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 cumbersome, 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***

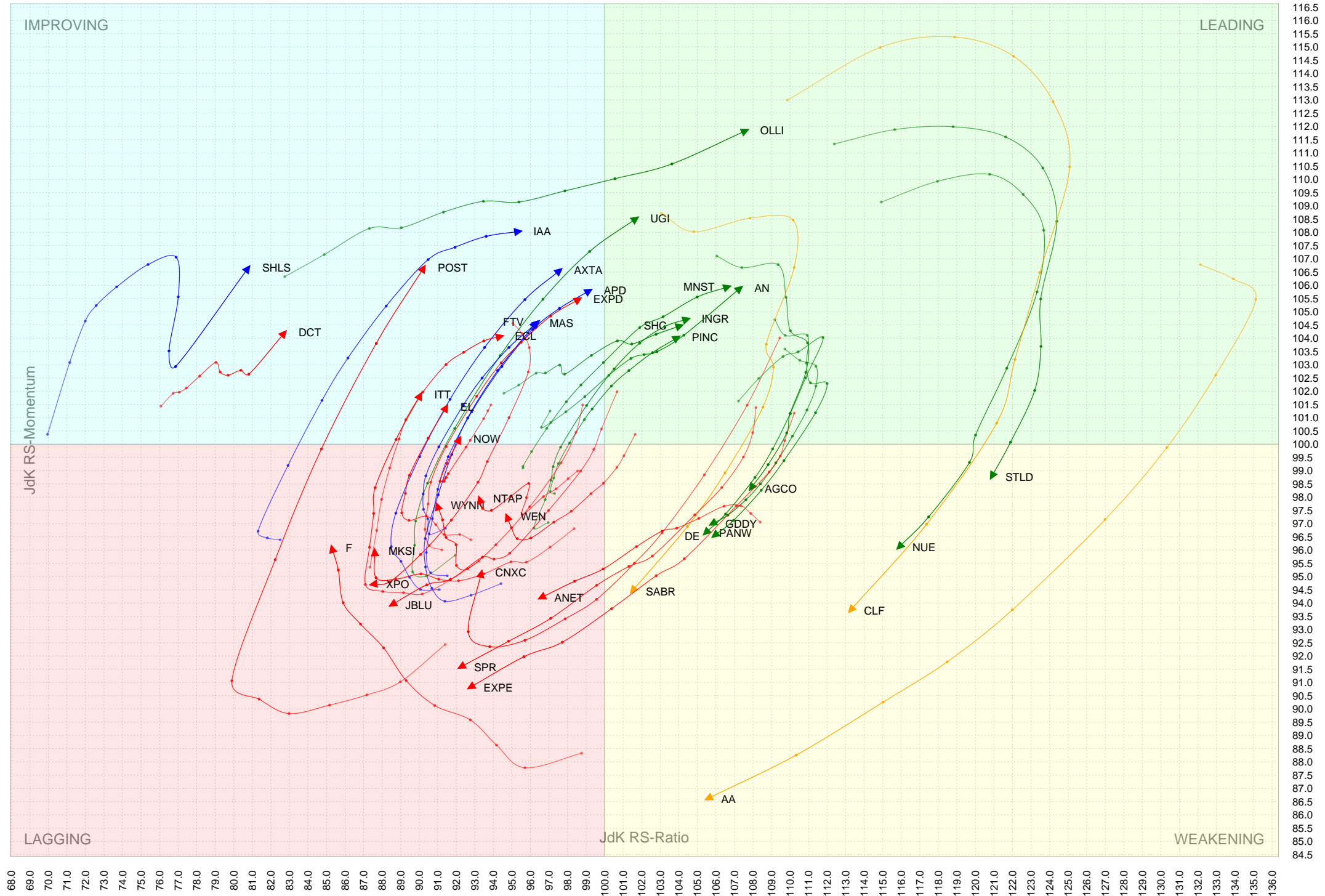*Find more in-depth explanations and links to instructional videos below.*

