



TPA-RRG Report

- **What is hot and what is not.**

TPA-RRG captures the inevitable movement of stocks into and out of favor.

- **Scores and ranking**

Clients can quickly see which stocks are showing the best and worst relative strength characteristics. TPA found that using RRG's was very beneficial, but took some time to parse through, so we simplified the process by creating a score for each stock and sector.

- **The best of both worlds – RRG & TPA**

Now, clients can use TPA-RRG scores and rankings to identify stocks that are not only moving into favor, but are also technically positive.

- **TPA-RRG analyzes every stock in the Russell 1000 and 25 major sector & subsector ETFs**



Find more in-depth explanations and links to instructional videos below.

THE REPORT

TPA-RRG Weekly Commentary

Top 20-Bottom 20

TECH has taken a hit, but remains the predominant feature of the TOP 20.

Financials have overwhelmed the Bottom 20.

Sectors

Top 5...

TPA-RRG U.S. SECTOR & SUBSECTOR ETFs			4/9/23				
Code	Name	Last	RRG Ratio	RRG Momentum	Quadrant	TPA-RRG SCORE	
HACK	Cyber Security	47.17	100.00	101.62	Leading	4.47	
CLOU	Cloud Computing	17.59	102.44	100.73	Leading	2.19	
FDN	Internet	144.58	103.57	102.50	Leading	2.13	
IGV	Software	299.72	103.93	102.93	Leading	2.12	
XLC	Communications	58.93	104.55	102.52	Leading	2.11	

Bottom 5...

PPH	Pharma	79.81	99.45	97.63	Lagging	-3.13
XLE	Energy	84.98	95.27	95.60	Lagging	-3.19
XLF	Financials	31.99	97.27	96.51	Lagging	-3.27
XLB	Materials	79.63	99.80	97.73	Lagging	-3.45
OIH	Oil Services	278.33	99.84	93.13	Lagging	-3.53

Market

Everyone should be breathing a sigh of relief with the S&P500 at 4105. The brief scary moment of early March is behind us.

S&P500



TPA-RRG TOP 20 & BOTTOM 20 (table below)

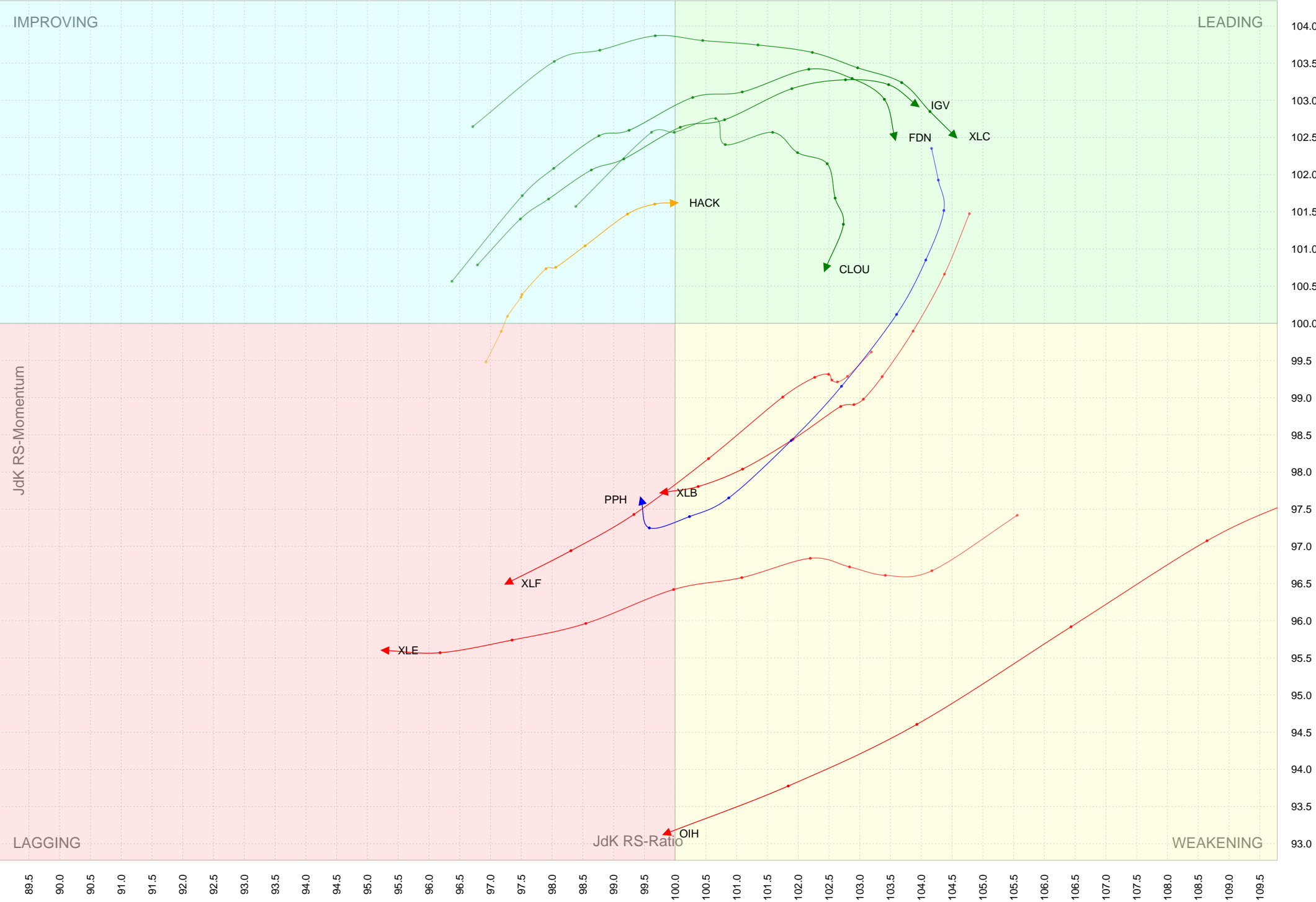
Buy	Prices as of 4/7/23							STOCK	SECTOR	TOTAL
Sell			TOP 20					TPA-RRG	TPA-RRG	TPA-RRG
Code	Name	Last	RRG Ratio	RRG Momentum	Quadrant	Mkt Cap (\$MIL)	TPA Sector	SCORE	SCORE	SCORE
NET	CloudFlare Inc	59.08	109.10	109.84	Leading	\$19,526	Cyber Security	3.24	2.24	5.47
TTD	Trade Desk Inc	60.85	104.31	109.61	Leading	\$29,848	Tech-Software	4.40	1.06	5.46
SPLK	Splunk Inc	93.82	108.21	102.04	Leading	\$15,527	Cyber Security	2.13	2.24	4.37
CRWD	CrowdStrike Holdings Inc	127.82	92.23	114.53	Improving	\$29,565	Tech-Software	3.30	1.06	4.36
OKTA	Okta Inc	79.96	117.23	106.45	Leading	\$12,897	Cyber Security	2.11	2.24	4.34
ROKU	Roku Inc	64.08	108.82	111.40	Leading	\$8,978	Communication Services	3.27	1.06	4.33
RBLX	Roblox Corporation - Ordinary Shar	46.20	108.52	110.82	Leading	\$27,957	Technology	3.28	1.05	4.33
TWLO	Twilio Inc - Ordinary Shares Class A	60.76	104.34	109.09	Leading	\$11,379	Technology	3.24	1.05	4.29
PLTR	Palantir Technologies Inc - Ordinary	8.09	102.96	106.21	Leading	\$17,000	Tech-Software	3.22	1.06	4.28
ENTG	Entegris Inc	74.83	102.20	105.36	Leading	\$11,178	Technology	3.23	1.05	4.27
QS	QuantumScape Corp - Ordinary Sha	7.29	102.90	107.72	Leading	\$3,207	Consumer Discretionary	3.13	1.01	4.14
DT	Dynatrace Inc	41.30	106.89	101.95	Leading	\$11,938	Tech-Software	3.01	1.06	4.07
NYT	New York Times Co.	38.92	108.53	101.44	Leading	\$6,471	Communication Services	3.01	1.06	4.07
BSY	Bentley Systems Inc - Ordinary Shar	41.76	105.86	101.76	Leading	\$12,129	Technology	3.02	1.05	4.06
WDAY	Workday Inc	196.81	109.18	102.00	Leading	\$50,974	Tech-Software	2.99	1.06	4.05
SSNC	SS&C Technologies Holdings Inc	56.29	104.76	100.39	Leading	\$14,113	Tech-Software	2.22	1.06	3.28
ZBRA	Zebra Technologies Corp.	300.26	105.56	101.98	Leading	\$15,435	Technology	2.21	1.05	3.26
APP	Applovin Corp - Ordinary Shares - C	15.72	95.12	122.83	Improving	\$5,725	Technology	2.18	1.05	3.23
DOCU	DocuSign Inc	56.47	107.01	101.08	Leading	\$11,402	Tech-Software	2.14	1.06	3.20
PCOR	Procore Technologies Inc	54.36	109.01	104.62	Leading	\$7,624	Technology	2.14	1.05	3.19

