3/5/2018

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 6-18: additional level of research detail.

3/5/2018	Volatile	Normal	Quiet
Bullish			
Sideways			
Bearish			

Market classification

	Annual	10 Day
Overbought		
Neutral	57	52
Oversold		

Price location: long term, short term

3/5/2018	Comment	Measure	Value	Comment
	(Weekly RSI of >70 and <30 are extreme readings)	WeeklyRSI(14)	57.0	Neutral
	(Long term trend) Price relative to 200day MA	200dma	6.22%	Bullish
	5day slope of the 50dMA	Slope50dMA	0.13%	Bearish
	Intermediate trend strength (ADX over last 14 days)	ADX(14)	27.7	Strong
	Short term trend (close compared to hi/lo of last 10 days)	Ndx(10)	52.3	Neutral
	Relative Volatility (ATR% vs StDev over last 100 days)	ATR%(100)	1.63%	Volatile
	Risk Index: ^VIX MA(30/10); <=1.0 is Risk Off	^VIX MA(30/10)	1.047	Risk On
	Z score of ^VIX MA(30/10), n= 5000; normal between 1, -1	Risk Z	0.44	

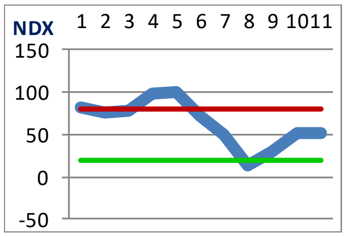
The Market Mosaic: *(Hat tip to Robert Gardner, legendary trader, mentor and friend)*
a collection of indicators I use to describe different aspects of the market condition from independent perspectives.

Gap statistics describe the recent behavior of SPY from Close to Open

Gap stats	last 200 days			last 30 days		
gap down, drop	14%	28	-0.52%	23%	7	-1.11%
gap down, reverse	26%	51	0.37%	27%	8	1.32%
gap up, reverse	30%	59	-0.33%	27%	8	-1.06%
gap up, gain	32%	63	0.31%	23%	7	0.60%

Gaps:	SPY
max	1.23%
avg	0.05%
min	-1.51%
STD	0.32%

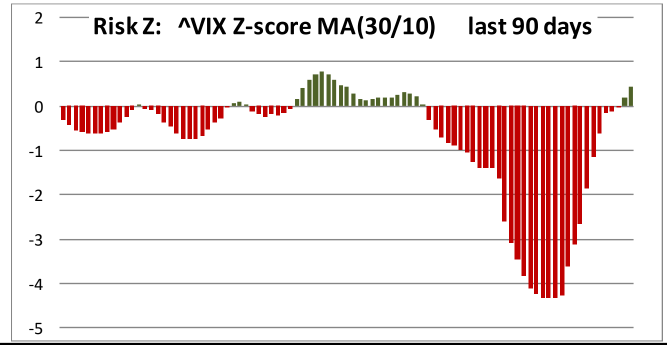
Intraday moves	
Max	4.8%
+1SD	1.4%
Avg	0.7%
-1SD	0.0%
Min	0.1%
StDev	0.7%



NDX(10): SPY price location, last 10 days

Risk-Z: a stats-based indicator that guides our approach to swing trade opportunities

Risk Z	20 yr lookback VIX	Z VIX	Index	Z
max	80.9	7.02	1.30	3.25
+1sd	29.0	1.00	1.10	1.00
avg	20.3	0.00	1.01	0.00
-1sd	11.7	-1.00	0.92	-1.00
min	9.1	-1.30	0.62	-4.33
sd	8.6	1.00	0.09	1.00
today	18.7	-0.19	1.05	0.44



Channeling and Overreaction systems are conservative, purely-mechanical systems for the large indexes

3/5/2018		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	No	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes
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									

Pivot points identify key intraday support and resistance

Daily Pivots	SPY	DIA	QQQ	MDY	IWM
High	272.89	249.63	168.26	346.32	154.26
Low	267.61	243.80	164.59	340.08	151.47
Close	272.19	248.84	167.83	345.37	153.71
R3	279.46	256.88	172.87	354.01	157.61
R2	276.18	253.25	170.56	350.16	155.94
R1	274.18	251.05	169.20	347.77	154.82
Pivot	270.90	247.42	166.89	343.92	153.15
S1	268.90	245.22	165.53	341.53	152.03
S2	265.62	241.59	163.22	337.68	150.36
S3	263.62	239.39	161.86	335.29	149.24

3/5/2018	10 day Min Pain	10 day Max Pain
Dow 30	IBM , KO , INTC, MSFT, PG	MCD, CAT, WMT , NKE, DWDP
ETF100	SHV, SHY, CSJ, FXE, BSV	VXX, FXI, ITB, DXJ, EWY
SP100	PM, MDLZ, AMGN, AMZN, ORCL	LOW, GM, MCD, DVN, CAT

Min Pain and Max Pain are measured as a percentage loss from the symbols 10 day high.

I use these for to find relative strength winners and losers for short term opportunity trades(1-2 days in length)

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

Dow Summary													3/5/2018								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	6m	12m
	2.0							1.0	1	2.9	WalMart	WMT	89.98	3.91	1.34	1.9	0.89	1.12	1.41	0.58	64	1.36	-4.39	-15	-7.02	14.86	25.48	15	13	12	38	52
	2.0							1.0	2	3.8	Nike	NKE	65.05	2.31	0.78	2.0	0.63	0.80	0.72	0.44	4	-1.3	-3.62	-3.8	9.181	20.82	11.69	14	36	56	74	74
								1.0	3	3.7	McDonalds	MCD	151.03	6.79	2.72	1.5	0.89	1.73	2.27	0.48	37	1.86	-3.9	-12	-11.9	-4.66	18.13	23	15	13	13	47
									4	3.5	Disney	DIS	103.41	3.34	1.01	2.3	0.66	1.07	1.27	0.53	52	0.41	-2.42	-6.4	0	1.862	-6.09	25	30	24	42	36
									5	2.3	Home Depot	HD	181.74	8.86	3.58	1.5	0.92	2.15	3.07	0.53	65	1.84	-2.66	-9.1	2.928	22.59	25.12	36	21	28	57	61
										2.5	duPont	DWDP	69.66	3.09	1.13	1.7	0.36	1.00	0.91	0.47	58	1.8	-2.74	-5.2	-2.01	8.252	9.408	31	35	32	44	58
								1.0		2.6	Caterpillar	CAT	151.12	8.62	2.99	1.9	1.24	2.22	3.23	0.52	55	3.24	-2.85	-6.9	8.727	31.66	53.89	28	36	39	63	73
											GE	GE	14.42	0.69	0.22	2.1	0.13	0.24	0.23	0.49	81	2.12	-2.17	-10	-21.7	-40.7	-52.5	37	20	9	4	3
1.0											Merck	MRK	54.40	1.81	0.61	2.0	0.39	0.56	0.64	0.49	60	0.07	-1.05	-9.1	-0.96	-13.3	-16.7	33	17	12	10	9
											P&G	PG	80.29	2.16	0.71	2.0	0.31	0.56	0.88	0.55	79	0.99	-1.29	-6.5	-10.2	-13	-12.2	45	25	16	14	14
										2.2	3M	MMM	232.81	8.64	3.13	1.8	1.20	2.42	3.02	0.47	53	1.06	-0.96	-6.1	-1.2	15.18	25.14	35	42	35	55	65
											J&J	JNJ	129.79	5.75	2.55	1.3	0.46	1.32	1.85	0.57	66	0.75	-0.83	-7.3	-7.31	-2.33	8.593	41	37	29	29	39
											Goldman Sachs	GS	263.12	11.47	4.13	1.8	1.64	4.07	3.25	0.57	71	1.94	-0.67	-3.3	9.904	18	4.525	52	70	73	82	83
										2.2	AmExpress	AXP	96.66	4.19	1.71	1.5	0.49	1.18	1.27	0.54	59	1.11	-0.55	-3.3	1.448	13.24	21.04	39	63	61	69	79
											Verizon	VZ	48.71	1.63	0.51	2.2	0.31	0.50	0.64	0.52	86	0.93	-0.43	-10	-0.23	0.828	-1.93	41	17	24	44	49
											Coke	KO	43.89	1.25	0.42	1.9	0.16	0.37	0.45	0.55	82	0.39	-0.23	-7.5	-4.23	-3.35	5.505	38	30	26	26	38
											Visa	V	121.88	4.39	1.66	1.7	0.54	1.30	1.41	0.48	64	0.92	-0.11	-3.1	7.516	18.08	38.82	54	71	75	80	87
											Boeing	BA	352.75	17.40	6.77	1.6	2.82	5.66	4.67	0.46	59	2.34	-0.17	-1.2	31.63	47.75	101.2	48	65	82	86	91
											JP Morgan	JPM	115.06	4.75	1.95	1.4	0.72	1.46	1.27	0.47	67	1.54	0.31	-1.5	13.52	25.72	26.36	48	72	80	86	89
											Travelers	TRV	139.58	4.64	1.59	1.9	0.79	1.52	1.50	0.48	66	1.23	0.37	-6.9	4.939	11.16	14.5	42	38	48	70	70
											Pfizer	PFE	36.12	1.40	0.50	1.8	0.13	0.49	0.41	0.44	59	0.47	0.31	-1.9	0.753	8.697	7.532	44	61	47	51	57
											United Health	UNH	228.38	11.44	4.60	1.5	1.55	3.61	3.08	0.48	74	1.42	0.76	-2.9	5.663	17.27	42.23	44	52	47	65	76
										2.1	ExxonMob	XOM	76.27	2.82	1.02	1.8	0.38	0.83	0.96	0.48	69	0.95	0.69	-14	-6.61	-0.08	-5.76	33	15	15	15	15
											IBM	IBM	156.95	4.95	1.63	2.0	1.12	1.64	1.66	0.50	80	1.59	1.15	-3.4	2.938	9.801	-13.4	64	61	47	54	41
											Microsoft	MSFT	93.64	3.68	1.30	1.8	0.66	1.24	1.13	0.55	68	0.63	0.99	-0.7	10.32	28.82	45.49	56	80	84	90	93
											Cisco	CSCO	44.52	1.78	0.57	2.1	0.45	0.62	0.57	0.54	68	1.04	1.04	6.76	18	42.51	30.6	56	84	86	91	91
											Chevron	CVX	113.15	4.95	1.91	1.6	0.50	1.17	1.84	0.47	77	1.35	1.96	-9.9	-2.83	5.315	2.51	59	29	20	26	34
											Apple	AAPL	176.82	6.13	2.06	2.0	1.37	2.11	1.88	0.54	62	0.35	2.89	5.39	2.167	11.02	28.96	60	88	88	88	92
											United Tech	UTX	131.71	5.47	1.80	2.0	0.67	1.85	1.74	0.52	59	1.36	4.15	-4.8	11.89	14.23	16.91	46	57	67	75	77
											Intel	INTC	49.75	2.07	0.57	2.7	0.44	0.81	0.67	0.56	77	1.57	7.41	4.41	11.22	43.33	37.93	79	87	87	93	93

