



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)

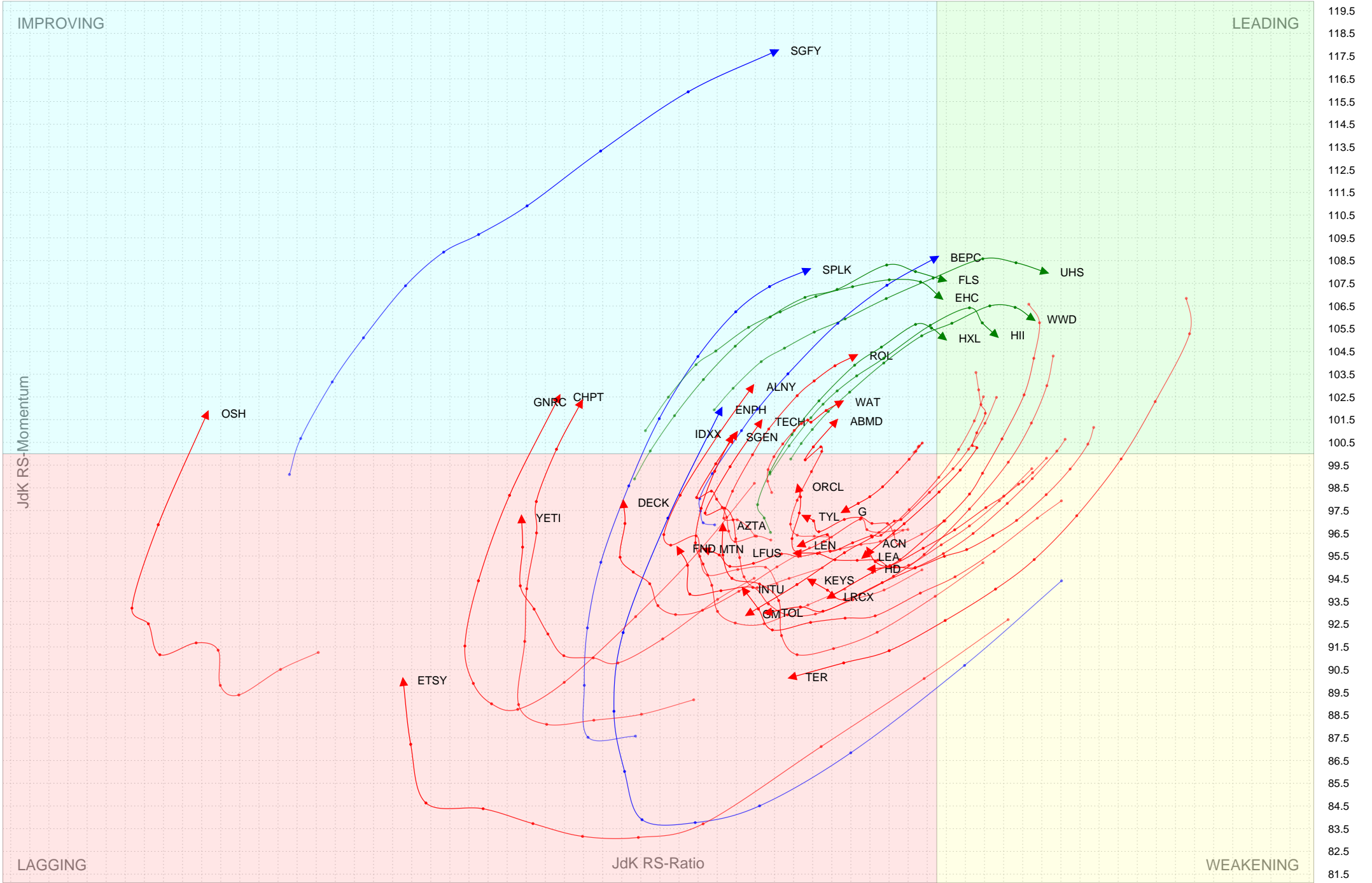
Buy	Prices as of 3/27/22							STOCK	SECTOR	TOTAL
Sell	TOP 20							TPA-RRG	TPA-RRG	TPA-RRG
Code	Name	Last	RRG Ratio	RRG Momentum	Quadrant	Mkt Cap (\$MIL)	TPA Sector	SCORE	SCORE	SCORE
ENPH	Enphase Energy Inc	193.81	88.69	101.94	Improving	\$25,958	Solar & Environ	3.63	1.64	5.27
BEPC	Brookfield Renewable Corporation	41.38	99.97	108.63	Improving	\$7,126	Utilities	3.58	1.54	5.12
SGFY	Signify Health Inc - Ordinary Shares	17.37	91.59	117.73	Improving	\$2,973	Health Care	3.42	1.59	5.00
ALNY	Alnylam Pharmaceuticals Inc	163.81	90.33	102.94	Improving	\$19,692	Health Care	3.39	1.59	4.98
CHPT	ChargePoint Holdings Inc - Ordinary	18.47	80.20	102.49	Improving	\$6,185	Industrial	3.36	1.61	4.96
ABMD	ABIOMED Inc	318.88	94.71	101.43	Improving	\$14,514	Health Care	3.37	1.59	4.96
TECH	Bio-Techne Corp	435.45	90.77	101.40	Improving	\$17,108	Health Care	3.35	1.59	4.94
FLS	Flowserve Corp.	35.07	100.38	107.64	Leading	\$4,573	Industrial	3.32	1.61	4.93
SPLK	Splunk Inc	142.51	93.26	108.10	Improving	\$22,629	Cyber Security	3.31	1.62	4.93
ROL	Rollins Inc.	33.81	95.72	104.31	Improving	\$16,637	Industrial	3.28	1.61	4.88
UHS	Universal Health Services Inc.	148.09	105.71	107.98	Leading	\$11,078	Health Care	3.28	1.59	4.87
HII	Huntington Ingalls Industries Inc	205.97	103.11	105.20	Leading	\$8,237	Industrial	3.25	1.61	4.86
WWD	Woodward Inc	125.92	105.03	105.93	Leading	\$7,946	Industrial	3.23	1.61	4.84
HXL	Hexcel Corp.	59.54	100.40	105.08	Leading	\$5,001	Aerospace & Defense	3.22	1.62	4.83
EHC	Encompass Health Corp	67.90	100.20	106.87	Leading	\$6,752	Health Care	3.24	1.59	4.83
SGEN	Seagen Inc	138.33	89.26	100.72	Improving	\$25,295	Health Care	3.23	1.59	4.82
GNRC	Generac Holdings Inc	312.61	81.38	102.27	Improving	\$19,939	Industrial	3.19	1.61	4.80
OSH	Oak Street Health Inc	25.49	61.79	101.78	Improving	\$6,143	Health Care	3.21	1.59	4.80
IDXX	Idexx Laboratories Inc.	538.93	89.48	100.88	Improving	\$45,404	Health Care	3.21	1.59	4.80
WAT	Waters Corp.	325.97	94.98	102.27	Improving	\$19,726	Health Care	3.19	1.59	4.77