Buy	Prices as of	4/7/23						STOCK	SECTOR	TOTAL
Sell			BOTTOM 20					TPA-RRG	TPA-RRG	TPA-RRG
WAT	Waters Corp.	300.00	97.30	95.93	Lagging	\$17,683	Health Care	-3.29	-1.06	-4.35
HON	Honeywell International Inc	190.46	95.21	95.45	Lagging	\$127,254	Industrial	-3.22	-1.13	-4.36
SPG	Simon Property Group Inc.	109.77	99.97	94.75	Lagging	\$35,887	Real Estate	-3.67	-0.91	-4.58
ALK	Alaska Air Group Inc.	42.04	98.27	95.57	Lagging	\$5,362	Industrial	-3.60	-1.13	-4.73
FHN	First Horizon Corporation	17.71	87.42	90.77	Lagging	\$9,516	Financial	-3.10	-1.64	-4.73
JAZZ	Jazz Pharmaceuticals PLC	147.16	95.63	96.33	Lagging	\$9,320	Pharmaceutical	-3.18	-1.57	-4.74
APA	APA Corporation	38.07	88.29	90.86	Lagging	\$11,838	Energy	-3.16	-1.60	-4.75
ALL	Allstate Corp (The)	115.22	92.41	94.32	Lagging	\$30,341	Financial	-3.13	-1.64	-4.77
MET	Metlife Inc	59.07	91.31	93.29	Lagging	\$45,742	Financial	-3.14	-1.64	-4.78
EQH	Equitable Holdings Inc	24.63	94.84	95.38	Lagging	\$8,911	Financial	-3.14	-1.64	-4.78
USB	U.S. Bancorp.	35.75	94.63	94.44	Lagging	\$54,738	Financial	-3.16	-1.64	-4.80
RF	Regions Financial Corp.	18.36	95.01	95.19	Lagging	\$17,159	Financial	-3.16	-1.64	-4.80
AM	Antero Midstream Corp	10.47	96.55	96.32	Lagging	\$5,011	Energy	-3.21	-1.60	-4.81
ERIE	Erie Indemnity Co.	232.25	93.13	95.04	Lagging	\$10,816	Financial	-3.22	-1.64	-4.85
CNA	CNA Financial Corp.	38.91	97.08	96.38	Lagging	\$10,541	Financial	-3.22	-1.64	-4.86
PFG	Principal Financial Group Inc - Regis	73.42	94.46	93.29	Lagging	\$17,849	Financial	-3.29	-1.64	-4.93
RGA	Reinsurance Group Of America Inc.	133.07	96.80	95.24	Lagging	\$8,897	Financial	-3.32	-1.64	-4.96
AFL	Aflac Inc.	64.56	96.49	94.05	Lagging	\$39,524	Financial	-3.32	-1.64	-4.96
HAL	Halliburton Co.	32.71	96.38	90.22	Lagging	\$29,573	Energy	-3.39	-1.60	-4.99
GL	Globe Life Inc	107.74	97.99	94.92	Lagging	\$10,397	Financial	-3.37	-1.64	-5.00

Relative Rotation Graph for Top 20 and Bottom 20 is provided below.