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													3/5/2018								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	6m	12m
1								1	1		Metals & mining	XME	36.92	1.49	0.41	2.7	0.23	0.49	0.59	0.48	45	-0.6	-1.4	-0.4	16.7	18.0	8.9	32	68	68	73	77
								1	2	2.1	Mexico	EWW	50.27	1.65	0.57	1.9	0.30	0.52	0.55	0.51	55	0.3	-2.3	-7.0	-1.4	-12.3	7.0	28	27	36	25	39
									3	3.0	Gold	GLD	125.18	1.50	0.49	2.1	0.55	0.44	0.57	0.42	47	-0.2	-0.8	-2.3	1.9	2.4	6.2	31	31	64	64	72
								1	4	2.2	Emerging markets	EEM	48.20	1.42	0.53	1.7	0.32	0.42	0.47	0.67	50	0.2	-1.4	-4.3	1.8	7.9	23.8	36	50	45	51	74
								1	5	2.2	Japan	EWJ	60.24	1.34	0.53	1.5	0.32	0.36	0.43	0.61	53	0.5	-1.4	-4.8	0.5	11.2	16.6	37	45	37	58	68
								1			VIX	VXX	43.32	7.03	3.15	1.2	1.10	2.09	1.71	0.50	29	-3.7	-1.3	49.3	38.8	-11.7	-39.3	39	54	57	57	35
								1		2.3	Europe	IEV	46.64	1.01	0.39	1.6	0.22	0.26	0.35	0.58	60	0.7	-1.6	-6.6	-1.1	3.5	15.6	36	33	29	29	62
								1		2.3	EAFE index	EFA	69.79	1.49	0.57	1.6	0.31	0.39	0.50	0.59	56	0.5	-1.4	-5.8	-0.8	5.2	15.0	35	40	35	39	64
1											Silver	SLV	15.49	0.31	0.10	2.1	0.12	0.08	0.13	0.45	28	-0.5	-0.3	-4.7	-2.6	-3.4	-9.5	40	22	39	31	33
											S&P 500 Materials	XLB	59.74	1.78	0.65	1.7	0.21	0.52	0.58	0.44	68	1.3	-0.8	-3.8	1.0	10.1	13.6	43	48	41	57	66
										2.2	S&P 500 Industrial	XLI	76.03	2.41	0.88	1.7	0.28	0.73	0.76	0.46	62	1.2	-0.6	-4.5	4.7	13.2	15.1	39	50	49	64	72
											Latin America	ILF	38.06	1.23	0.41	2.0	0.40	0.39	0.42	0.51	73	0.8	-0.4	-3.0	11.8	9.6	16.9	50	66	81	81	87
											Asia less Japan	EPP	47.46	1.01	0.36	1.8	0.26	0.30	0.33	0.59	21	-0.2	-0.4	-4.4	-1.1	2.7	8.0	26	52	48	48	61
											US real estate	IYR	73.79	1.99	0.63	2.2	0.22	0.65	0.69	0.46	77	1.1	-0.5	-4.5	-10.0	-8.2	-7.3	49	33	21	21	21
											S&P 500 Cons stpls	XLP	54.21	1.26	0.42	2.0	0.17	0.40	0.44	0.53	83	0.9	-0.2	-5.8	-1.9	-0.5	-1.4	46	28	25	27	27
											Dow 30	DIA	248.84	8.19	3.35	1.4	0.92	2.30	2.42	0.55	64	1.4	-0.2	-4.9	4.4	14.3	20.0	43	51	47	65	73
											S&P 500 Cons disc	XLY	104.28	3.28	1.25	1.6	0.39	0.95	1.05	0.50	73	1.2	-0.2	-2.2	8.9	18.0	19.7	53	60	66	76	79
											S&P 500 Energy	XLE	67.66	2.35	0.79	2.0	0.31	0.67	0.90	0.51	76	1.1	-0.1	-10.5	-0.1	7.9	-5.2	47	29	23	34	35
											Treasuries	TLT	118.03	1.65	0.54	2.1	0.53	0.43	0.67	0.45	24	-0.3	-0.1	-2.2	-6.9	-6.9	-1.9	49	24	13	12	12
											S&P 500 Finance	XLF	28.84	0.96	0.35	1.8	0.16	0.30	0.29	0.51	70	1.4	-0.2	-3.9	7.3	16.6	17.2	51	63	64	77	82
											Health care	XLV	84.40	2.51	0.89	1.8	0.29	0.83	0.77	0.54	69	0.9	-0.1	-4.2	2.4	6.9	14.2	49	46	40	45	62
											Brazil	EWZ	45.92	1.65	0.53	2.1	0.76	0.55	0.56	0.51	72	0.7	0.1	-1.7	12.0	13.9	14.4	53	73	80	82	88
											S&P 500	SPY	272.19	7.70	2.88	1.7	0.86	2.35	2.39	0.56	72	1.2	0.3	-3.3	3.5	11.6	15.2	52	63	57	67	74
											Russell midcap 400	MDY	345.37	8.97	3.14	1.9	1.15	2.73	2.97	0.54	83	1.1	0.6	-2.9	0.9	11.4	8.9	71	65	56	67	69
											S&P 500 Utilities	XLU	49.94	1.21	0.30	3.0	0.14	0.49	0.39	0.48	86	2.0	1.0	-0.6	-11.4	-9.1	-0.7	67	67	27	26	26
											Russell smallcaps	IWM	153.71	4.17	1.36	2.1	0.58	1.34	1.42	0.49	83	0.9	1.1	-2.0	0.6	12.6	10.1	71	70	62	73	76
											Nasdaq 100	QQQ	167.83	5.24	1.90	1.8	0.72	1.65	1.64	0.57	74	1.1	1.5	-0.1	7.2	18.0	28.6	67	86	85	90	93
											Oil	USO	12.59	0.39	0.11	2.6	0.11	0.14	0.13	0.55	82	1.8	1.6	-4.9	8.7	29.7	10.8	60	58	67	82	85
											S&P 500 Technology	XLK	68.37	2.16	0.81	1.7	0.31	0.69	0.64	0.59	73	1.0	1.7	-0.2	5.7	18.5	30.2	63	85	85	89	93
											Oil exploration	XOP	34.76	1.47	0.41	2.6	0.23	0.49	0.57	0.47	87	1.8	2.8	-6.3	0.2	17.1	-10.1	86	59	41	51	52

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Daily Pinch and Stretch Report for Dow30 and ETF30 symbols

Daily Pinch and Stretch Report for Dow 30 and ETF30

Most positive Z-stretch		
3/5/2018	Stretch from Bbmean	
Symbol	**%**	**Z**
VXX	7.88%	1.34
INTC	5.83%	1.29
CSCO	4.59%	1.02
AAPL	4.12%	0.70
XLK	1.98%	0.32
XLU	0.73%	0.28
QQQ	1.58%	0.11
EWZ	1.02%	0.05
IBM	-0.22%	-0.05
USO	-0.08%	-0.07
SPY	-0.42%	-0.97
IWM	0.41%	-0.20
DIA	-1.47%	-1.61
Price stretched above river		

Most negative Z-stretch		
3/5/2018	Stretch from Bbmean	
Symbol	**%**	**Z**
MCD	-8.51%	-3.55
WMT	-10.31%	-3.11
HD	-4.57%	-2.01
EFA	-2.34%	-1.85
CAT	-4.36%	-1.83
IEV	-2.82%	-1.81
DWDP	-3.53%	-1.73
EWJ	-1.98%	-1.65
DVN	-13.60%	-1.62
DIA	-1.47%	-1.61
Price stretched below river		

Most expanded Pinch box		
3/5/2018	Daily Pinch Box SD(30)	
Symbol	**%**	**Z**
WMT	7.53%	4.50
DVN	15.23%	4.36
KO	4.07%	4.32
XOM	7.03%	4.00
MCD	5.44%	3.66
XLP	3.44%	3.43
XLE	5.91%	3.33
CVX	6.49%	3.15
EFA	3.01%	3.02
VXX	18.17%	2.81
SPY	2.71%	2.76
IWM	2.58%	0.96
DIA	2.94%	2.29
River is very wide		

Most compressed Pinch Box		
3/5/2018	Daily Pinch Box SD(30)	
Symbol	**%**	**Z**
GLD	1.02%	-0.93
SLV	2.22%	-0.57
EWZ	2.80%	-0.47
NKE	2.29%	-0.27
JPM	2.12%	-0.24
ILF	2.46%	-0.22
USO	3.26%	-0.17
GS	2.63%	-0.10
BA	2.77%	-0.01
EWW	2.66%	0.10
River is very narrow		

Daily Superpinch candidates

River is pinched and all 4 RLs are tightly clustered)

1 day Stretch from the Bbmean for the top 10 symbols from the Dow30 and ETF30 symbols:

- This reports the %stretch between the Close and the Bbmean (the middle of the river).
- Also reports the Z-score of that stretch
- Extreme positive stretches are RS leaders; Extreme negative stretches are RS laggards
- From extreme conditions come extreme results:
- Either continuations or reversals tend to have larger than normal move
- These are ideal Z3P candidates for intraday moves on 30 min and 2 hr bars

Expansion of the Daily Pinch Box for the top 10 symbols from the Dow30 and ETF30:

- This reports the size of the SD(Price,30), with a 500 day look back period for context.
- Also reports the Z-score of that stretch;
  Tells you the relative size of the river compared to a long term look back for relevance
- Very pinched SDs come from exceptionally sideways moves in the last 30 days
- Very expanded SDs come from exceptionally trending moves in the last 30 days
- These are ideal Z3P candidates for intraday moves on 30 min and 2 hr bars

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

3/5/2018		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%
Nike	NKE	65.05	65.54	64.29	70.25	4.71	1.25	3.12	0.83	3.8	0.38	1.25	1.51	1.25	3.33	65.49	64.34	1.15	1.53	1.51	2.32%
MCDONALDS CP	MCD	151.03	151.53	147.92	164.75	13.22	3.61	3.66	1.00	3.7	0.90	3.66	3.61	3.61	15.60	151.48	147.92	3.56	4.08	3.61	2.39%
Disney	DIS	103.41	104.02	102.37	109.81	5.79	1.65	2.63	0.75	3.5	0.55	1.65	2.20	1.65	4.63	103.97	102.42	1.55	2.33	2.20	2.13%
Gold	GLD	125.18	125.53	124.91	127.40	1.87	0.62	1.67	0.55	3.0	0.28	0.62	1.12	0.62	2.30	125.48	124.96	0.52	1.02	1.12	0.90%
WAL MART STORES	WMT	89.98	90.55	88.02	97.94	7.39	2.53	2.58	0.88	2.9	0.72	2.53	2.86	2.53	7.52	90.50	88.07	2.43	2.56	2.86	3.18%
CATERPILLAR INC	CAT	151.12	151.91	147.08	164.60	12.69	4.83	2.63	1.00	2.6	1.21	7.95	4.83	4.83	16.08	151.86	144.01	7.85	5.63	4.83	3.20%
DU PONT E I DE NEM	DWDP	69.66	70.04	68.40	74.12	4.08	1.64	2.49	1.00	2.5	0.41	2.56	1.64	1.64	5.76	69.99	67.53	2.46	1.96	1.64	2.36%
EAFE index	EFA	69.79	69.89	68.97	72.03	2.14	0.92	2.33	1.00	2.3	0.23	1.05	0.92	0.92	2.66	69.84	68.89	0.95	0.91	0.92	1.32%
HOME DEPOT INC	HD	181.74	182.31	178.36	191.44	9.13	3.95	2.31	1.00	2.3	0.99	4.66	3.95	3.95	16.54	182.26	177.70	4.56	5.28	3.95	2.18%
Europe	IEV	46.64	46.72	46.12	48.09	1.37	0.60	2.29	1.00	2.3	0.15	0.80	0.60	0.60	1.83	46.67	45.97	0.70	0.62	0.60	1.28%
3M COMPANY	MMM	232.81	233.76	228.77	244.86	11.10	4.99	2.22	1.00	2.2	1.25	5.28	4.99	4.99	18.39	233.71	228.53	5.18	5.52	4.99	2.14%
Japan	EWJ	60.24	60.36	59.40	62.47	2.11	0.96	2.21	1.00	2.2	0.24	0.96	0.96	0.96	2.28	60.31	59.45	0.86	0.81	0.96	1.59%
S&P 500 Industrial	XLI	76.03	76.27	74.91	79.28	3.01	1.36	2.21	1.00	2.2	0.34	1.94	1.36	1.36	4.22	76.22	74.38	1.84	1.53	1.36	1.79%
Emerging markets	EEM	48.20	48.34	47.50	50.18	1.84	0.84	1.94	0.89	2.2	0.24	0.84	0.95	0.84	2.15	48.29	47.55	0.74	0.90	0.95	1.96%
AMER EXPRESS INC	AXP	96.66	97.34	95.15	102.12	4.78	2.19	2.19	1.00	2.2	0.55	2.69	2.19	2.19	8.11	97.29	94.70	2.59	2.48	2.19	2.26%

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

These symbols are the most ATR below their own RL270

Dow30 3/5/2018

symbol	ATR%	ATR	R:R
MCD	2.39%	3.61	7.39
PG	1.63%	1.31	6.10
JNJ	1.78%	2.31	5.42
KO	1.61%	0.71	4.19
WMT	3.18%	2.86	4.04

ETF100

symbol	ATR%	ATR	R:R
CSJ	0.09%	0.09	8.41
BSV	0.12%	0.09	7.79
LQD	0.49%	0.56	7.69
AGG	0.31%	0.33	6.63
IEF	0.41%	0.42	6.34

SP100

symbol	ATR%	ATR	R:R
MCD	2.39%	3.61	7.39
CELG	2.89%	2.57	7.02
GM	2.63%	0.99	6.33
PG	1.63%	1.31	6.10
UPS	2.42%	2.56	5.84

These symbols are the most ATR above their own RL270

Dow30

symbol	ATR%	ATR	R:R
CSCO	2.89%	1.29	-4.16
IBM	1.91%	2.99	-2.93
INTC	2.86%	1.42	-2.84
BA	2.65%	9.33	-1.78
NKE	2.32%	1.51	-1.75

