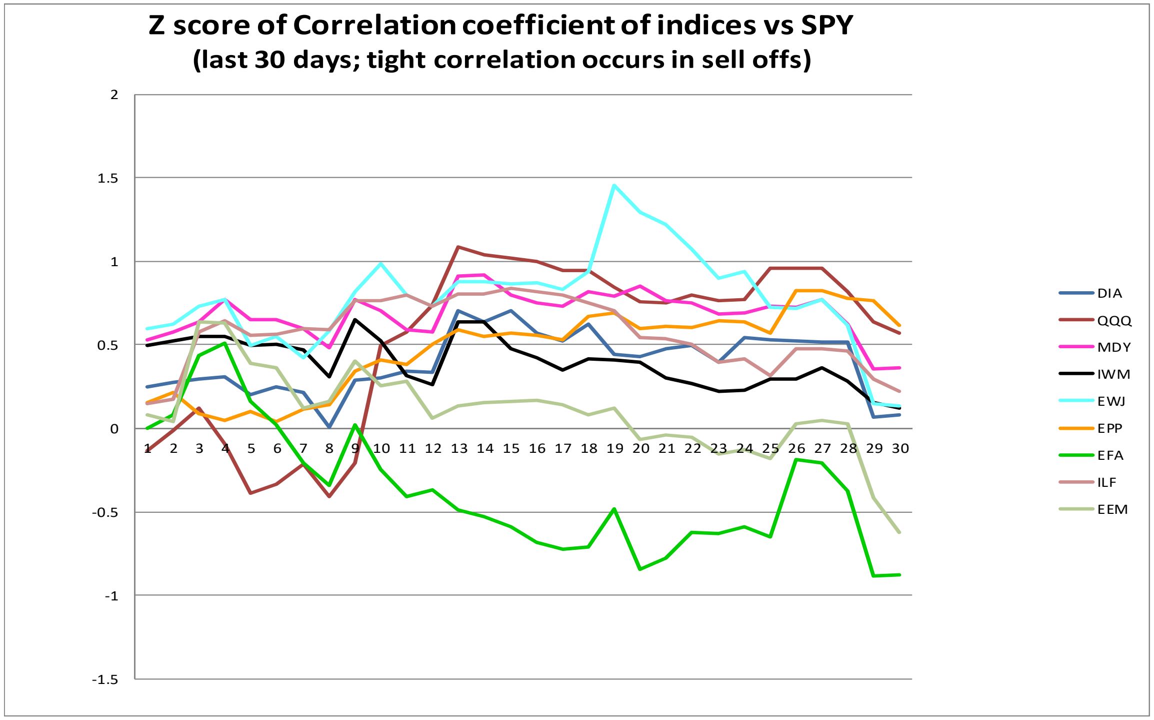
Exceptionally strong or weak correlations are highlighted in Green and Red respectively

	SPY	ILF	EWJ	EPP	EFA	IEV	EEM	IVV	TLT	IWM	AGG	QQQ	DIA	GLD	DBC	USO
SPY																
ILF	0.61															
EWJ	0.57	0.52														
EPP	0.72	0.67	0.56													
EFA	0.77	0.66	0.72	0.80												
IEV	0.72	0.60	0.53	0.71	0.96											
EEM	0.67	0.86	0.58	0.81	0.77	0.70										
IVV	0.99	0.59	0.56	0.70	0.77	0.71	0.66									
TLT	-0.10	0.21	0.12	0.11	0.02	-0.02	0.20	-0.10								
IWM	0.83	0.42	0.46	0.57	0.62	0.58	0.48	0.86	-0.21							
OEF	0.00	0.28	0.17	0.21	0.16	0.12	0.31	-0.01	0.91	-0.13						
QQQ	0.85	0.62	0.53	0.64	0.66	0.60	0.67	0.84	0.05	0.64	0.12					
DIA	0.94	0.50	0.52	0.65	0.71	0.65	0.57	0.93	-0.20	0.79	-0.11	0.72				
GLD	-0.05	0.19	0.09	0.18	0.13	0.12	0.25	-0.06	0.56	-0.15	0.63	0.00	-0.13			
DBC	0.29	0.41	0.14	0.34	0.33	0.34	0.37	0.29	-0.11	0.24	-0.01	0.15	0.27	0.10		

	SPY correllations				
42842.00	**200days**	**100days**	**50days**	**30days**	**AVG**
EWJ	0.57	0.63	0.67	0.68	0.64
EFA	0.77	0.72	0.68	0.69	0.72
IEV	0.72	0.62	0.56	0.55	0.61
ILF	0.61	0.55	0.69	0.71	0.64
AGG	0.00	-0.15	-0.27	-0.07	-0.12
EPP	0.72	0.60	0.70	0.74	0.69
EEM	0.67	0.57	0.63	0.57	0.61
IWM	0.83	0.81	0.86	0.85	0.84
QQQ	0.85	0.81	0.89	0.90	0.86
TLT	-0.10	-0.22	-0.39	-0.22	-0.23
DIA	0.94	0.92	0.95	0.94	0.94
GLD	-0.05	-0.11	-0.07	-0.07	-0.07
DBC	0.29	0.12	0.27	0.21	0.22
USO	0.27	0.11	0.30	0.33	0.25
Max	0.94	0.92	0.95	0.94	0.94
Min	-0.10	-0.22	-0.39	-0.22	-0.23
Avg	0.60	0.52	0.53	0.57	0.56



Index correlation report
Top chart examines the Z-score of the 30 day correlation coefficient of major indices to SPY over the last 30 days to check on current relationships between regions



Index correlation spread report
Chart examines the Z-score of the 30day correlation coefficient of major indices to SPY. It measures the width of the channel between the least and the most correlated indices, based on z-score, in order to get a sense of how the indices are behaving with respect to SPY

When the market is growing, the width expands as money seeks gains through divergence, trying to find the leader.