THE REPORT

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

Buy	Prices as of 6/13/22							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
OLLI	Ollies Bargain Outlet Holdings Inc	53.66	107.64	111.85	Leading	$3,366	Retail	4.56	1.58	6.14
SHLS	Shoals Technologies Group Inc - Ord	18.04	80.79	106.66	Improving	$2,028	Solar & Environ	3.36	2.49	5.85
INGR	Ingredion Inc	89.90	104.48	104.73	Leading	$5,953	Consumer Staples	4.30	1.50	5.80
UGI	UGI Corp.	42.19	101.72	108.53	Leading	$8,860	Utilities	4.71	1.02	5.73
SHC	Sotera Health Co	22.43	104.11	104.48	Leading	$6,344	Health Care	4.35	1.01	5.37
PINC	Premier Inc	36.44	103.96	104.04	Leading	$4,299	Health Care	4.31	1.01	5.32
MAS	Masco Corp.	54.72	96.29	104.58	Improving	$12,911	Industrial	3.76	1.42	5.17
AXTA	Axalta Coating Systems Ltd	25.62	97.60	106.57	Improving	$5,674	Materials	3.55	1.52	5.06
APD	Air Products & Chemicals Inc.	248.20	99.21	105.81	Improving	$55,044	Materials	3.53	1.52	5.04
POST	Post Holdings Inc	78.98	90.26	106.67	Improving	$4,798	Consumer Staples	3.52	1.50	5.02
EXPD	Expeditors International Of Washin	98.46	98.64	105.48	Improving	$16,517	Industrial	3.51	1.42	4.93
FTV	Fortive Corp	59.16	96.39	104.61	Improving	$21,206	Industrial	3.50	1.42	4.92
EL	Estee Lauder Cos. Inc.	249.48	91.47	101.41	Improving	$89,151	Consumer Staples	3.24	1.50	4.74
AN	Autonation Inc.	120.12	107.33	105.90	Leading	$7,006	Retail	3.15	1.58	4.74
ITT	ITT Inc	70.46	90.07	101.87	Improving	$5,883	Industrial	3.29	1.42	4.71
NOW	ServiceNow Inc	473.15	92.18	100.21	Improving	$94,848	Tech-Software	3.19	1.51	4.70
IAA	IAA Inc	37.54	95.41	108.04	Improving	$5,031	Industrial	3.28	1.42	4.70
MNST	Monster Beverage Corp.	87.04	106.68	105.94	Leading	$46,103	Consumer Staples	3.19	1.50	4.69
DCT	Duck Creek Technologies Inc	18.31	82.75	104.21	Improving	$2,427	Tech-Software	3.18	1.51	4.69
ECL	Ecolab Inc.	158.74	94.42	104.07	Improving	$45,345	Materials	3.16	1.52	4.67

Buy	Prices as of 6/13/22						STOCK	SECTOR	TOTAL
Sell			BOTTOM 20				TPA-RRG	TPA-RRG	TPA-RRG
Code	Name	Last	RRG Ratio	RRG Momentum	Quadrant	Mkt Cap ($MIL)	TPA Sector	SCORE	SCORE	SCORE
F	Ford Motor Co.	12.75	85.29	96.09	Lagging	$51,254	Consumer Discretionary	-2.07	-0.98	-3.05
WYNN	Wynn Resorts Ltd.	62.29	90.97	97.69	Lagging	$7,224	Consumer Discretionary	-2.08	-0.98	-3.06
NTAP	Netapp Inc	66.81	93.25	97.94	Lagging	$14,868	Technology	-2.07	-1.01	-3.08
JBLU	Jetblue Airways Corp	9.54	88.50	93.93	Lagging	$3,060	Transportation	-2.02	-1.06	-3.08
WEN	Wendy's Co	18.16	94.72	97.28	Lagging	$3,891	Consumer Discretionary	-2.10	-0.98	-3.08
XPO	XPO Logistics Inc	49.48	87.46	94.70	Lagging	$5,691	Transportation	-2.02	-1.06	-3.08
GDDY	Godaddy Inc	70.76	105.76	96.98	Weakening	$11,446	Internet	-2.11	-0.98	-3.09
MKSI	MKS Instruments Inc.	112.59	87.60	95.97	Lagging	$6,267	Technology	-2.08	-1.01	-3.10
STLD	Steel Dynamics Inc.	74.13	120.87	98.76	Weakening	$13,988	Metals and Mining	-2.07	-1.04	-3.11
NUE	Nucor Corp.	120.17	115.86	96.10	Weakening	$31,973	Metals and Mining	-2.10	-1.04	-3.14
PANW	Palo Alto Networks Inc	495.22	105.42	96.63	Weakening	$49,341	Cyber Security	-2.20	-0.94	-3.14
CNXC	Concentrix Corporation	151.48	93.36	95.15	Lagging	$7,948	Technology	-2.16	-1.01	-3.17
AGCO	AGCO Corp.	117.85	107.88	98.32	Weakening	$8,785	Agribusiness	-2.14	-1.03	-3.17
DE	Deere & Co.	335.23	105.89	96.53	Weakening	$102,458	Agribusiness	-2.16	-1.03	-3.19
CLF	Cleveland-Cliffs Inc	19.64	113.24	93.71	Weakening	$10,306	Metals and Mining	-2.31	-1.04	-3.35
AA	Alcoa Corp	53.01	105.54	86.61	Weakening	$9,778	Metals and Mining	-2.38	-1.04	-3.42
SABR	Sabre Corp	6.86	101.48	94.44	Weakening	$2,239	Technology	-2.81	-1.01	-3.82
SPR	Spirit Aerosystems Holdings Inc	29.98	92.21	91.58	Lagging	$3,148	Aerospace & Defense	-3.24	-1.00	-4.24
EXPE	Expedia Group Inc	115.16	92.73	90.81	Lagging	$18,091	Consumer Discretionary	-3.30	-0.98	-4.28
ANET	Arista Networks Inc	94.96	96.54	94.19	Lagging	$29,273	Technology	-3.40	-1.01	-4.41