ETF100

symbol	ATR%	ATR	R:R
VXX	8.09%	3.50	-5.18
FDN	1.89%	2.38	-2.64
USO	2.32%	0.29	-2.25
EWZ	2.07%	0.95	-2.17
KRE	2.27%	1.44	-1.97

SP100

symbol	ATR%	ATR	R:R
AMZN	2.15%	32.72	-6.10
CSCO	2.89%	1.29	-4.16
FOX	2.28%	0.83	-3.72
FOXA	2.37%	0.87	-3.46
TGT	2.97%	2.23	-3.17

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
0.58	2.22	2.31	**2.22**	14.85	130.30	128.18	2.12	3.20	2.31	1.78%	130.35	2.6	0.67	JNJ	5.74	2.56	1.24	5.79	3.18	14.85	1.39
1.61	5.26	6.44	**5.26**	27.88	342.78	337.62	5.16	8.32	6.44	1.88%	342.83	2.6	0.62	LMT	13.46	5.19	1.59	5.37	8.27	27.88	2.64
0.57	1.47	2.27	**1.47**	7.23	75.59	74.22	1.37	2.33	2.27	3.04%	75.64	2.6	0.59	ESRX	3.76	1.43	1.64	5.07	2.33	7.23	0.68
0.25	0.73	1.00	**0.73**	3.13	54.71	54.08	0.63	1.20	1.00	1.84%	54.76	2.5	0.53	MRK	1.81	0.61	1.98	5.14	1.20	3.13	0.43
0.28	0.62	1.12	**0.62**	2.30	125.48	124.96	0.52	1.02	1.12	0.90%	125.53	2.4	0.51	**GLD**	1.50	0.49	2.08	4.71	1.01	2.30	0.44
0.18	0.54	0.71	**0.54**	2.51	43.94	43.50	0.44	0.82	0.71	1.61%	43.99	2.3	0.53	**KO**	1.25	0.43	1.93	5.90	0.82	2.51	0.30
0.41	1.02	1.64	**1.02**	3.42	54.23	53.31	0.91	1.60	1.64	3.05%	54.28	2.3	0.57	COP	2.35	0.74	2.15	4.59	1.60	3.42	0.67
0.07	0.25	0.29	**0.25**	1.04	25.57	25.42	0.15	0.36	0.29	1.12%	25.62	2.3	0.42	IFN	0.58	0.22	1.64	4.79	0.36	1.04	0.10
0.19	0.61	0.74	**0.61**	2.70	36.28	35.77	0.51	0.90	0.74	2.05%	36.33	2.3	0.57	PFE	1.40	0.50	1.78	5.37	0.90	2.70	0.34
0.64	1.64	2.56	**1.64**	6.21	106.17	104.63	1.54	2.65	2.56	2.42%	106.22	2.3	0.58	UPS	3.76	1.10	2.42	5.66	2.66	6.21	1.28
1.04	3.57	4.16	**3.57**	17.00	215.38	211.91	3.47	5.00	4.16	1.94%	215.43	2.2	0.70	RTN	8.02	3.04	1.64	5.60	4.98	17.00	1.22
0.47	1.64	1.88	**1.64**	5.23	78.68	77.14	1.54	2.47	1.88	2.41%	78.73	2.2	0.63	GILD	3.66	1.21	2.02	4.32	2.45	5.23	0.81
0.23	0.76	0.93	**0.76**	2.70	59.90	59.24	0.66	0.99	0.93	1.55%	59.95	2.1	0.67	KCE	1.60	0.62	1.57	4.35	0.98	2.70	0.22
0.26	0.73	1.05	**0.73**	1.89	37.42	36.79	0.63	1.09	1.05	2.84%	37.47	2.1	0.58	XME	1.49	0.41	2.67	4.64	1.09	1.89	0.52
0.55	1.65	2.20	**1.65**	4.63	103.97	102.42	1.55	2.33	2.20	2.13%	104.02	2.0	0.66	DIS	3.34	1.01	2.31	4.60	2.33	4.63	1.08
0.55	1.65	2.20	**1.65**	4.63	103.97	102.42	1.55	2.33	2.20	2.13%	104.02	2.0	0.66	DIS	3.34	1.01	2.31	4.60	2.33	4.63	1.08

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

Chart 1: 30 day regression line: SPY

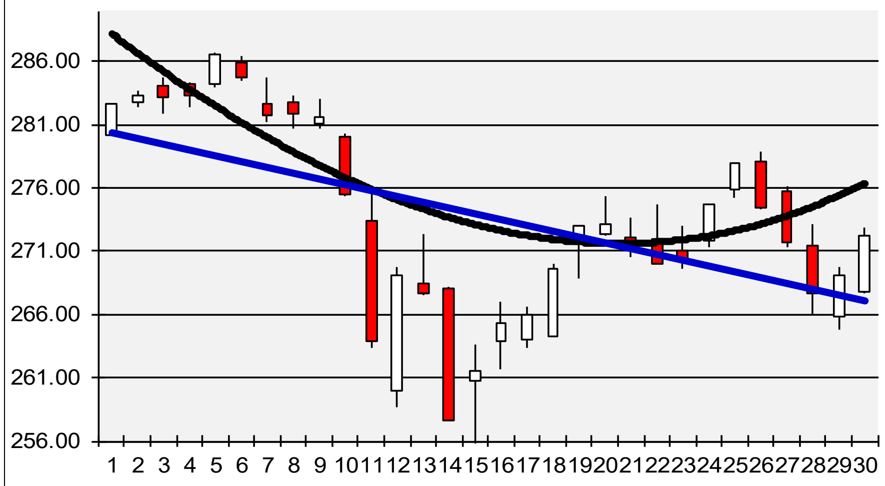


Chart 2: Slope of RL(30): SPY

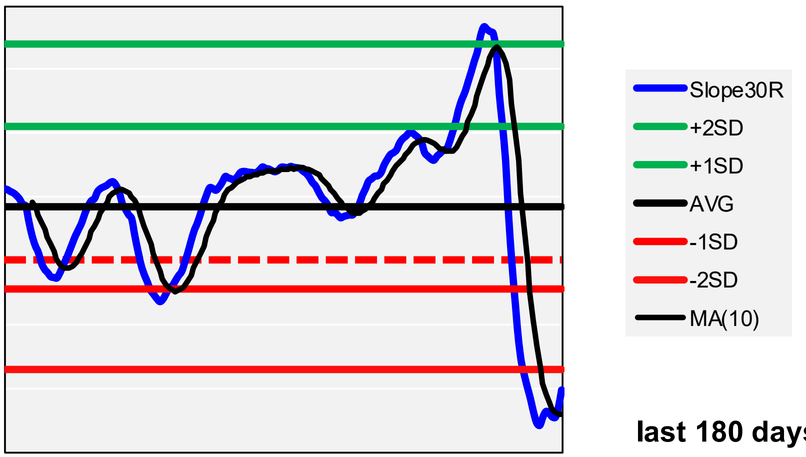


Chart 3: Slope of RL(30): SPY

last 30 days

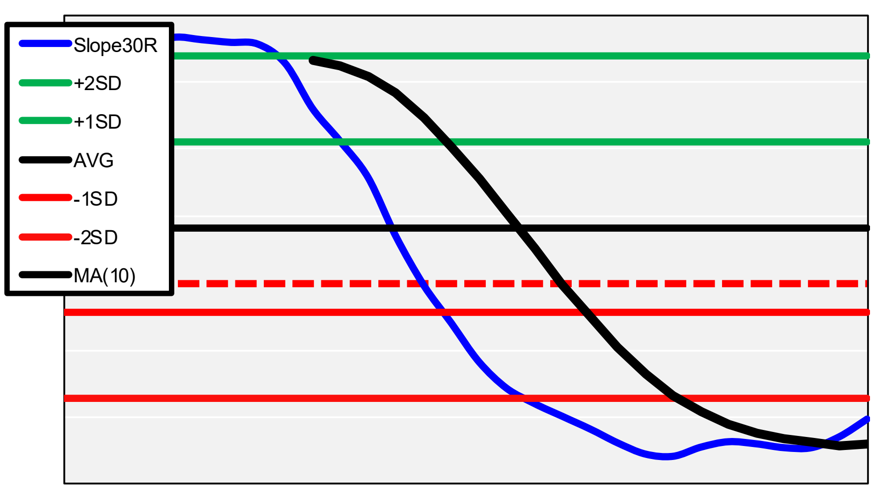
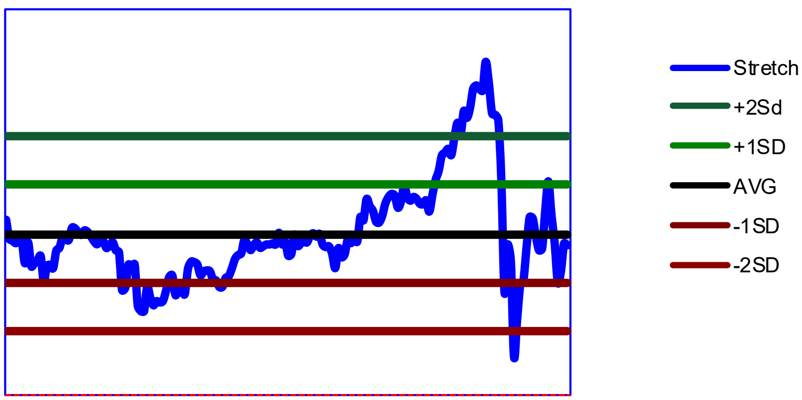


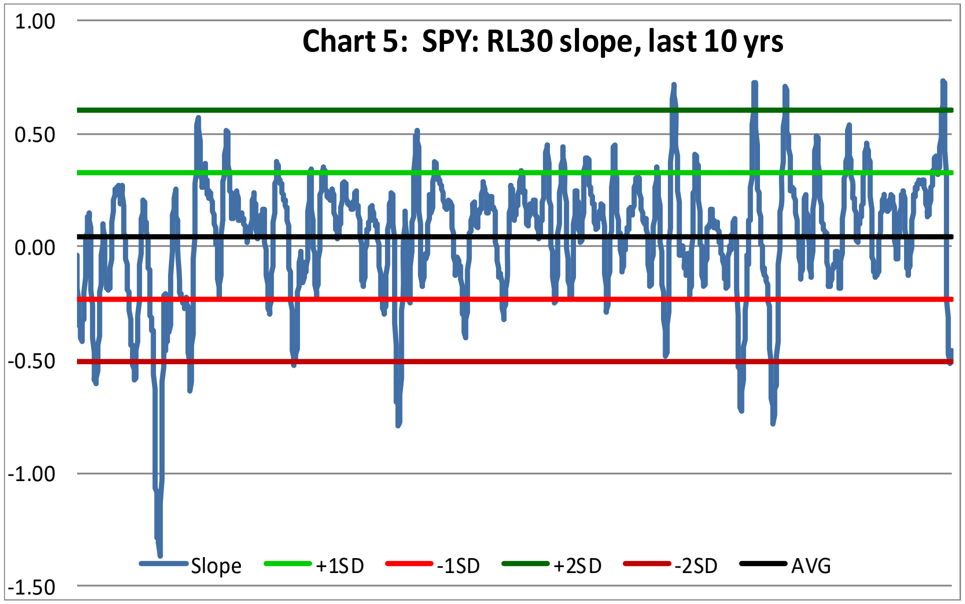
Chart 4: SPY % stretch vs 200d MA (180d)