Also, use the following link that shows RRG over time - how stocks move in and out of favor over time:

<https://youtu.be/3L5LOXGsttM>



Relative Rotation Strategies (RSS)

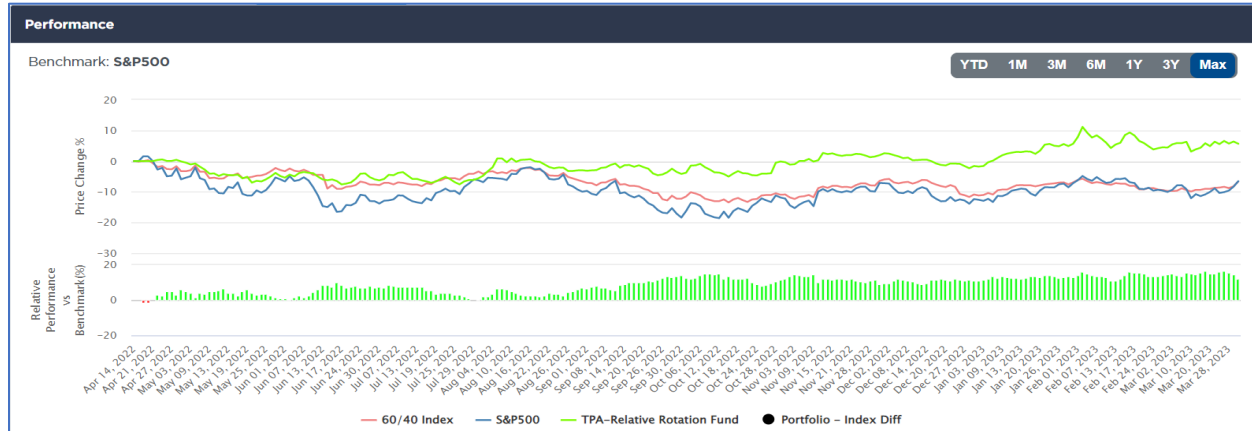
1. The Relative Rotation Fund

Most recent performance:

Since inception



YTD 2023

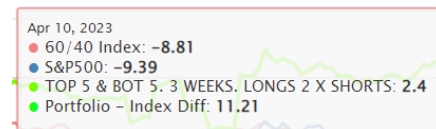


The Relative Rotation Fund is created using the weekly Top and Bottom ranked stocks in the TPA-RRG report. The fund holds 60 stocks; 30 long and 30 short. The portfolio is created by buying the Top 10 and selling short the Bottom 10 ranked stocks each week. Screens are used to ensure that overbought and oversold stocks are not included. Long positions have twice the weight of short positions. This is a nod to history, which has shown that stocks approximately go up twice as much as down on a daily basis. Since new stocks are added each week, each position is held for 3 weeks. Rebalancing occurs as close as possible to Friday's closing prices. (Trades and returns are hypothetical.)

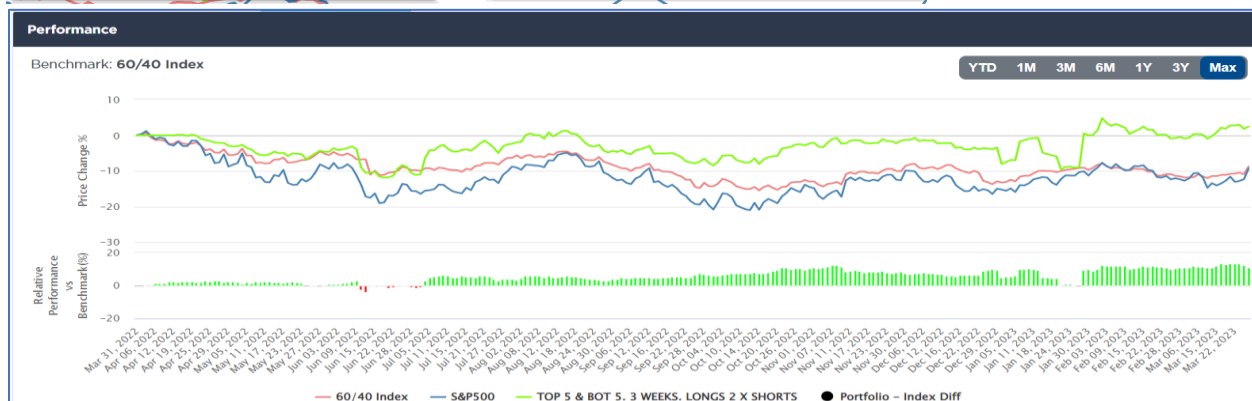
2. Top 5 and Bottom 5 ETFs

Most recent performance:

Since inception



YTD 2023



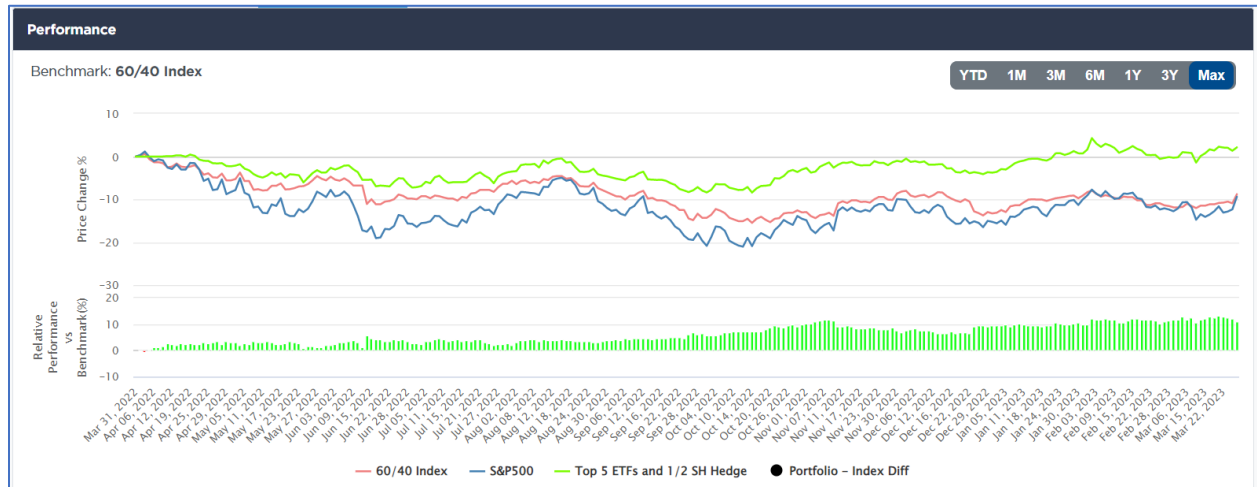
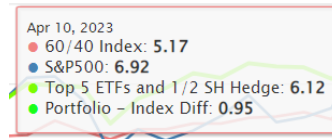
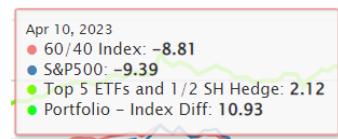
Top 5 and Bottom 5 ETFs – Buys the Top 5 ETFs and Sells short the Bottom 5 ETFs each week. Each position is held for 3 weeks. The 3-week holding period means that each week we trade out of the positions from 3 weeks ago and add the current week's TOP 5 and Bottom 5. Each week's trades account for approximately 1/3 of the portfolio. Shorts are always ½ the value of longs.