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://vimeo.com/manage/videos/719877123/privacy

Weekly Relative Rotation Graph®   Date: 6/10/2022 Benchmark: S&P 500 INDEX - SPX (WI)

Sectors:

Solar, Retail, and Social Networking remain strong and Transports, Metals and Mining and TECH remain weak.

TPA-RRG U.S. SECTOR & SUBSECTOR ETFS - HISTORY

Rank	2/21/22 Code	2/28/22 Code	3/7/22 Code	3/13/22 Code	3/20/22 Code	4/10/22 Code	4/18/22 Code	4/25/22 Code	5/2/22 Code	5/9/22 Code	5/16/22 Code	5/23/22 Code	5/30/22 Code	6/6/22 Code	6/13/22 Code
1	OIH	OIH	ITA	XLI	XLV	IYR	IYR	IYR	IYR	XLI	SOCL	SOCL	XLB	TAN	TAN
2	XLP	XLF	XLV	ITA	ITA	TAN	XLI	XLV	CLOU	CLOU	CLOU	CLOU	XLU	SOCL	ITB
3	XLF	XLP	MOO	XLV	XLI	HACK	HACK	CLOU	XLV	XLU	XLC	IGV	XOP	IGV	XRT
4	PPH	PPH	PPH	MOO	HACK	XLI	TAN	XLU	IGV	XLB	XRT	XLC	XLP	XRT	SOCL
5	MOO	XME	XLI	PPH	MOO	MOO	XRT	XRT	XLU	XRT	XLB	XLB	XLE	XLC	XLB
6	XLU	MOO	IYR	XLF	XME	CLOU	CLOU	FDN	XLB	XOP	FDN	FDN	TAN	XLI	IGV
7	ITA	ITA	XME	HACK	XLU	XME	FDN	XLP	XOP	XLE	XLP	PPH	XLI	XLP	PPH
8	XLB	XLV	XLU	XME	IYR	FDN	XME	XLI	XLC	XLP	XME	XLP	IYR	XLE	XLP
9	IYR	XLU	XLF	OIH	XLF	XLV	MOO	HACK	FDN	IYR	ITA	IYR	MOO	MOO	XOP
10	XME	XLB	OIH	XLU	PPH	IGV	XLV	ITA	XLP	ITA	IYR	ITA	XLV	IYR	XLE
11	XLE	XLE	IYT	XLE	XRT	XRT	XLC	TAN	XLI	XME	XLI	XLI	PPH	XLV	XLI
12	XOP	XOP	XLE	IYT	OIH	XLU	IGV	XME	HACK	XLV	XLV	MOO	CLOU	XLB	IYR
13	IYT	IYT	XLB	XLC	IYT	XLB	XLU	MOO	TAN	MOO	MOO	XLU	SOCL	XLU	XLU
14	XLV	XLI	XOP	XOP	XLE	ITA	XLP	OIH	ITA	PPH	XLU	XOP	IGV	PPH	XLV
15	XLI	IYR	XLP	XLB	XOP	OIH	XLB	XLE	XME	TAN	OIH	XLV	XLC	XOP	XLC
16	XLC	XRT	XLC	XLP	XLB	PPH	ITA	PPH	MOO	OIH	XOP	XLE	XRT	CLOU	CLOU
17	XRT	FDN	TAN	IYR	XLC	XLP	XLE	XOP	OIH	XLC	PPH	XRT	HACK	ITB	XLF
18	FDN	SOCL	HACK	TAN	TAN	XLE	OIH	XLB	PPH	FDN	XLE	TAN	FDN	HACK	SMH
19	SOCL	XLC	SOCL	SOCL	IGV	XOP	PPH	IGV	XLE	IGV	TAN	HACK	XLY	FDN	HACK
20	HACK	HACK	FDN	FDN	XLP	XLY	XOP	XLC	XRT	HACK	IGV	SMH	OIH	XLY	FDN
21	IGV	IGV	IGV	IGV	SOCL	SOCL	SOCL	XLY	SOCL	SOCL	HACK	XLY	XLK	OIH	XLY
22	XLK	XLK	XRT	XRT	FDN	XLC	ITB	SOCL	XLY	XLY	XLY	XLK	SMH	XLK	ITA
23	SMH	SMH	SMH	XLY	XLY	ITB	XLK	ITB	ITB	SMH	XLK	ITB	ITB	ITA	OIH
24	XLY	XLY	XLY	ITB	ITB	XLF	SMH	XLK	SMH	XLK	ITB	OIH	ITA	SMH	XLK
25	TAN	TAN	XLK	XLK	XLK	IYT	XLY	SMH	XLK	ITB	SMH	XME	XME	XME	MOO
26				SMH	SMH	XLK	IYT	IYT	IYT	XLF	XLF	XLF	IYT	IYT	XME
27						SMH	XLF	XLF	XLF	IYT	IYT	IYT	XLF	XLF	IYT