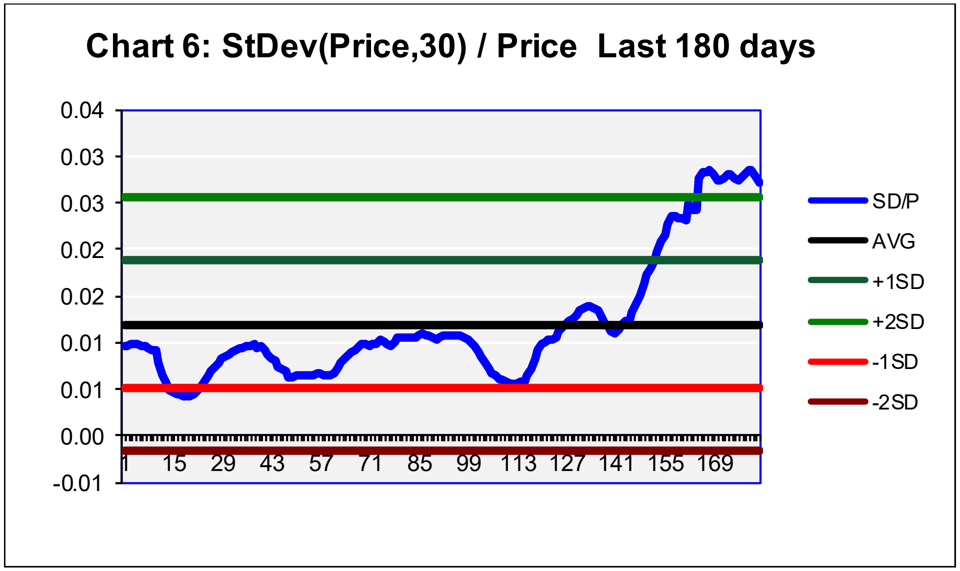


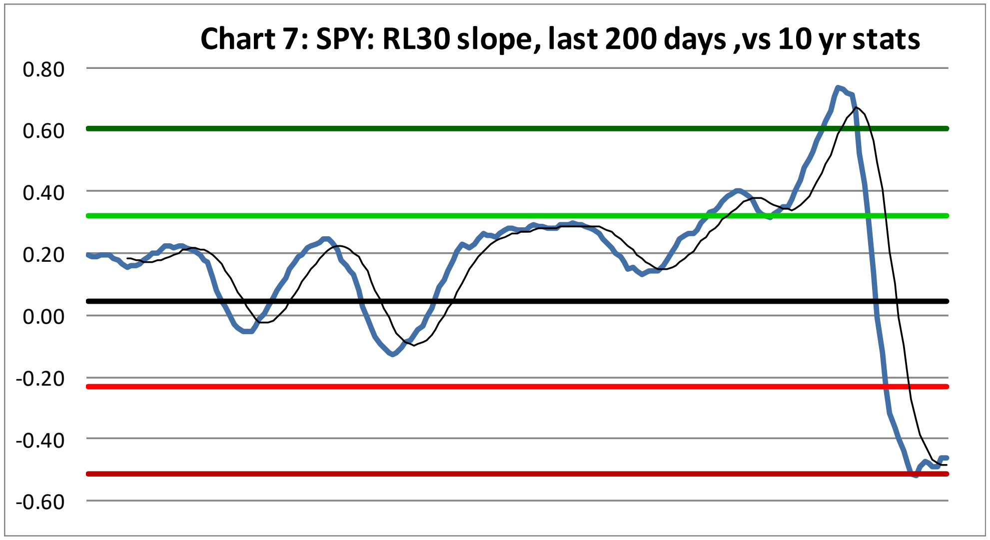
Market mosaic: describing market condition from different angles (5-8)

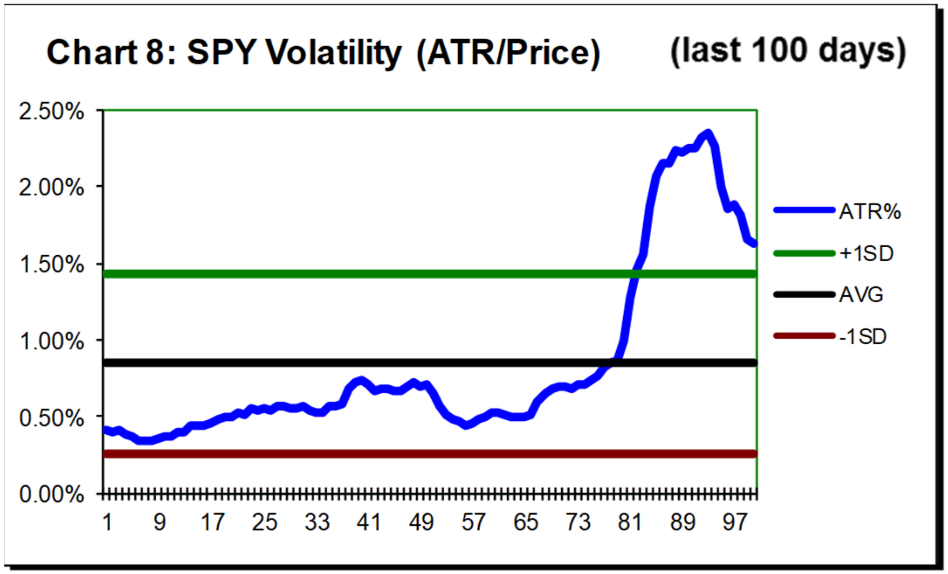
Market condition with the RL30: the best single line description of the price trend of the last 30 days. **Charts 5,7** show the long term RL30 slope in the context of the last 10 years

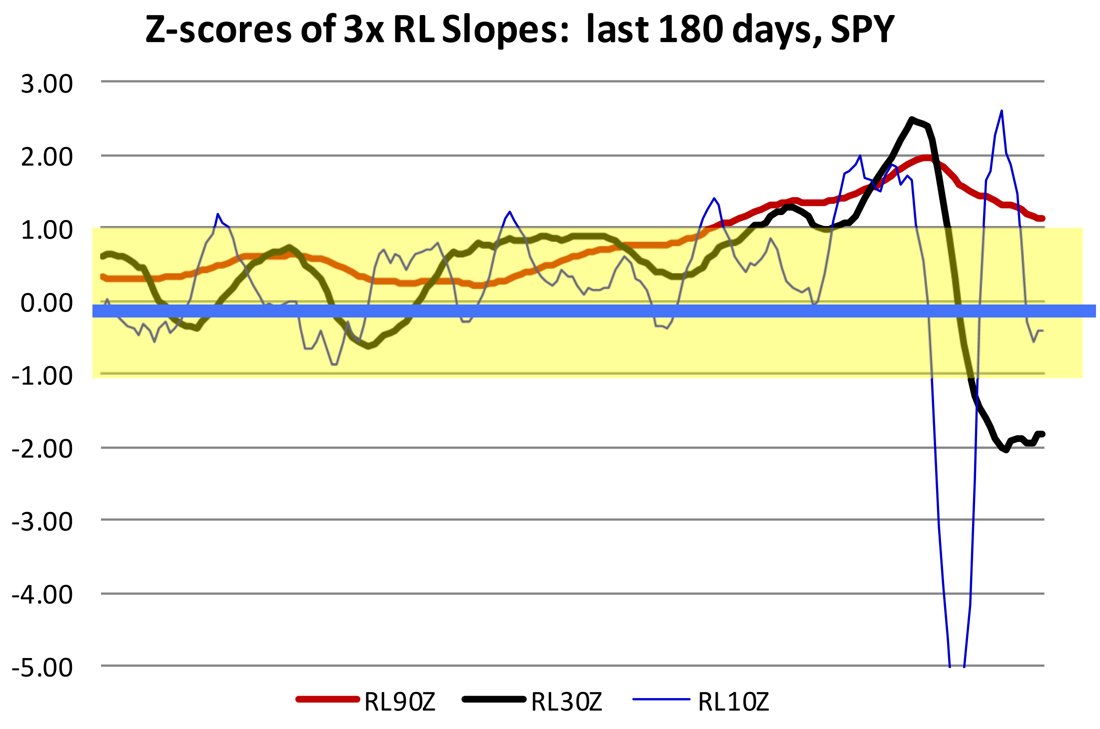
Market volatility: Charts 6, 8 are 2 different ways to compare relative volatility of the market in a time-series

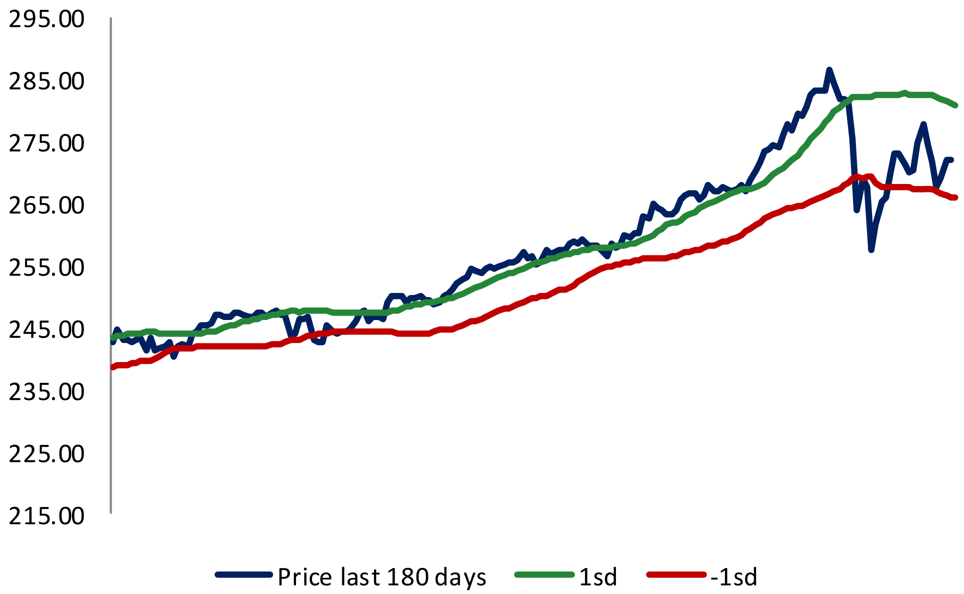












Regression Line Z-Scores

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

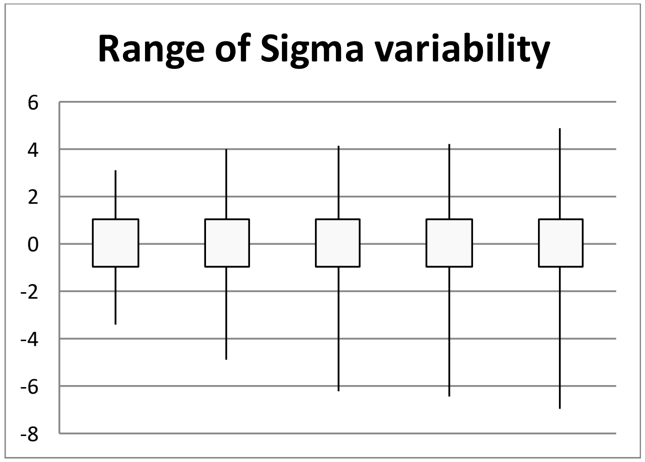
We use Z-scores between +1 and -1 to define the normal range of slopes

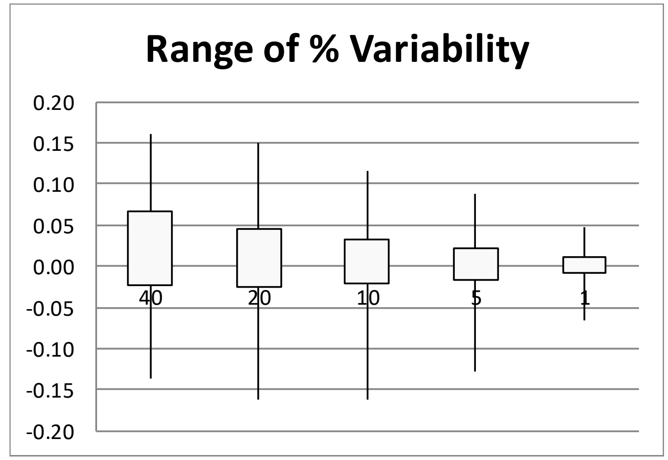
Z-score Formula: (Slope –Avg)/(SD)

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.