3. Top 5 ETFs and a S&P500 Hedge

Most recent performance:

Since inception

YTD 2023



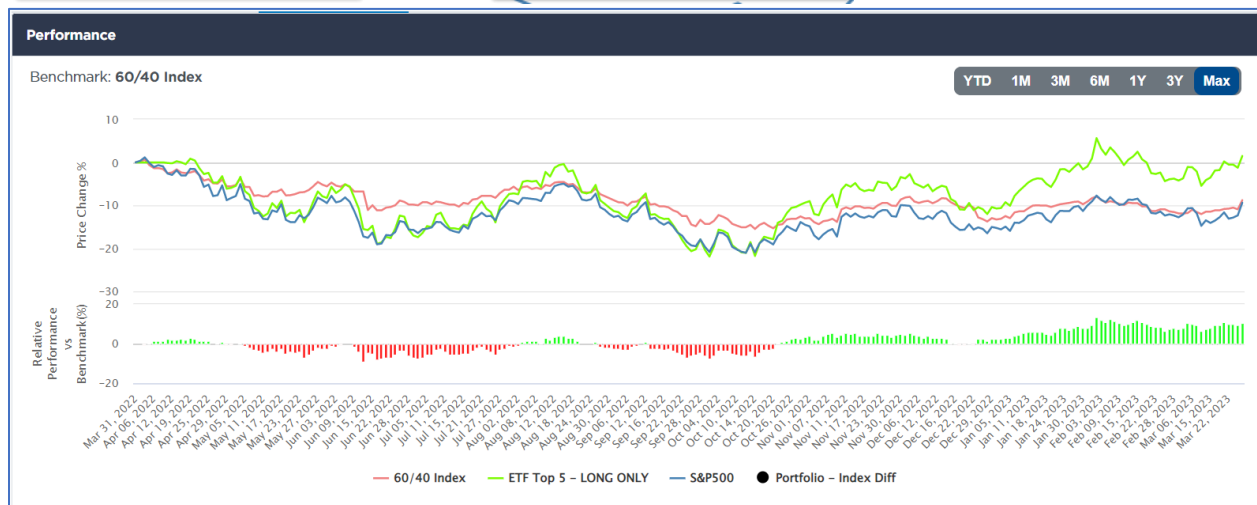
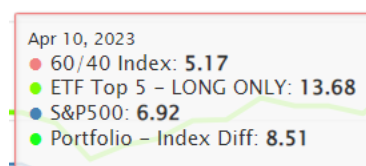
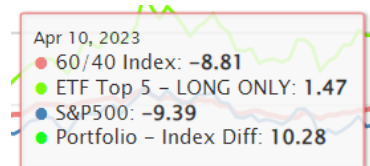
Top 5 ETFs and a S&P500 Hedge – Buys the Top 5 ETFs each week and maintains a long SH position that is 1/2 the value of the long ETFs.

4. Top 5 ETFs – Long Only

Most recent performance:

Since inception

YTD 2023

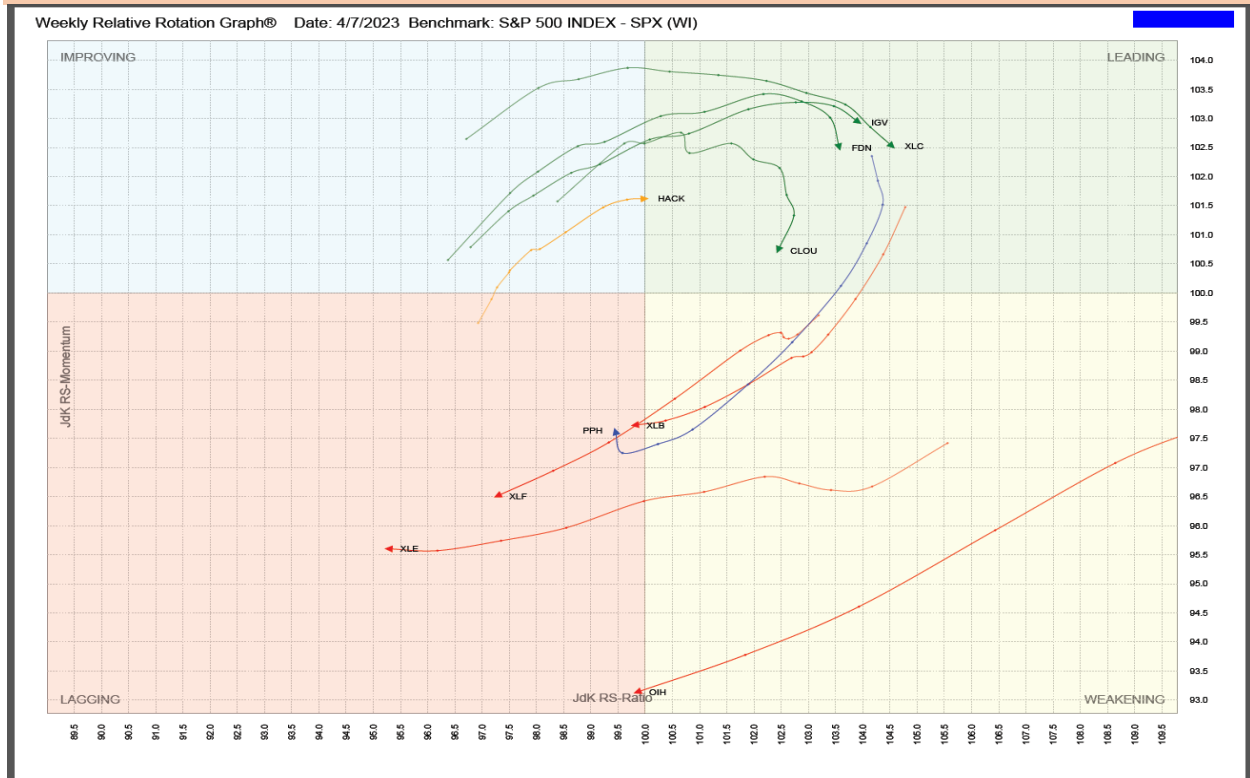


Top 5 ETFs – Long Only – Each week the TOP 5 ETFs are purchased. The holding period is 3 weeks. Each week accounts for 1/3 of the portfolio.

TPA-RRG 27 SECTOR ETFS

TPA-RRG U.S. SECTOR & SUBSECTOR ETFS			4/9/23			
Code	Name	Last	RRG Ratio	RRG Momentum	Quadrant	TPA-RRG SCORE
HACK	Cyber Security	47.17	100.00	101.62	Leading	4.47
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XLC	Communications	58.93	104.55	102.52	Leading	2.11
XLK	TECH	149.07	104.51	103.14	Leading	2.10
SMH	SEMI	252.40	109.39	102.57	Leading	2.08
XLY	Consumer Discretionary	144.93	99.29	102.57	Improving	2.02
XLP	Staples	75.36	97.59	98.93	Lagging	1.09
XLU	Utilities	69.81	95.40	98.98	Lagging	1.08
IYR	Real Estate	84.22	97.93	99.17	Lagging	-1.83
MOO	Agribusiness	84.02	96.82	98.43	Lagging	-2.01
XOP	Oil&Gas E&P	130.20	91.66	97.06	Lagging	-2.03
TAN	Solar	73.68	95.98	98.95	Lagging	-2.04
ITA	Aerospace & Defense	114.42	102.17	98.61	Weakening	-2.07
ITB	Home Construction	67.91	107.52	99.24	Weakening	-2.09
SOCL	Social Media	36.30	109.22	99.69	Weakening	-2.12
XLV	Health Care	133.52	96.07	97.41	Lagging	-2.13
XLI	Industrial	97.77	100.60	98.27	Weakening	-2.27
IYT	Transportation	222.12	100.71	99.65	Weakening	-2.31
XME	Metals & Mining	51.36	102.13	97.17	Weakening	-2.39
XRT	Retail	61.51	100.40	98.73	Weakening	-3.08
PPH	Pharma	79.81	99.45	97.63	Lagging	-3.13
XLE	Energy	84.98	95.27	95.60	Lagging	-3.19
XLF	Financials	31.99	97.27	96.51	Lagging	-3.27
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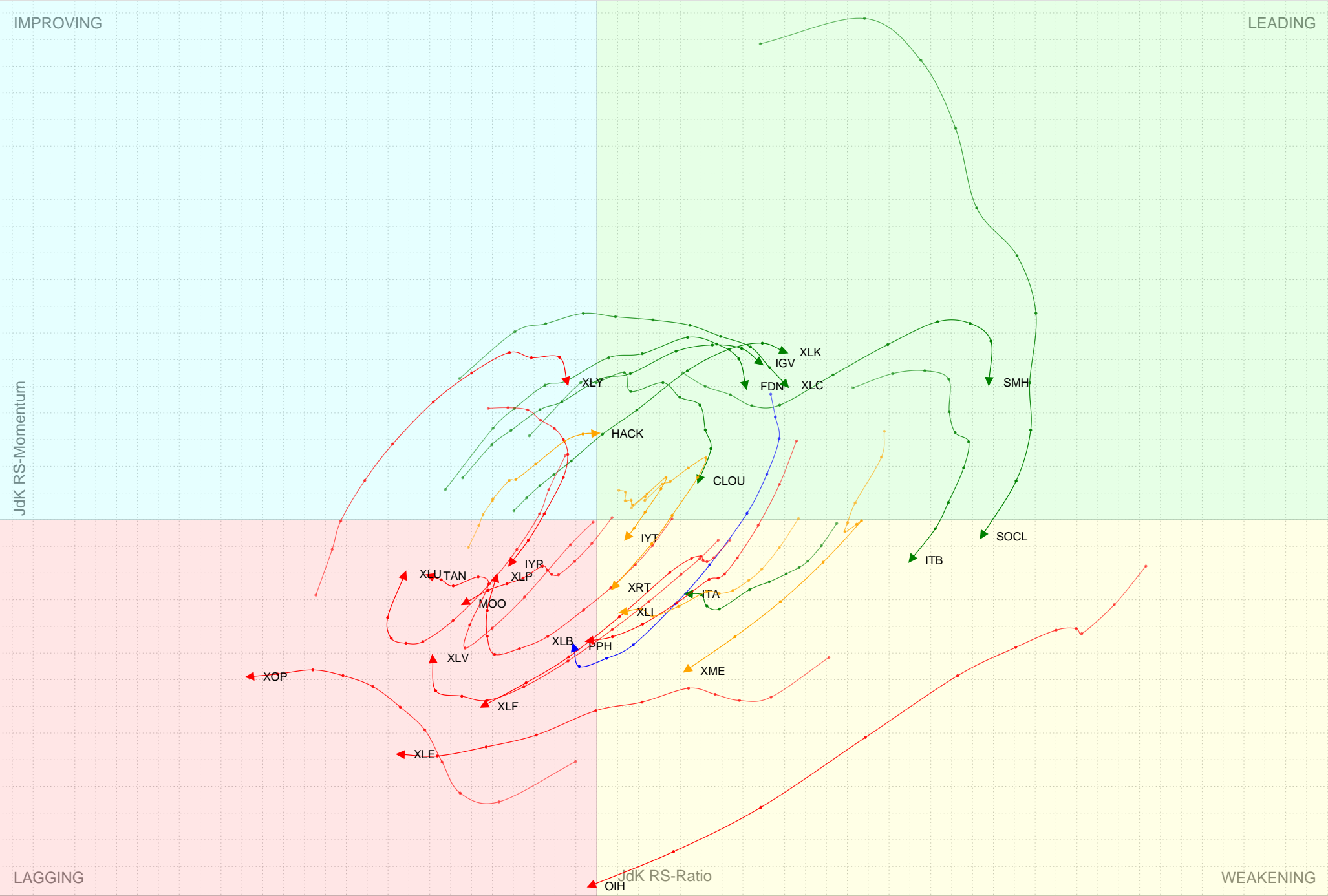
TOP 5 and Bottom ETF – RRG