Top 20 & Bottom 20:
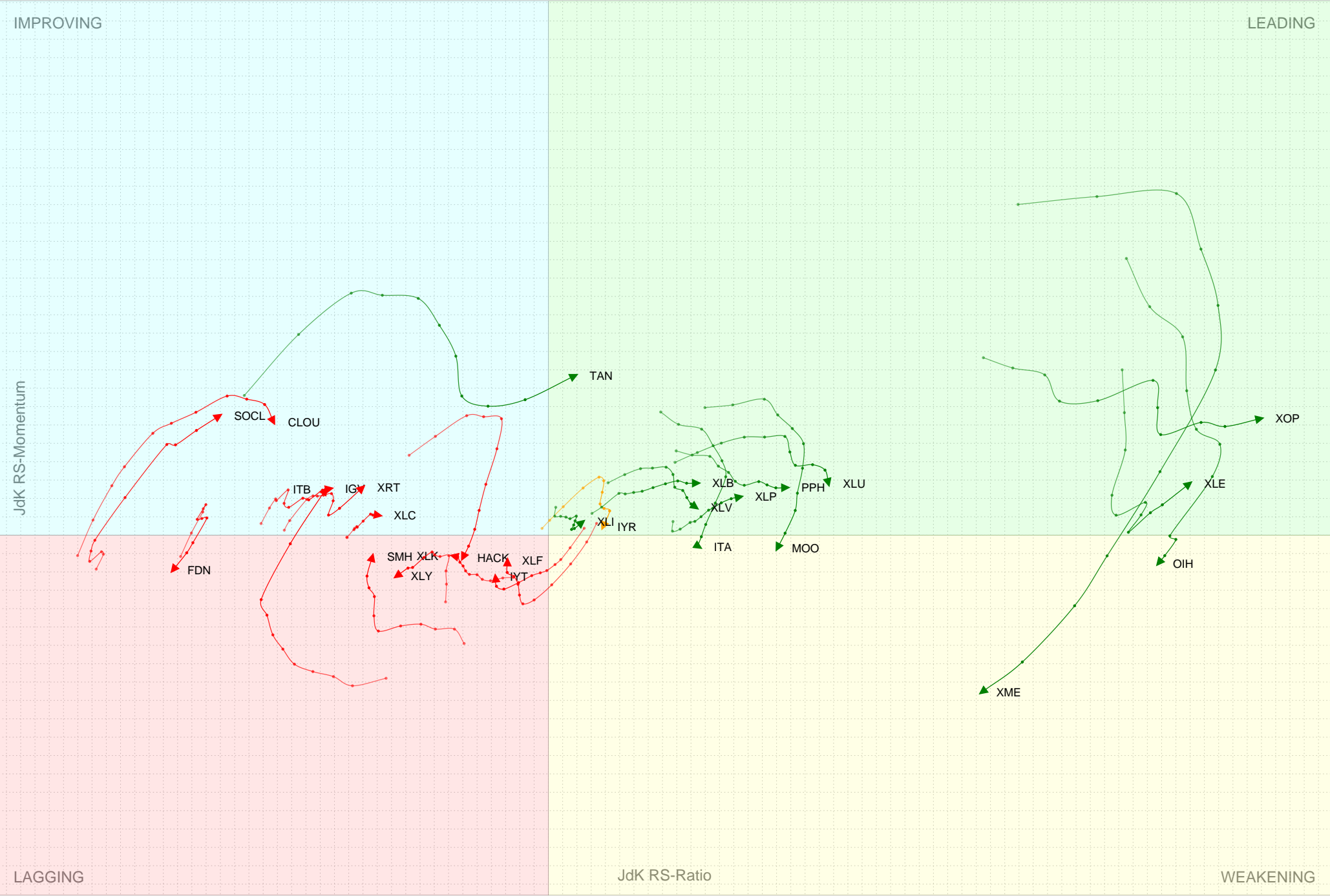
There is not a single Financial in the Bottom 20. Either they have become very oversold or a shift is taking place or both.