SPY volatility over different holding periods

	Holding "x" days, last 10 yrs				
SPY	40	20	10	5	1
zmax	3	4	4	4	5
max	16.0%	15.1%	11.5%	8.8%	4.6%
+1 stdev	6.7%	4.6%	3.2%	2.3%	1.0%
avg	2.2%	1.0%	0.5%	0.3%	0.1%
-1 stdev	-2.4%	-2.5%	-2.1%	-1.8%	-0.9%
min	-13.6%	-16.3%	-16.1%	-12.8%	-6.5%
zmin	-3.5	-4.9	-6.3	-6.5	-7.0
stdev	0.05	0.04	0.03	0.02	0.01
z-score	-1.33	0.36	-0.54	-0.03	1.17
today	-3.88%	2.33%	-0.92%	0.20%	1.16%





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)

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	XLK	XLP	XLV	XLY	GLD	CLF	TLT	MSFT	USO
zmax	3.05	3.21	3.07	3.10	2.65	3.23	2.49	3.85	2.83	2.94	3.39	2.92	3.72	2.92	2.77	2.84	3.14	4.13	5.52	5.49	3.18	3.94
max	16.03%	20.09%	15.97%	19.70%	19.12%	20.34%	14.90%	37.81%	22.16%	26.54%	23.53%	23.16%	28.54%	17.50%	11.47%	15.42%	19.38%	26.21%	161.24%	28.71%	29.08%	26.64%
+1 stdev	6.70%	8.34%	6.64%	7.99%	8.66%	7.03%	6.68%	10.36%	8.56%	9.71%	8.21%	8.60%	9.36%	7.71%	5.24%	6.97%	8.16%	6.95%	30.55%	5.67%	11.27%	7.50%
avg	2.16%	3.03%	2.15%	2.41%	2.30%	1.07%	1.16%	0.72%	1.15%	1.04%	1.78%	1.01%	2.32%	2.62%	1.73%	2.38%	2.93%	0.79%	1.62%	0.54%	3.11%	1.00%
-1 stdev	-2.38%	-2.27%	-2.35%	-3.17%	-4.05%	-4.89%	-4.37%	-8.92%	-6.26%	-7.62%	-4.64%	-6.59%	-4.72%	-2.47%	-1.79%	-2.22%	-2.30%	-5.36%	-27.32%	-4.59%	-5.06%	-5.51%
min	-13.58%	-15.06%	-12.84%	-17.37%	-19.58%	-20.51%	-14.85%	-26.11%	-25.43%	-25.93%	-21.37%	-23.98%	-22.07%	-12.68%	-9.66%	-16.06%	-16.98%	-17.84%	-58.14%	-15.06%	-24.47%	-16.17%
zmin	-3.47	-3.41	-3.33	-3.55	-3.44	-3.62	-2.90	-2.78	-3.59	-3.11	-3.60	-3.29	-3.46	-3.00	-3.24	-4.01	-3.80	-3.03	-2.06	-3.04	-3.38	-2.64
stdev	0.05	0.05	0.04	0.06	0.06	0.06	0.06	0.10	0.07	0.09	0.06	0.08	0.07	0.05	0.04	0.05	0.05	0.06	0.29	0.05	0.08	0.07
z-score	-1.33	-0.64	-1.64	-1.22	-0.88	-1.32	-1.41	-0.27	-1.00	-1.44	-1.17	-1.83	-0.88	-0.47	-2.53	-1.61	-1.24	-0.59	-0.30	-0.90	-0.14	-0.94
today	-3.88%	-0.34%	-5.23%	-4.38%	-3.31%	-6.80%	-6.62%	-1.88%	-6.23%	-11.43%	-5.76%	-12.92%	-3.90%	0.21%	-7.17%	-5.01%	-3.56%	-2.83%	-7.19%	-4.07%	1.98%	-5.09%

20	SPY	QQQ	DIA	MDY	IWM	EFA	EWJ	ILF	EEM	FXI	XLB	XLE	XLF	XLK	XLP	XLV	XLY	GLD	CLF	TLT	MSFT	USO
zmax	3.98	3.53	4.08	4.31	4.12	3.68	2.82	4.12	3.75	3.84	4.73	4.33	5.52	3.45	2.95	3.32	4.56	3.76	4.62	4.65	4.12	3.29
max	15.05%	15.96%	15.17%	19.63%	21.35%	16.54%	11.85%	27.86%	20.81%	25.08%	24.81%	24.83%	29.27%	14.82%	8.94%	12.62%	19.91%	17.32%	95.46%	16.76%	25.32%	27.50%
+1 stdev	4.57%	5.60%	4.50%	5.46%	6.03%	4.84%	4.54%	6.99%	5.93%	6.87%	5.92%	6.07%	6.21%	5.21%	3.57%	4.60%	5.50%	4.88%	21.33%	3.82%	7.30%	7.97%
avg	1.05%	1.50%	1.04%	1.17%	1.13%	0.47%	0.53%	0.30%	0.51%	0.46%	0.86%	0.43%	1.11%	1.30%	0.82%	1.15%	1.45%	0.37%	0.86%	0.28%	1.52%	-0.56%
-1 stdev	-2.47%	-2.60%	-2.43%	-3.11%	-3.78%	-3.89%	-3.49%	-6.40%	-4.90%	-5.94%	-4.21%	-5.21%	-3.99%	-2.62%	-1.94%	-2.31%	-2.60%	-4.13%	-19.61%	-3.26%	-4.26%	-9.09%
min	-16.30%	-16.06%	-14.76%	-21.05%	-22.33%	-16.63%	-14.93%	-18.17%	-17.46%	-20.07%	-19.90%	-21.00%	-21.25%	-15.72%	-9.74%	-15.44%	-17.13%	-15.19%	-49.18%	-9.77%	-19.09%	-28.11%
zmin	-4.93	-4.28	-4.56	-5.18	-4.78	-3.92	-3.85	-2.76	-3.32	-3.21	-4.10	-3.80	-4.39	-4.34	-3.84	-4.80	-4.59	-3.46	-2.44	-2.84	-3.56	-3.23
stdev	0.04	0.04	0.03	0.04	0.05	0.04	0.04	0.07	0.05	0.06	0.05	0.06	0.05	0.04	0.03	0.03	0.04	0.05	0.20	0.04	0.06	0.09
z-score	0.36	0.88	-0.03	0.43	0.49	0.01	0.19	0.46	0.17	0.11	-0.07	-0.03	0.23	1.06	-0.50	0.18	0.01	-0.24	0.41	-0.31	0.47	0.78
today	2.33%	5.10%	0.92%	3.02%	3.52%	0.52%	1.28%	3.40%	1.45%	1.20%	0.49%	0.27%	2.31%	5.46%	-0.55%	1.77%	1.51%	-0.71%	9.31%	-0.81%	4.24%	6.07%

10	SPY	QQQ	DIA	MDY	IWM	EFA	EWJ	ILF	EEM	FXI	XLB	XLE	XLF	XLK	XLP	XLV	XLY	GLD	CLF	TLT	MSFT	USO
zmax	4.14	4.03	4.39	4.16	3.73	3.54	3.41	4.12	3.63	4.31	4.71	3.68	4.23	4.31	3.27	4.05	4.12	3.56	5.46	5.48	4.17	3.40
max	11.48%	13.17%	11.70%	13.70%	13.95%	11.88%	10.65%	19.70%	14.68%	20.25%	18.26%	15.69%	16.02%	13.23%	7.16%	11.28%	13.08%	11.75%	79.14%	13.97%	18.02%	20.26%
+1 stdev	3.17%	3.83%	3.07%	3.73%	4.15%	3.52%	3.32%	4.89%	4.23%	4.86%	4.22%	4.41%	4.21%	3.57%	2.47%	3.22%	3.72%	3.43%	14.84%	2.67%	4.89%	5.74%
avg	0.52%	0.75%	0.52%	0.58%	0.56%	0.23%	0.27%	0.14%	0.25%	0.22%	0.43%	0.21%	0.55%	0.65%	0.40%	0.58%	0.72%	0.18%	0.42%	0.15%	0.76%	-0.30%
-1 stdev	-2.13%	-2.34%	-2.03%	-2.57%	-3.04%	-3.05%	-2.78%	-4.61%	-3.72%	-4.43%	-3.36%	-3.99%	-3.10%	-2.27%	-1.67%	-2.06%	-2.28%	-3.07%	-13.99%	-2.37%	-3.38%	-6.34%
min	-16.12%	-14.95%	-14.07%	-21.09%	-21.60%	-16.84%	-15.38%	-19.16%	-17.92%	-19.69%	-20.18%	-21.57%	-20.07%	-13.85%	-8.91%	-14.31%	-16.56%	-15.10%	-44.78%	-8.27%	-15.05%	-22.70%
zmin	-6.28	-5.09	-5.72	-6.88	-6.16	-5.19	-5.13	-4.06	-4.57	-4.29	-5.44	-5.18	-5.64	-4.96	-4.50	-5.63	-5.76	-4.70	-3.14	-3.34	-3.82	-3.71
stdev	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.05	0.04	0.05	0.04	0.04	0.04	0.03	0.02	0.03	0.03	0.03	0.14	0.03	0.04	0.06
z-score	-0.54	-0.31	-0.83	-0.28	-0.20	-0.73	-0.84	-0.46	-0.83	-1.11	-0.78	-0.44	-0.41	-0.18	-0.32	-0.63	-0.75	-0.29	0.21	-0.09	-0.29	-0.18
today	-0.92%	-0.20%	-1.61%	-0.30%	-0.18%	-2.17%	-2.30%	-2.03%	-3.06%	-4.93%	-2.53%	-1.66%	-0.96%	0.12%	-0.26%	-1.09%	-1.54%	-0.76%	3.47%	-0.08%	-0.45%	-1.41%

5	SPY	QQQ	DIA	MDY	IWM	EFA	EWJ	ILF	EEM	FXI	XLB	XLE	XLF	XLK	XLP	XLV	XLY	GLD	CLF	TLT	MSFT	USO
zmax	4.23	3.89	3.74	4.69	4.37	3.69	4.05	4.77	4.39	5.07	4.80	4.19	4.21	3.74	4.22	4.13	4.73	3.53	6.19	5.49	4.77	6.42
max	8.78%	9.39%	7.39%	11.58%	12.10%	9.34%	9.48%	17.11%	13.29%	17.32%	13.67%	13.16%	11.83%	8.58%	6.63%	8.39%	11.05%	8.11%	63.52%	10.49%	15.29%	27.22%
+1 stdev	2.27%	2.69%	2.16%	2.70%	2.99%	2.62%	2.44%	3.65%	3.13%	3.50%	3.02%	3.22%	3.02%	2.53%	1.72%	2.25%	2.62%	2.36%	10.43%	1.98%	3.50%	4.11%
avg	0.26%	0.37%	0.26%	0.29%	0.28%	0.12%	0.14%	0.08%	0.13%	0.11%	0.21%	0.11%	0.28%	0.32%	0.20%	0.29%	0.36%	0.09%	0.21%	0.08%	0.38%	-0.16%
-1 stdev	-1.75%	-1.94%	-1.65%	-2.12%	-2.43%	-2.38%	-2.17%	-3.50%	-2.87%	-3.29%	-2.59%	-3.01%	-2.46%	-1.88%	-1.33%	-1.67%	-1.90%	-2.18%	-10.01%	-1.82%	-2.75%	-4.42%
min	-12.83%	-12.37%	-10.77%	-17.22%	-17.80%	-14.21%	-14.33%	-17.86%	-17.08%	-15.51%	-16.02%	-18.42%	-17.56%	-11.17%	-8.53%	-10.61%	-13.64%	-13.70%	-42.80%	-7.36%	-14.39%	-15.76%
zmin	-6.50	-5.50	-5.78	-7.27	-6.67	-5.74	-6.28	-5.02	-5.74	-4.60	-5.79	-5.94	-6.50	-5.21	-5.72	-5.56	-6.20	-6.08	-4.21	-3.92	-4.73	-3.66
stdev	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.04	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.10	0.02	0.03	0.04
z-score	-0.03	0.00	-0.42	0.63	0.72	-0.32	-0.65	0.28	0.08	-0.01	-0.01	0.41	-0.14	-0.01	0.85	0.01	-0.07	0.02	0.98	-0.36	-0.17	0.45
today	0.20%	0.37%	-0.54%	1.80%	2.23%	-0.68%	-1.36%	1.09%	0.37%	0.06%	0.18%	1.38%	-0.10%	0.29%	1.50%	0.31%	0.20%	0.14%	10.24%	-0.61%	-0.14%	1.78%