TPA-RRG U.S. SECTOR & SUBSECTOR ETFS - HISTORY																				
	7/25/22	7/31/22	8/8/22	8/15/22	8/22/22	8/29/22	9/5/22	9/12/22	9/19/22	9/26/22	10/3/22	10/10/22	10/17/22	10/24/22	10/28/22	11/4/22	11/11/22	11/18/22	11/25/22	12/2/22
Rank	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code
1	HACK	XLK	XLV	XLV	XLK	ITB	IYT	XLV	XLV	XLV	XME	OIH	XLV	OIH	OIH	OIH	XME	PPH	XME	XRT
2	XLK	XLV	XLK	XLK	XLK	IYT	XLV	ITB	SMH	XLV	OIH	XME	OIH	MOO	HACK	PPH	OIH	XLB	XLB	XLB
3	IGV	IGV	HACK	XRT	XLV	XLK	XLV	IYT	IYT	XLV	MOO	XLV	MOO	XME	MOO	XLV	XRT	XRT	MOO	XME
4	XLV	HACK	FDN	FDN	FDN	IYT	XLK	XRT	XRT	XRT	XLV	HACK	XME	XLV	XME	XLV	XLV	XME	XRT	SMH
5	CLOU	FDN	CLOU	CLOU	XRT	FDN	XLV	XLV	XLK	CLOU	XLV	XRT	XLV	HACK	XLV	XLI	PPH	OIH	PPH	ITA
6	FDN	XRT	XRT	HACK	TAN	TAN	TAN	XLK	SMH	XLI	CLOU	MOO	XLC	XLV	CLOU	ITA	HACK	XLV	ITA	XLI
7	SMH	ITB	IGV	ITB	IGV	IGV	FDN	ITB	XLI	ITB	XLI	CLOU	XOP	XLV	XLV	XLV	CLOU	ITA	XLI	ITB
8	ITB	TAN	TAN	TAN	ITB	XRT	SMH	FDN	ITB	XLK	TAN	XLV	XLE	XLE	XLE	XME	ITA	XLI	XLP	PPH
9	TAN	CLOU	ITB	IGV	CLOU	CLOU	XRT	XLI	FDN	FDN	ITB	ITB	ITA	XOP	ITA	XOP	XLV	XLP	OIH	XLP
10	XLV	SMH	SMH	XLV	HACK	SMH	CLOU	IGV	CLOU	SMH	XLK	XOP	XLV	ITA	XLV	XLE	XLI	MOO	XOP	OIH
11	XLV	XLV	SOCL	SMH	XLV	XLV	IGV	CLOU	IGV	IGV	XOP	XLE	XRT	XLV	XOP	MOO	XLV	XLV	XLV	XLV
12	XRT	SOCL	XLV	SOCL	SMH	HACK	HACK	XME	XME	MOO	FDN	XLV	ITB	XLV	XLI	XRT	MOO	XLV	XLV	XLV
13	SOCL	IYT	IYT	IYT	SOCL	XLV	XLE	SOCL	OIH	OIH	IYT	FDN	XLI	XLI	FDN	CLOU	XLV	XOP	XLV	XLV
14	IYT	XLV	XLI	XLV	XLV	SOCL	XLU	XOP	MOO	XME	XRT	IYT	HACK	FDN	XLV	HACK	XOP	HACK	ITB	XOP
15	ITA	ITA	XLV	XLI	XLI	XLI	XOP	HACK	XLV	XLV	XLE	XLI	FDN	CLOU	XRT	FDN	FDN	CLOU	HACK	MOO
16	XLV	XLV	ITA	XLV	XLV	XLV	XLI	XLC	XLU	SOCL	IGV	XLV	IYT	XRT	PPH	XLV	SMH	FDN	IYT	HACK
17	PPH	XLU	XLV	ITA	XLU	XOP	XLV	XLE	XLE	HACK	SMH	SOCL	CLOU	PPH	IYT	IYT	ITB	SMH	SMH	IYT
18	XLU	XLV	XLU	XLV	IYR	XLE	SOCL	TAN	XOP	TAN	XLV	XLV	XLV	XLV	XLV	XLV	XLV	ITB	FDN	SOCL
19	XOP	XOP	XLV	XLV	XLV	XLV	ITA	XLV	HACK	XLU	HACK	ITA	XLV	IYT	SOCL	IGV	SOCL	XLV	CLOU	FDN
20	XLE	PPH	PPH	PPH	ITA	ITA	XLV	XLV	XLV	ITA	XLU	SMH	IGV	IGV	SMH	SOCL	IYT	IGV	XLV	CLOU
21	XLV	XLV	XOP	XLV	PPH	XLV	OIH	XLV	SOCL	XOP	ITA	IGV	SMH	SMH	IYR	SMH	IYR	SOCL	SOCL	XLV
22	XME	OIH	XLV	XOP	XLV	PPH	XME	ITA	TAN	XLV	XLV	IYR	SOCL	SOCL	IGV	IYR	IGV	IYT	IGV	IYR
23	MOO	XLI	XME	IYR	XOP	OIH	IYR	XLV	IYR	XLV	SOCL	XLV	IYR	IYR	ITB	TAN	XLV	IYR	IYR	IGV
24	OIH	MOO	IYR	XME	XME	XLV	XLV	IYR	XLV	IYR	XLV	XLV	TAN	TAN	TAN	XLV	TAN	XLV	XLV	XLV
25	XLV	XLV	MOO	MOO	XLV	XME	PPH	MOO	ITA	XLV	IYR	TAN	XLV	XLV	ITB	XLV	TAN	TAN	TAN	TAN
26	XLI	IYR	XLV	XLV	MOO	MOO	XLV	OIH	XLV	XLV	XLV	PPH	PPH	ITB	XLV	XLV	XLV	XLV	XLV	XLV