TPA-RRG 25 SECTOR ETFS

Code	Name	Last	RRG Ratio	RRG Momentum	Quadrant	TPA-RRG SCORE
	TPA-RRG U.S. SECTOR & SUBSECTOR ETFS		6/13/22			
TAN	Solar	73.44	57.84	104.34	Leading	4.99
ITB	Home Construction	56.53	54.97	101.24	Improving	3.32
XRT	Retail	63.57	60.45	101.30	Improving	3.17
SOCL	Social Media	35.51	33.85	103.25	Improving	3.08
XLB	Materials	81.67	80.29	101.42	Leading	3.03
IGV	Software	276.47	262.32	101.27	Improving	3.02
PPH	Pharma	75.74	75.80	101.30	Leading	3.01
XLP	Staples	71.92	70.37	101.04	Leading	3.00
XOP	Oil&Gas E&P	162.68	124.94	103.18	Leading	3.00
XLE	Energy	88.71	78.35	101.41	Leading	2.96
XLI	Industrial	90.84	89.55	100.36	Leading	2.84
IYR	Real Estate	92.47	92.81	100.22	Leading	2.21
XLU	Utilities	71.34	70.19	101.40	Leading	2.04
XLV	Health Care	125.49	125.98	100.75	Leading	2.03
XLC	Communications	56.71	56.49	100.54	Improving	2.00
CLOU	Cloud Computing	17.00	16.38	103.08	Improving	1.96
XLF	Financials	32.53	32.36	99.30	Lagging	1.09
SMH	SEMI	223.82	218.29	99.42	Lagging	1.05
HACK	Cyber Security	46.49	44.69	99.38	Lagging	-1.89
FDN	Internet	132.72	130.21	99.04	Lagging	-1.96
XLY	Consumer Discretionary	144.47	138.02	98.88	Lagging	-1.97
ITA	Aerospace & Defense	100.23	95.30	99.68	Weakening	-2.01
OIH	Oil Services	290.95	256.92	99.23	Weakening	-2.01
XLK	TECH	131.09	128.64	99.44	Lagging	-2.02
MOO	Agribusiness	92.44	93.17	99.64	Weakening	-2.06
XME	Metals & Mining	51.93	48.66	95.72	Weakening	-2.08
IYT	Transportation	217.37	216.22	98.86	Lagging	-2.12

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://vimeo.com/manage/videos/719856864/privacy

Weekly Relative Rotation Graph®   Date: 6/10/2022 Benchmark: S&P 500 INDEX - SPX (WI)

Click HERE for the entire Russell 1000 TPA-RRG Score and Rank Report.

What are RRG's?

Julius de Kempenaer developed Relative Rotational Graphs (RRG) in 2004 and thousands of investors use RRG's. *"Relative Rotation Graphs, commonly referred to as 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 RRG's to highlight stocks and sectors moving in and out of favor, but also notes the shortcoming of having to examine many RRG's 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, TPA also uses certain characteristics on each stock's RS to calcultate 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 centre 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 centre.

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 <u>focus</u> 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 <u>taking advantage of opportunities and not getting into trouble.</u>
3. We also look at the top and bottom stocks through a standard technical analysis to <u>avoid stocks that are overbought, oversold or at other technical trouble spots.</u>
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 <u>specific areas</u> of the market.

You can learn more about RRG's with these links:
[**Relative Rotation Graphs (RRG) – explanation video**](#)
[**RRG – written explanation**](#)

Included in the Weekly TPA-RRG Report
1. <u>The weekly TPA RRG Report will provide RRG Scores, Rankings, RRG's and a RRG Video for:</u>
   - 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. <u>The report will also include:</u>
   - 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*