Name	Sym	SD	Fail Max	Fail Av +1sd	Fail Avg	Fail Avg - 1sd	Fail Min
Apple	AAPL	2.03	6.83	3.92	1.88	-0.15	0.09
AmExpress	AXP	1.65	7.22	2.92	1.27	-0.39	0.08
Boeing	BA	6.10	25.28	10.77	4.67	-1.43	0.16
Caterpillar	CAT	3.10	12.08	6.33	3.23	0.13	0.05
Csico	CSCO	0.55	2.15	1.12	0.57	0.02	0.00
Chevron	CVX	1.86	8.97	3.70	1.84	-0.02	0.02
duPont	DWDP	0.81	3.16	1.73	0.91	0.10	0.03
Disney	DIS	1.10	4.28	2.37	1.27	0.17	0.00
GE	GE	0.21	0.75	0.44	0.23	0.02	0.02
Goldman Sachs	GS	4.04	16.01	7.29	3.25	-0.79	0.09
Home Depot	HD	2.91	10.21	5.98	3.07	0.16	0.09
IBM	IBM	1.67	7.89	3.32	1.66	-0.01	0.02
Intel	INTC	0.67	2.54	1.34	0.67	0.00	0.01
J&J	JNJ	2.75	14.43	4.61	1.85	-0.90	0.00
JP Morgan	JPM	1.87	9.02	3.14	1.27	-0.60	0.00
Coke	KO	0.50	2.24	0.95	0.45	-0.04	0.00
McDonalds	MCD	2.92	14.75	5.19	2.27	-0.65	0.00
3M	MMM	3.58	17.49	6.60	3.02	-0.56	0.04
Merck	MRK	0.62	2.45	1.26	0.64	0.03	0.00
Microsoft	MSFT	1.00	4.95	2.13	1.13	0.13	0.08
Nike	NKE	0.71	3.07	1.43	0.72	0.02	0.03
Pfizer	PFE	0.53	2.48	0.94	0.41	-0.12	0.00
P&G	PG	0.84	3.89	1.73	0.88	0.04	0.03
Travelers	TRV	1.67	7.06	3.17	1.50	-0.17	0.00
United Health	UNH	4.41	22.31	7.49	3.08	-1.32	0.29
United Tech	UTX	1.98	7.58	3.72	1.74	-0.24	0.00
Visa	V	1.34	5.99	2.75	1.41	0.06	0.06
Verizon	VZ	0.56	2.02	1.20	0.64	0.08	0.00
WalMart	WMT	1.47	6.31	2.88	1.41	-0.06	0.00
ExxonMob	XOM	1.05	5.15	2.01	0.96	-0.09	0.11
Metals & mining	XME	0.40	1.40	1.00	0.59	0.19	0.03
Mexico	EWW	0.58	2.69	1.13	0.55	-0.04	0.00
Dow 30	DIA	3.20	13.16	5.62	2.42	-0.78	0.04
Emerging markets	EEM	0.49	2.00	0.95	0.47	-0.02	0.01
EAFE index	EFA	0.59	2.33	1.09	0.50	-0.09	0.02
Asia less Japan	EPP	0.35	1.28	0.69	0.33	-0.02	0.00
Japan	EWJ	0.55	1.93	0.98	0.43	-0.12	0.01
Brazil	EWZ	0.55	2.22	1.11	0.56	0.01	0.03
Gold	GLD	0.44	1.47	1.01	0.57	0.13	0.04
Europe	IEV	0.40	1.62	0.75	0.35	-0.05	0.00
Latin America	ILF	0.39	1.53	0.81	0.42	0.03	0.00
Russell smallcaps	IWM	1.29	4.81	2.71	1.42	0.13	0.07
US real estate	IYR	0.61	2.21	1.30	0.69	0.07	0.00
Healthcare	XLV	0.97	4.09	1.74	0.77	-0.21	0.00
Russell midcap 400	MDY	2.84	11.48	5.81	2.97	0.13	0.10
Nasdaq 100	QQQ	1.76	7.24	3.40	1.64	-0.12	0.08
Silver	SLV	0.10	0.39	0.22	0.13	0.03	0.02
S&P 500	SPY	2.81	10.42	5.20	2.39	-0.42	0.01
Long term treasuries	TLT	0.46	1.86	1.13	0.67	0.21	0.16
oil exploration	XOP	0.48	1.61	1.05	0.57	0.09	0.02
Oil	USO	0.13	0.46	0.26	0.13	0.00	0.01
VIX	VXX	2.37	11.59	4.08	1.71	-0.65	0.00
S&P 500 Materials	XLB	0.57	2.20	1.14	0.58	0.01	0.08
S&P 500 Energy	XLE	0.85	3.21	1.75	0.90	0.05	0.02
S&P 500 Finance	XLF	0.33	1.32	0.62	0.29	-0.04	0.01
S&P 500 Industrial	XLI	0.85	3.22	1.60	0.76	-0.09	0.06
S&P 500 Technology	XLK	0.72	2.88	1.35	0.64	-0.08	0.00
S&P 500 Cons stpls	XLP	0.45	1.84	0.89	0.44	-0.01	0.00
S&P 500 Utilities	XLU	0.29	1.11	0.68	0.39	0.11	0.02
S&P 500 Cons disc	XLY	1.16	4.38	2.21	1.05	-0.12	0.08

Fail-stat

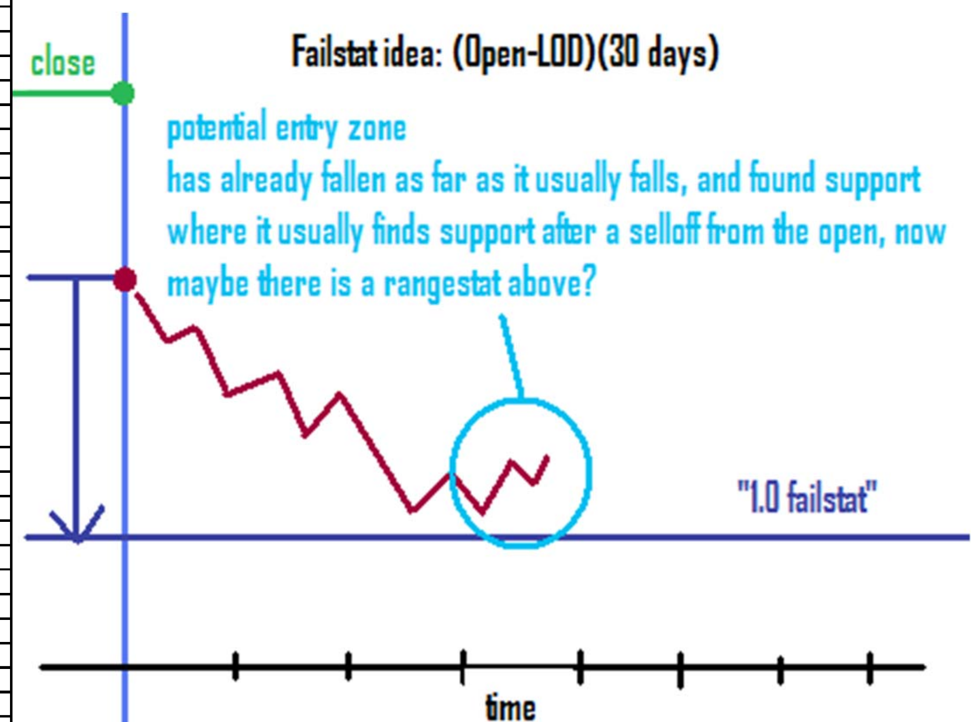
Concept: examine how far the symbol fails from the open to the low of the day for the look back period.

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	1.90	8.89	4.02	2.11	0.21	0.00
AmExpress	AXP	1.03	4.47	2.22	1.18	0.15	0.10
Boeing	BA	4.96	21.67	10.63	5.66	0.70	0.41
Caterpillar	CAT	2.13	8.49	4.35	2.22	0.08	0.00
Cisco	CSCO	0.43	1.98	1.05	0.62	0.19	0.03
Chevron	CVX	1.20	6.43	2.37	1.17	-0.03	0.00
duPont	DWDP	0.96	5.32	1.96	1.00	0.03	0.04
Disney	DIS	0.73	3.32	1.80	1.07	0.34	0.04
GE	GE	0.19	0.73	0.43	0.24	0.05	0.02
Goldman Sachs	GS	2.95	14.54	7.02	4.07	1.13	0.35
Home Depot	HD	2.45	13.34	4.60	2.15	-0.30	0.00
IBM	IBM	1.26	5.20	2.89	1.64	0.38	0.17
Intel	INTC	0.55	1.85	1.36	0.81	0.26	0.02
J&J	JNJ	0.99	3.49	2.31	1.32	0.33	0.00
JP Morgan	JPM	1.17	5.63	2.62	1.46	0.29	0.00
Coke	KO	0.25	0.91	0.61	0.37	0.12	0.00
McDonalds	MCD	1.62	7.70	3.34	1.73	0.11	0.00
3M	MMM	1.95	7.06	4.37	2.42	0.46	0.06
Merck	MRK	0.44	1.63	1.00	0.56	0.11	0.02
Microsoft	MSFT	0.94	4.58	2.18	1.24	0.30	0.10
Nike	NKE	0.71	2.94	1.52	0.80	0.09	0.01
Pfizer	PFE	0.37	1.79	0.86	0.49	0.12	0.07
P&G	PG	0.50	1.92	1.05	0.56	0.06	0.00
Travelers	TRV	1.06	4.19	2.59	1.52	0.46	0.17
United Health	UNH	2.92	14.31	6.54	3.61	0.69	0.20
United Tech	UTX	1.62	5.65	3.47	1.85	0.23	0.33
Visa	V	1.07	5.10	2.36	1.30	0.23	0.00
Verizon	VZ	0.41	1.56	0.91	0.50	0.09	0.00
WalMart	WMT	0.97	4.09	2.10	1.12	0.15	0.01
ExxonMob	XOM	0.48	1.84	1.31	0.83	0.35	0.08
Metals & mining	XME	0.46	1.76	0.95	0.49	0.03	0.05
Mexico	EWW	0.42	1.81	0.94	0.52	0.10	0.00
Dow 30	DIA	2.18	11.01	4.48	2.30	0.12	0.12
Emerging markets	EEM	0.41	1.96	0.83	0.42	0.02	0.03
EAFE index	EFA	0.41	1.69	0.81	0.39	-0.02	0.00
Asia less Japan	EPP	0.30	1.25	0.60	0.30	0.00	0.00
Japan	EWJ	0.35	1.37	0.71	0.36	0.02	0.02
Brazil	EWZ	0.53	2.01	1.08	0.55	0.02	0.02
Gold	GLD	0.44	2.12	0.88	0.44	0.00	0.01
Europe	IEV	0.28	1.15	0.54	0.26	-0.02	0.00
Latin America	ILF	0.37	1.57	0.76	0.39	0.02	0.00
Russell smallcaps	IWM	1.17	4.84	2.51	1.34	0.16	0.01
US real estate	IYR	0.43	1.66	1.08	0.65	0.21	0.05
Healthcare	XLV	0.61	2.88	1.43	0.83	0.22	0.11
Russell midcap 400	MDY	2.57	11.27	5.30	2.73	0.16	0.10
Nasdaq 100	QQQ	1.38	6.55	3.03	1.65	0.27	0.08
Silver	SLV	0.09	0.31	0.17	0.08	-0.01	0.00
S&P 500	SPY	1.99	9.76	4.34	2.35	0.36	0.11
Long term treasuries	TLT	0.54	2.65	0.97	0.43	-0.11	0.00
oil exploration	XOP	0.40	1.75	0.89	0.49	0.08	0.02
Oil	USO	0.11	0.49	0.25	0.14	0.03	0.01
VIX	VXX	2.64	10.44	4.74	2.09	-0.55	0.02
S&P 500 Materials	XLB	0.57	2.85	1.09	0.52	-0.05	0.00
S&P 500 Energy	XLE	0.57	2.24	1.24	0.67	0.10	0.00
S&P 500 Finance	XLF	0.25	1.22	0.56	0.30	0.05	0.00
S&P 500 Industrial	XLI	0.61	2.98	1.34	0.73	0.13	0.11
S&P 500 Technology	XLK	0.59	2.80	1.28	0.69	0.11	0.00
S&P 500 Cons stpls	XLP	0.33	1.60	0.73	0.40	0.07	0.00
S&P 500 Utilities	XLU	0.33	1.24	0.82	0.49	0.16	0.04
S&P 500 Cons disc	XLY	0.90	4.85	1.86	0.95	0.05	0.00

Gain-stat

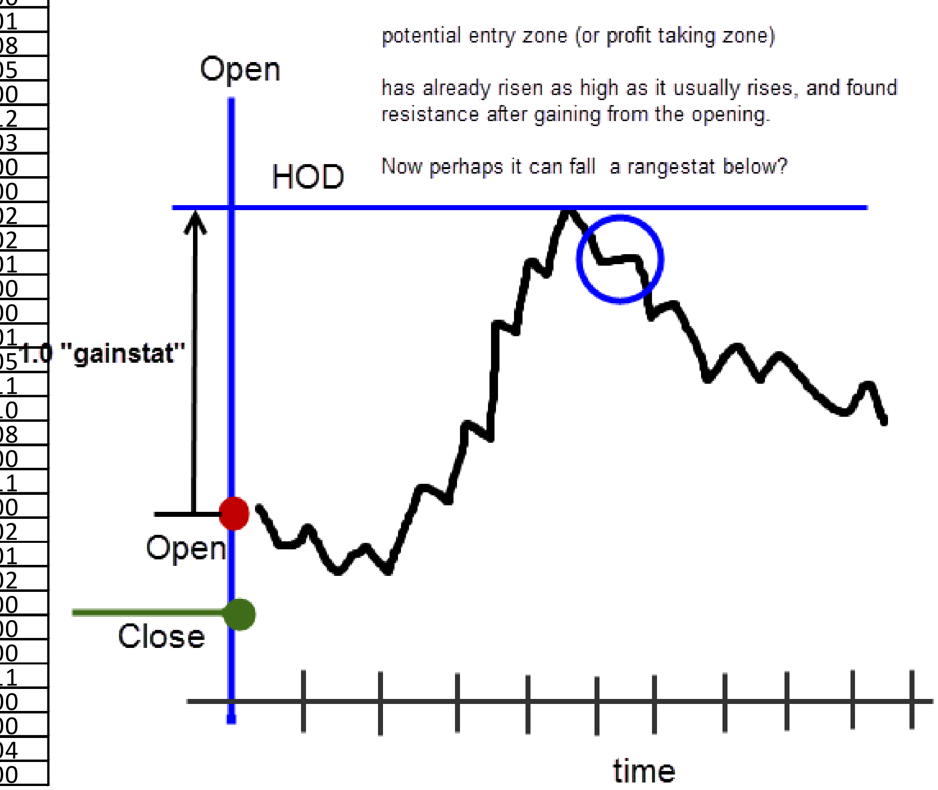
Concept: examine how far the symbol gains from the open to the High of the day for the look back period.