27	IYR	XME	OIH	OIH	OIH	IYR	MOO	PPH	PPH	PPH	PPH	XLV	XLV	XLV	XLV	XLV	XLV	XLV	XLV	XLV
TPA-RRG U.S. SECTOR & SUBSECTOR ETFS - HISTORY																				
	12/9/22	12/16/22	12/23/22	12/30/22	1/6/23	1/13/23	1/20/23	1/27/23	2/3/23	2/10/23	2/17/23	2/24/23	3/3/23	3/10/23	3/17/23	3/24/23	3/31/23	4/7/23		
Rank	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code
1	MOO	PPH	PPH	IYT	IYT	SMH	SOCL	SOCL	SOCL	FDN	CLOU	XLK	XLK	XLK	IGV	IGV	HACK	HACK		
2	XRT	XLV	XLV	PPH	SMH	IYT	XLV	CLOU	CLOU	XLV	IGV	IGV	IGV	FDN	XLV	XLV	XLV	CLOU		
3	XLV	IYT	SMH	XLV	XLV	SOCL	XLV	FDN	XLV	FDN	XLV	FDN	FDN	FDN	XLV	HACK	XLV	FDN		
4	IYT	SMH	MOO	SMH	SOCL	CLOU	CLOU	FDN	XLV	IGV	XLV	FDN	CLOU	XLV	HACK	FDN	FDN	IGV		
5	SMH	MOO	SOCL	SOCL	IYR	XLV	SMH	IGV	IGV	SOCL	XLV	XLV	XLV	XLV	XLV	SMH	IGV	XLV		
6	PPH	SOCL	IYR	IYR	PPH	XLV	IYT	IYR	XLV	HACK	XLV	CLOU	XLV	CLOU	XLV	XRT	CLOU	XLV		
7	SOCL	XRT	IYT	XRT	XLV	IYR	IYR	IYT	IYR	ITB	HACK	SMH	HACK	HACK	SMH	IYT	XLV	SMH		
8	ITA	XLI	XRT	MOO	XME	XRT	IGV	SMH	ITB	IYT	IYT	XRT	SMH	SMH	CLOU	CLOU	SOCL	XLV		
9	XLI	ITB	ITA	XLI	ITB	ITB	PPH	ITB	XRT	CLOU	XRT	HACK	XRT	XRT	SOCL	XLV	SMH	XLV		
10	ITB	XLV	XLI	XLV	XLV	MOO	XLV	XLV	IYT	SMH	SOCL	PPH	IYT	IYT	XRT	XLV	XLV	XLV		
11	XLV	XME	ITB	ITB	XRT	XLV	MOO	MOO	SMH	XME	PPH	SOCL	SOCL	SOCL	IYT	SOCL	IYR	IYR		
12	XME	OIH	XME	XLV	MOO	ITA	XRT	XLV	XLV	IYR	SMH	IYT	ITB	ITB	ITB	ITA	MOO	MOO		
13	XOP	XLV	XLV	XME	OIH	OIH	XLV	XRT	PPH	PPH	IYR	IYR	IYR	IYR	IYR	XOP	XOP	XOP		
14	OIH	XLV	OIH	OIH	ITA	PPH	OIH	XLV	XME	XRT	ITB	ITB	TAN	TAN	XLV	TAN	MOO	TAN		
15	XLV	ITA	XLV	ITA	XLV	XLV	XLI	XLI	XLV	XLV	XLV	XLV	XME	XME	MOO	XLV	TAN	ITA		
16	XLV	XLV	XLV	XLV	XLV	XLI	ITA	PPH	HACK	XLV	OIH	XLV	XLV	XLV	TAN	ITA	ITB	ITB		
17	XLV	IYR	XLV	XLV	XLI	XLV	ITB	XME	XLV	XLV	OIH	XLV	OIH	XLV	XOP	MOO	XLI	SOCL		
18	XLV	XLV	XLV	TAN	XLV	XLV	XLV	XLV	OIH	OIH	ITA	XME	XLV	XLV	XME	XOP	XLV	XLV		
19	IYR	HACK	XLV	HACK	TAN	XME	XME	TAN	ITA	ITA	XME	ITA	OIH	ITA	XME	XME	XME	XLI		
20	HACK	FDN	CLOU	FDN	HACK	FDN	TAN	XLV	XLI	XLV	XLI	XLI	XLI	MOO	XLI	XLI	IYT	IYT		
21	CLOU	CLOU	TAN	CLOU	XLV	IGV	FDN	HACK	XLV	XLI	XLV	XLV	ITA	OIH	OIH	PPH	XLV	XME		
22	FDN	IGV	FDN	XLV	IGV	TAN	HACK	ITA	XLV	XLV	XLV	XLV	XLV	XOP	XLV	OIH	OIH	XRT		
23	IGV	XLV	XLV	XLV	CLOU	HACK	XLV	OIH	XLV	XLV	XLV	XLV	PPH	XLV	PPH	XLV	XLV	PPH		
24	XLV	XLV	HACK	IGV	XLV	XLV	XLV	XLV	XLV	XLV	XLV	TAN	MOO	PPH	XLV	XLV	XLV	XLV		
25	XLV	XOP	IGV	XLV	FDN	XLV	XLV	XLV	TAN	TAN	TAN	MOO	XOP	XLV	XLV	XLV	XLV	XLV		
26	XLV	TAN	XLV	XLV	XLV	XLV	XLV	XLV	XOP	XOP	XOP	XOP	XLV	XLV	XLV	XLV	PPH	XLV		
27	TAN	XLV	XOP	XOP	XOP	XOP	XOP	XOP	MOO	MOO	MOO	XLV	XLV	XLV	XLV	XLV	XLV	OIH		