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



Name	Sym	SD$	SD	Gap Max	Gap Av +1sd	Gap Avg	Gap -1sd	Gap Min
Apple	AAPL	1.372	0.78%	6.15%	0.85%	0.08%	-0.70%	-2.41%
AmExpress	AXP	0.493	0.51%	1.28%	0.57%	0.06%	-0.45%	-2.85%
Boeing	BA	2.821	0.80%	6.75%	0.95%	0.15%	-0.64%	-2.70%
Caterpillar	CAT	1.239	0.82%	6.36%	0.96%	0.14%	-0.68%	-1.99%
Csico	CSCO	0.446	1.00%	7.07%	1.06%	0.06%	-0.95%	-8.04%
Chevron	CVX	0.505	0.45%	1.24%	0.46%	0.01%	-0.44%	-1.95%
duPont	DWDP	0.363	0.52%	2.02%	0.59%	0.07%	-0.45%	-1.78%
Disney	DIS	0.662	0.64%	2.25%	0.69%	0.05%	-0.59%	-5.86%
GE	GE	0.133	0.93%	4.65%	0.89%	-0.04%	-0.96%	-6.11%
Goldman Sachs	GS	1.644	0.62%	2.39%	0.72%	0.10%	-0.53%	-1.97%
Home Depot	HD	0.920	0.51%	1.57%	0.59%	0.09%	-0.42%	-2.45%
IBM	IBM	1.117	0.71%	7.22%	0.80%	0.09%	-0.62%	-2.76%
Intel	INTC	0.440	0.88%	6.80%	0.95%	0.07%	-0.82%	-3.84%
J&J	JNJ	0.458	0.35%	1.18%	0.38%	0.03%	-0.32%	-1.46%
JP Morgan	JPM	0.719	0.63%	2.81%	0.71%	0.08%	-0.54%	-2.46%
Coke	KO	0.156	0.36%	1.76%	0.34%	-0.01%	-0.37%	-2.27%
McDonalds	MCD	0.891	0.59%	3.89%	0.62%	0.03%	-0.56%	-4.36%
3M	MMM	1.197	0.51%	3.36%	0.58%	0.07%	-0.45%	-3.50%
Merck	MRK	0.387	0.71%	5.27%	0.76%	0.05%	-0.66%	-4.28%
Microsoft	MSFT	0.664	0.71%	7.12%	0.81%	0.10%	-0.61%	-1.52%
Nike	NKE	0.628	0.97%	6.45%	0.91%	-0.05%	-1.02%	-5.51%
Pfizer	PFE	0.135	0.37%	1.67%	0.38%	0.01%	-0.36%	-2.08%
P&G	PG	0.312	0.39%	1.82%	0.40%	0.01%	-0.38%	-2.25%
Travelers	TRV	0.793	0.57%	3.58%	0.65%	0.08%	-0.49%	-3.18%
United Health	UNH	1.548	0.68%	2.62%	0.74%	0.06%	-0.62%	-5.87%
United Tech	UTX	0.671	0.51%	2.75%	0.58%	0.07%	-0.44%	-2.42%
Visa	V	0.543	0.45%	1.52%	0.56%	0.11%	-0.33%	-1.83%
Verizon	VZ	0.310	0.64%	4.19%	0.69%	0.06%	-0.58%	-2.34%
WalMart	WMT	0.895	0.99%	5.89%	1.03%	0.03%	-0.96%	-7.43%
ExxonMob	XOM	0.383	0.50%	1.68%	0.47%	-0.03%	-0.53%	-4.42%
Metals & mining	XME	0.231	0.63%	2.37%	0.72%	0.09%	-0.53%	-1.82%
Mexico	EWW	0.302	0.60%	1.98%	0.68%	0.08%	-0.52%	-2.00%
Dow 30	DIA	0.922	0.37%	1.15%	0.44%	0.07%	-0.30%	-2.03%
Emerging markets	EEM	0.322	0.67%	1.77%	0.75%	0.09%	-0.58%	-2.42%
EAFE index	EFA	0.314	0.45%	1.07%	0.45%	0.00%	-0.45%	-1.86%
Asia less Japan	EPP	0.262	0.55%	1.17%	0.55%	0.00%	-0.55%	-2.76%
Japan	EWJ	0.321	0.53%	1.76%	0.57%	0.04%	-0.50%	-1.94%
Brazil	EWZ	0.758	1.65%	5.77%	1.74%	0.09%	-1.56%	-17.76%
Gold	GLD	0.549	0.44%	1.12%	0.46%	0.02%	-0.42%	-1.25%
Europe	IEV	0.221	0.47%	1.20%	0.47%	0.00%	-0.47%	-2.14%
Latin America	ILF	0.397	1.04%	3.94%	1.14%	0.09%	-0.95%	-10.38%
Russell smallcaps	IWM	0.582	0.38%	1.23%	0.43%	0.05%	-0.33%	-1.62%
US real estate	IYR	0.221	0.30%	0.87%	0.31%	0.01%	-0.29%	-1.04%
Healhcare	XLV	0.289	0.34%	0.91%	0.36%	0.02%	-0.33%	-1.97%
Russell midcap 400	MDY	1.155	0.33%	0.95%	0.35%	0.02%	-0.32%	-1.95%
Nasdaq 100	QQQ	0.723	0.43%	1.61%	0.50%	0.07%	-0.36%	-1.37%
Silver	SLV	0.119	0.77%	2.19%	0.77%	0.00%	-0.77%	-2.60%
S&P 500	SPY	0.860	0.32%	1.23%	0.37%	0.05%	-0.27%	-1.51%
Long term treasuries	TLT	0.530	0.45%	1.24%	0.41%	-0.04%	-0.49%	-1.49%
oil exploration	XOP	0.231	0.67%	1.87%	0.71%	0.05%	-0.62%	-1.74%
Oil	USO	0.106	0.84%	2.48%	0.88%	0.04%	-0.80%	-2.49%
VIX	VXX	1.100	2.54%	23.51%	2.45%	-0.09%	-2.63%	-8.49%
S&P 500 Materials	XLB	0.210	0.35%	1.10%	0.42%	0.07%	-0.28%	-1.46%
S&P 500 Energy	XLE	0.308	0.45%	1.29%	0.46%	0.00%	-0.45%	-1.84%
S&P 500 Finance	XLF	0.157	0.54%	2.04%	0.64%	0.09%	-0.45%	-2.30%
S&P 500 Industrial	XLI	0.276	0.36%	1.16%	0.42%	0.05%	-0.31%	-1.88%
S&P 500 Technology	XLK	0.314	0.46%	1.61%	0.54%	0.08%	-0.38%	-1.35%
S&P 500 Cons stpls	XLP	0.167	0.31%	0.90%	0.30%	-0.01%	-0.32%	-1.64%
S&P 500 Utilities	XLU	0.143	0.29%	0.88%	0.28%	-0.01%	-0.29%	-1.18%
S&P 500 Cons disc	XLY	0.390	0.37%	1.01%	0.43%	0.06%	-0.32%	-1.99%

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

Name	Sym	SD	S/N Max	S/N Av +1sd	S/N Avg	S/N Av -1sd	S/N Min
Emerging markets	EEM	0.86	5.00	1.53	0.67	-0.18	0.06
Japan	EWJ	0.28	0.98	0.89	0.61	0.33	0.09
S&P 500 Technology	XLK	0.28	1.00	0.87	0.59	0.32	0.10
EAFE index	EFA	0.27	0.97	0.86	0.59	0.32	0.06
Asia less Japan	EPP	0.29	0.97	0.88	0.59	0.30	0.01
Europe	IEV	0.30	0.99	0.88	0.58	0.29	0.03
WalMart	WMT	0.26	0.95	0.84	0.58	0.32	0.01
Nasdaq 100	QQQ	0.28	0.99	0.86	0.57	0.29	0.06
J&J	JNJ	0.27	0.98	0.84	0.57	0.30	0.07
Goldman Sachs	GS	0.28	0.92	0.85	0.57	0.29	0.03
Intel	INTC	0.27	0.95	0.84	0.56	0.29	0.04
S&P 500	SPY	0.29	0.98	0.85	0.56	0.26	0.07
P&G	PG	0.26	0.94	0.81	0.55	0.29	0.06
Coke	KO	0.27	0.98	0.82	0.55	0.28	0.02
Dow 30	DIA	0.31	0.97	0.86	0.55	0.24	0.04
Microsoft	MSFT	0.26	0.94	0.81	0.55	0.29	0.00
Oil	USO	0.26	0.93	0.80	0.55	0.29	0.00
Csico	CSCO	0.24	0.95	0.79	0.54	0.30	0.03
Health care	XLV	0.29	0.97	0.83	0.54	0.25	0.02
AmExpress	AXP	0.25	0.95	0.79	0.54	0.29	0.06
Apple	AAPL	0.29	0.93	0.83	0.54	0.25	0.02
Russell midcap 400	MDY	0.26	0.96	0.80	0.54	0.28	0.05
S&P 500 Cons stpls	XLP	0.34	0.97	0.87	0.53	0.19	0.01
Home Depot	HD	0.29	0.97	0.82	0.53	0.24	0.00
Disney	DIS	0.28	0.95	0.81	0.53	0.25	0.03
Caterpillar	CAT	0.29	0.95	0.81	0.52	0.23	0.06
Ag	DBA	0.34	1.00	0.86	0.52	0.18	0.00
United Tech	UTX	0.25	0.88	0.76	0.52	0.27	0.10
Verizon	VZ	0.29	0.95	0.81	0.52	0.22	0.01
Latin America	ILF	0.32	0.98	0.83	0.51	0.19	0.02
S&P 500 Finance	XLF	0.30	0.97	0.82	0.51	0.21	0.00
Brazil	EWZ	0.29	0.97	0.80	0.51	0.22	0.02
S&P 500 Energy	XLE	0.29	0.97	0.80	0.51	0.22	0.02
Mexico	EWW	0.26	0.96	0.76	0.51	0.25	0.05
IBM	IBM	0.27	0.91	0.78	0.50	0.23	0.02
S&P 500 Cons disc	XLY	0.29	0.99	0.79	0.50	0.21	0.01
VIX	VXX	0.32	0.98	0.82	0.50	0.17	0.01
Merck	MRK	0.28	0.96	0.78	0.49	0.21	0.00
Russell smallcaps	IWM	0.29	1.00	0.79	0.49	0.20	0.00
GE	GE	0.24	0.98	0.73	0.49	0.24	0.00
Travelers	TRV	0.27	0.93	0.75	0.48	0.22	0.01
S&P 500 Utilities	XLU	0.27	0.92	0.76	0.48	0.21	0.09
Metals and mining	xme	0.26	0.95	0.74	0.48	0.22	0.05
Visa	V	0.26	0.93	0.75	0.48	0.22	0.04
McDonalds	MCD	0.27	0.96	0.76	0.48	0.21	0.06
ExxonMob	XOM	0.27	0.95	0.75	0.48	0.21	0.04
United Health	UNH	0.25	0.95	0.72	0.48	0.23	0.01
duPont	DWDP	0.26	0.93	0.74	0.47	0.21	0.02
JP Morgan	JPM	0.30	0.99	0.78	0.47	0.17	0.01
Alcoa	AA	0.28	0.97	0.75	0.47	0.19	0.00
Chevron	CVX	0.33	0.98	0.80	0.47	0.14	0.01
3M	MMM	0.31	0.97	0.78	0.47	0.16	0.00
oil expore	XOP	0.28	0.96	0.75	0.47	0.19	0.02
oil explore	XOP	0.28	0.96	0.75	0.47	0.19	0.02
Boeing	BA	0.28	0.94	0.74	0.46	0.18	0.01
S&P 500 Industrial	XLI	0.29	0.95	0.75	0.46	0.17	0.02
US real estate	IYR	0.30	0.98	0.75	0.46	0.16	0.01
Silver	SLV	0.25	0.92	0.70	0.45	0.20	0.00
Long term treasuries	TLT	0.21	0.93	0.66	0.45	0.24	0.09
Nike	NKE	0.31	0.94	0.75	0.44	0.13	0.00

Signal to Noise ratio (actually signal index as computed)

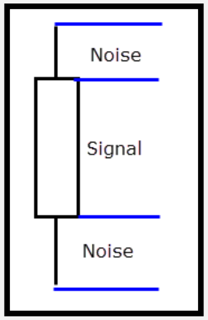
Concept: examine how much of the daily price action is signal vs noise

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

Swing Z-scores (Swing Z?)

3/5/2018	SPY	QQQ	DIA	MDY	IYM	IWM	EFA	EWJ	ILF	EEM	XLB	XLE	XLF	XLK	XLP	XLV	XLY	GLD	CLF	TLT	MSFT
40 days	-1.33	-0.64	-1.64	-1.22	-0.96	-0.88	-1.32	-1.41	-0.27	-1.00	-1.17	-1.83	-0.88	-0.47	-2.53	-1.61	-1.24	-0.59	-0.30	-0.90	-0.14
20 days	0.36	0.88	-0.03	0.43	0.07	0.49	0.01	0.19	0.46	0.17	-0.07	-0.03	0.23	1.06	-0.50	0.18	0.01	-0.24	0.41	-0.31	0.47
10 days	-0.54	-0.31	-0.83	-0.28	-0.68	-0.20	-0.73	-0.84	-0.46	-0.83	-0.78	-0.44	-0.41	-0.18	-0.32	-0.63	-0.75	-0.29	0.21	-0.09	-0.29
5 days	-0.03	0.00	-0.42	0.63	0.17	0.72	-0.32	-0.65	0.28	0.08	-0.01	0.41	-0.14	-0.01	0.85	0.01	-0.07	0.02	0.98	-0.36	-0.17

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

Name	Sym	Rng%	TVratio	Rank	Rstat	SD	FQN
Gold	GLD	0.81%	1.70	66	1.50	0.49	2.1
Long term treasuries	TLT	0.94%	1.95	65	1.65	0.54	2.1
Ag	DBA	0.72%	2.07	64	0.19	0.05	2.9
Japan	EWJ	1.35%	2.08	63	1.34	0.53	1.5
EAFE index	EFA	1.31%	2.08	62	1.49	0.57	1.6
Europe	IEV	1.33%	2.13	61	1.01	0.39	1.6
Asia less Japan	EPP	1.35%	2.40	60	1.01	0.36	1.8
Dow 30	DIA	1.94%	2.80	59	8.19	3.35	1.4
Silver	SLV	1.35%	2.90	58	0.31	0.10	2.1
S&P 500	SPY	1.77%	2.98	57	7.70	2.88	1.7
J&J	JNJ	2.46%	3.09	56	5.75	2.55	1.3
S&P 500 Cons stpls	XLP	1.56%	3.13	55	1.26	0.42	2.0
Russell midcap 400	MDY	1.69%	3.14	54	8.97	3.14	1.9
S&P 500 Cons disc	XLY	1.94%	3.15	53	3.28	1.25	1.6
Emerging markets	EEM	1.87%	3.20	52	1.42	0.53	1.7
S&P 500 Technology	XLK	1.97%	3.29	51	2.16	0.81	1.7
S&P 500 Materials	XLB	1.89%	3.30	50	1.78	0.65	1.7
Healthcare	XLV	1.92%	3.46	49	2.51	0.89	1.8
JP Morgan	JPM	2.43%	3.48	48	4.75	1.95	1.4
S&P 500 Industrial	XLI	2.01%	3.49	47	2.41	0.88	1.7
Nasdaq 100	QQQ	1.99%	3.52	46	5.24	1.90	1.8
Coke	KO	1.87%	3.63	45	1.25	0.42	1.9
P&G	PG	1.80%	3.64	44	2.16	0.71	2.0
Visa	V	2.24%	3.70	43	4.39	1.66	1.7
S&P 500 Finance	XLF	2.12%	3.72	42	0.96	0.35	1.8
Am Express	AXP	2.57%	3.73	41	4.19	1.71	1.5
Russell smallcaps	IWM	1.83%	3.76	40	4.17	1.36	2.1
US real estate	IYR	1.84%	4.00	39	1.99	0.63	2.2
McDonalds	MCD	2.70%	4.05	38	6.79	2.72	1.5
Mexico	EWW	2.16%	4.11	37	1.65	0.57	1.9
ExxonMob	XOM	2.35%	4.14	36	2.82	1.02	1.8
Travelers	TRV	2.18%	4.18	35	4.64	1.59	1.9
3M	MMM	2.37%	4.18	34	8.64	3.13	1.8
Latin America	ILF	2.15%	4.24	33	1.23	0.41	2.0
Home Depot	HD	2.90%	4.27	32	8.86	3.58	1.5
Chevron	CVX	2.69%	4.29	31	4.95	1.91	1.6
IBM	IBM	2.12%	4.30	30	4.95	1.63	2.0
Merck	MRK	2.21%	4.33	29	1.81	0.61	2.0
United Health	UNH	2.99%	4.45	28	11.44	4.60	1.5
Apple	AAPL	2.30%	4.53	27	6.13	2.06	2.0
Pfizer	PFE	2.50%	4.54	26	1.40	0.50	1.8
S&P 500 Energy	XLE	2.31%	4.58	25	2.35	0.79	2.0
Nike	NKE	2.35%	4.59	24	2.31	0.78	2.0
Microsoft	MSFT	2.53%	4.61	23	3.68	1.30	1.8
Boeing	BA	3.01%	4.73	22	17.40	6.77	1.6
duPont	DWDP	2.82%	4.88	21	3.09	1.13	1.7
Goldman Sachs	GS	2.79%	4.97	20	11.47	4.13	1.8
Verizon	VZ	2.31%	5.11	19	1.63	0.51	2.2
Brazil	EWZ	2.43%	5.15	18	1.65	0.53	2.1
Disney	DIS	2.26%	5.23	17	3.34	1.01	2.3
WalMart	WMT	2.85%	5.45	16	3.91	1.34	1.9
S&P 500 Utilities	XLU	1.82%	5.48	15	1.21	0.30	3.0
United Tech	UTX	2.79%	5.68	14	5.47	1.80	2.0
Csico	CSCO	2.72%	5.73	13	1.78	0.57	2.1
Oil	USO	2.21%	5.76	12	0.39	0.11	2.6
GE	GE	3.26%	6.92	9	0.69	0.22	2.1
Caterpillar	CAT	3.72%	7.00	8	8.62	2.99	1.9
Intel	INTC	3.03%	8.07	5	2.07	0.57	2.7

“Frog list”

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

3/5/2018	Intraday Range Percentages							
	30day				200 day			
	Stdev	Avg	Avg+1SD	Max	Stdev	Avg	Avg+1SD	Max
SPY	1.12%	1.75%	2.87%	4.75%	0.66%	0.70%	1.36%	4.75%
DIA	1.40%	1.89%	3.30%	6.56%	0.77%	0.69%	1.46%	6.56%
QQQ	1.23%	2.02%	3.25%	4.90%	0.77%	1.03%	1.81%	4.90%
MDY	0.98%	1.67%	2.64%	4.20%	0.59%	0.86%	1.45%	4.20%
IWM	0.96%	1.81%	2.77%	4.10%	0.62%	1.09%	1.71%	4.10%
EWJ	0.91%	1.31%	2.23%	3.84%	0.51%	0.54%	1.05%	3.84%
EPP	0.80%	1.32%	2.12%	3.22%	0.46%	0.61%	1.07%	3.22%
EFA	0.85%	1.27%	2.12%	3.83%	0.47%	0.57%	1.03%	3.83%
ILF	1.16%	2.14%	3.30%	4.93%	0.85%	1.36%	2.21%	8.05%
EEM	1.15%	1.84%	2.98%	4.54%	0.66%	0.86%	1.53%	4.54%
GLD	0.38%	0.80%	1.19%	1.79%	0.32%	0.65%	0.97%	1.93%
SLV	0.61%	1.32%	1.93%	2.94%	0.57%	1.16%	1.73%	3.22%
USO	0.90%	2.20%	3.10%	4.39%	0.87%	1.80%	2.67%	5.68%
VXX	6.60%	9.03%	15.63%	28.66%	3.84%	4.11%	7.95%	28.66%

Dow 30 Industrials	Intraday range Percentages							
	30day				200 day			
	Stdev	Avg	Avg+1SD	Max	Stdev	Avg	Avg+1SD	Max
AA	1.49%	3.98%	5.47%	7.73%	1.17%	2.96%	4.12%	7.73%
AXP	1.90%	2.57%	4.47%	8.82%	0.99%	1.33%	2.32%	8.82%
BA	2.00%	3.00%	5.00%	9.92%	1.17%	1.70%	2.87%	9.92%
BAC	1.93%	2.44%	4.38%	9.35%	0.99%	1.73%	2.73%	9.35%
CAT	2.00%	3.47%	5.47%	10.64%	1.20%	1.70%	2.90%	10.64%
CSCO	1.50%	2.85%	4.35%	7.36%	0.93%	1.55%	2.48%	7.36%
CVX	1.71%	2.59%	4.30%	9.13%	0.96%	1.40%	2.36%	9.13%
DWDP	1.66%	2.67%	4.33%	8.01%	0.95%	1.60%	2.55%	8.01%
DIS	0.99%	2.20%	3.19%	4.57%	0.85%	1.45%	2.30%	5.83%
GE	1.43%	3.10%	4.53%	6.75%	1.36%	2.04%	3.40%	10.51%
HD	1.93%	2.76%	4.69%	8.66%	1.07%	1.44%	2.50%	8.66%
HPQ	1.64%	2.97%	4.61%	7.18%	1.10%	1.89%	2.99%	7.19%
IBM	1.09%	2.10%	3.19%	5.57%	0.70%	1.21%	1.91%	5.57%
INTC	1.28%	3.18%	4.46%	6.27%	1.05%	1.82%	2.87%	6.27%
JNJ	1.97%	2.39%	4.35%	11.39%	0.97%	1.27%	2.24%	11.39%
JPM	1.80%	2.41%	4.21%	9.75%	0.93%	1.47%	2.40%	9.75%
UNH	2.13%	2.93%	5.06%	11.19%	1.20%	1.60%	2.80%	11.19%
KO	0.97%	1.83%	2.80%	5.59%	0.63%	1.01%	1.64%	5.59%
MCD	1.69%	2.44%	4.14%	9.52%	0.91%	1.26%	2.17%	9.52%
MMM	1.39%	2.30%	3.69%	7.95%	0.83%	1.26%	2.09%	7.95%
MRK	1.09%	2.12%	3.22%	5.55%	0.77%	1.33%	2.10%	5.55%
MSFT	1.50%	2.60%	4.10%	6.82%	0.94%	1.48%	2.42%	6.82%
PFE	1.43%	2.49%	3.93%	7.79%	0.86%	1.37%	2.23%	7.79%
PG	0.90%	1.75%	2.65%	5.27%	0.61%	1.05%	1.65%	5.27%
T	0.94%	2.18%	3.12%	4.59%	0.81%	1.51%	2.32%	4.74%
TRV	1.17%	2.14%	3.31%	5.87%	0.83%	1.38%	2.22%	5.87%
UTX	1.46%	2.74%	4.20%	6.47%	0.99%	1.36%	2.34%	6.47%
VZ	1.01%	2.26%	3.27%	5.33%	0.79%	1.53%	2.32%	5.33%
WMT	1.38%	2.56%	3.94%	7.51%	0.90%	1.49%	2.40%	7.51%
XOM	1.31%	2.26%	3.57%	7.35%	0.79%	1.13%	1.92%	7.35%

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