Relative Rotation Graph for 27 major sector & subsector ETFs provided below.

Also, use the following link that shows RRG over time - how sectors & subsectors move in and out of favor over time: <https://youtu.be/LGLjNmLVsuU>



Click [HERE](#) for the entire Russell 1000 TPA-RRG Score and Rank Report.

What are RRGs?

Julius de Kempnaer developed Relative Rotational Graphs (RRG) in 2004 and thousands of investors use RRGs. *“Relative Rotation Graphs, commonly called RRGs, are a unique **visualization tool for relative strength analysis**. Chartists can use RRGs to analyze the relative strength trends of several securities against a common benchmark, and against each other. The real power of this tool is its ability to plot relative performance on one graph and show true rotation. We have all heard of sector and asset class rotation, but it is hard to visualize this “rotation” sequence on linear charts. **RRGs use four quadrants to define the four phases of a relative trend. True rotations can be seen as securities move from one quadrant to the other over time.**”* - Stockcharts

What are TPA-RRG scores?

TPA recognizes the power of RRGs to highlight stocks and sectors moving in and out of favor, but also notes the shortcoming of having to examine many RRGs to decide where to invest. TPA has developed TPA-RRG Scores to be able to rank stocks and sectors in terms of relative strength. *TPA-RRG scores are constructed to focus on stocks and sectors as they move from negative to positive and positive to negative.* Scoring also allows ranking so investors can focus on the best and worst areas of the market.

How are TPA-RRG scores created?

TPA uses not only the **RS Ratio** and **RS Momentum** of each stock to make its forecast, but TPA also uses certain characteristics on each stock's RS to calculate its score. The following measures are used to calculate the TPA-RRG score:

1. **RRG ANGLE** - Represents the current position of the security on the RRG chart based on the points of the compass:
 - 0-90 Degrees = Leading Quadrant
 - 90-180 Degrees = Weakening Quadrant
 - 180-270 Degrees = Lagging Quadrant
 - 270-360 Degrees = Improving Quadrant
2. **RRG DISTANCE** - This number represents how far away the security is from the center of the RRG chart (ie the benchmark). One of the observations is that higher alpha comes from those components that make bigger arcs around the benchmark. We will ignore those closest to the center.
3. **RRG ANGLE ROC** - The Angle Rate of Change measures the distance of the angle of the current data point of a security, to the previous data point. The greater the value, the larger the distance between the two data points.
4. **RRG HEADING** - This is the direction that the arrow is pointing to (where the RS is headed), again based on the points of the compass, and is one of the most useful measures:

- 0 degrees = North (up) - positive
 - 45 degrees = Northeast – less positive
 - 90 degrees = East (right) - positive
 - 180 degrees = South (down) - negative
 - 270 degrees = West (left) - negative
5. **RRG VELOCITY** This is the vector difference – or distance – between the last two data points on the line; with the longest having the highest relative momentum:

How investors can use TPA-RRG

1. The Sector analysis lets clients focus on the best and avoid the worst areas of the market
2. TPA-RRG ranks the entire Russell 1000 and provides the Top 20 and Bottom 20 stocks so investors can see the best and worst stocks to make sure they are taking advantage of opportunities and not getting into trouble.
3. We also look at the top and bottom stocks through a standard technical analysis to avoid stocks that are overbought, oversold or at other technical trouble spots.
4. Finally, we provide TPA-RRG Scores and rankings for the stocks in the most used 25 sector and subsector ETFs. This analysis is especially helpful for investors who are focused on specific areas of the market.

You can learn more about RRGs with these links:

[Relative Rotation Graphs \(RRG\) – explanation video](#)

[RRG – written explanation](#)

Included in the Weekly TPA-RRG Report

1. The weekly TPA RRG Report will provide RRG Scores, Rankings, RRG and a RRG Video for:
 - 25 Major Sector and Subsector ETFs
 - Top 20 & Bottom 20 stocks in the Russell 1000 - based on TPA's RRG and Trend-Range analysis
2. The report will also include:
 - TPA RRG scores and rankings for the *focus stocks* in the 11 major sectors ETFs and 14 major subsectors ETFs. *Provided in a separate PDF*
3. ***Finally, TPA will provide a weekly commentary on TPA-RRG Scores and Rankings***

Turning Point Analytics Disclaimer

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which to base an investment decision. Investors should not rely on technical analysis alone while making an investment decision. Before making an investment decision, investors should consider reviewing all publicly available information regarding the security in question, including, but not limited to, the underlying fundamentals of the security and other information which is available in filings with the Securities and Exchange Commission. The information and analysis contained in reports provided by TPA are copyrighted and may not be duplicated or redistributed for any reason without the express written consent of TPA. The information in this communication is for institutional or sophisticated investors only. By accepting this communication, the recipient agrees not to forward, and/or copy the information to any other person, except as permitted, or required by law. TPA does not guarantee accuracy or completeness. TPA is a publisher of technical research and has no investment banking or advisory relationship with any company mentioned in any report. Reports are neither a solicitation to buy nor an offer to sell securities. Past performance is in no way indicative of future results. Opinions expressed are subject to change without notice. TPA will provide, upon request, the details of any past recommendations. TPA's analysis and recommendations should not be used as the sole reason to buy or sell any security. TPA may compensate brokers and intermediaries for sales and marketing services. You understand and acknowledge that there is a very high degree of risk involved in trading securities and/or currencies. The Company, the authors, the publisher, and all affiliates of Company assume no responsibility or liability for your trading and investment results. It should not be assumed that the methods, techniques, or indicators presented will be profitable or that they will not result in losses. Statements, data, and analysis made by TPA or in its publications, are made as of the date stated and are subject to change without notice. TPA and/or its officers and employees may, from time to time acquire, hold, or sell a position in the securities mentioned herein. Upon request, TPA will furnish specific information in this regard. TPA will not be held liable for losses caused by conditions and/or events that are beyond TPA's control, including, but not limited to, war, strikes, natural disasters, new government restrictions, market fluctuations, and communications disruptions.