Buy	Prices as of 3/27/22						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
MTN	Vail Resorts Inc.	258.44	87.86	95.79	Lagging	\$10,489	Consumer Discretionary	-2.04	-1.06	-3.10
LEN	Lennar Corp.	82.78	92.82	95.97	Lagging	\$24,405	Consumer Discretionary	-2.05	-1.06	-3.11
DECK	Deckers Outdoor Corp.	268.69	83.59	97.85	Lagging	\$7,320	Consumer Discretionary	-2.06	-1.06	-3.12
YETI	YETI Holdings Inc	56.50	78.25	97.18	Lagging	\$4,957	Consumer Discretionary	-2.07	-1.06	-3.12
FND	Floor & Decor Holdings Inc	88.02	86.46	95.82	Lagging	\$9,311	Consumer Discretionary	-2.07	-1.06	-3.13
ETSY	Etsy Inc	132.32	72.05	90.02	Lagging	\$16,809	Consumer Discretionary	-2.11	-1.06	-3.16
G	Genpact Ltd	43.63	95.12	97.47	Lagging	\$8,079	Technology	-2.01	-1.62	-3.63
TYL	Tyler Technologies Inc.	429.52	93.07	97.24	Lagging	\$17,760	Technology	-2.06	-1.62	-3.68
ORCL	Oracle Corp.	81.73	92.73	98.55	Lagging	\$218,069	Technology	-2.07	-1.62	-3.69
LFUS	Littelfuse Inc.	251.38	92.63	95.62	Lagging	\$6,207	Technology	-2.09	-1.62	-3.71
INTU	Intuit Inc	459.35	89.89	94.03	Lagging	\$129,910	Technology	-2.11	-1.62	-3.73
AZTA	Azenta Inc	85.30	88.79	96.83	Lagging	\$6,390	Technology	-2.12	-1.62	-3.74
GM	General Motors Company	43.65	90.11	92.94	Lagging	\$63,424	Consumer Discretionary	-3.08	-1.06	-4.14
TOL	Toll Brothers Inc.	49.11	91.09	93.01	Lagging	\$5,761	Consumer Discretionary	-3.16	-1.06	-4.21
HD	Home Depot Inc.	310.68	96.51	94.93	Lagging	\$324,425	Consumer Discretionary	-3.32	-1.06	-4.38
LEA	Lear Corp.	143.35	96.19	95.47	Lagging	\$8,558	Consumer Discretionary	-3.33	-1.06	-4.39
ACN	Accenture plc	327.71	96.40	95.78	Lagging	\$217,086	Technology	-3.19	-1.62	-4.81
KEYS	Keysight Technologies Inc	160.11	93.35	94.43	Lagging	\$29,136	Technology	-3.19	-1.62	-4.81
TER	Teradyne Inc.	124.04	92.37	90.16	Lagging	\$20,146	Technology	-3.30	-1.62	-4.91
LRCX	Lam Research Corp.	554.82	94.38	93.69	Lagging	\$77,397	Semiconductor	-3.27	-1.66	-4.93

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/692872730>



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Sectors:

TECH and Consumer have been hit hard. With or without peace, the market is seeing improving Momentum in various TECH sectors and subsectors. We highlight the following areas that are seeing improving momentum, which is the precursor for improving relative strength – longer-term price outperformance:

- TAN – Solar
- HACK – Cybersecurity
- CLOU – Cloud computing
- FDN – Internet
- IGV – Software
- XRT Retail
- XLC - Communications

Top 20 & Bottom 20:

Positive:

We are starting to see a few TECH and Industrial stocks in the Top 20. A week or so ago, the Top 20 was Healthcare oriented and 2-3 weeks ago the TOP 20 was mostly Energy.

Negative:

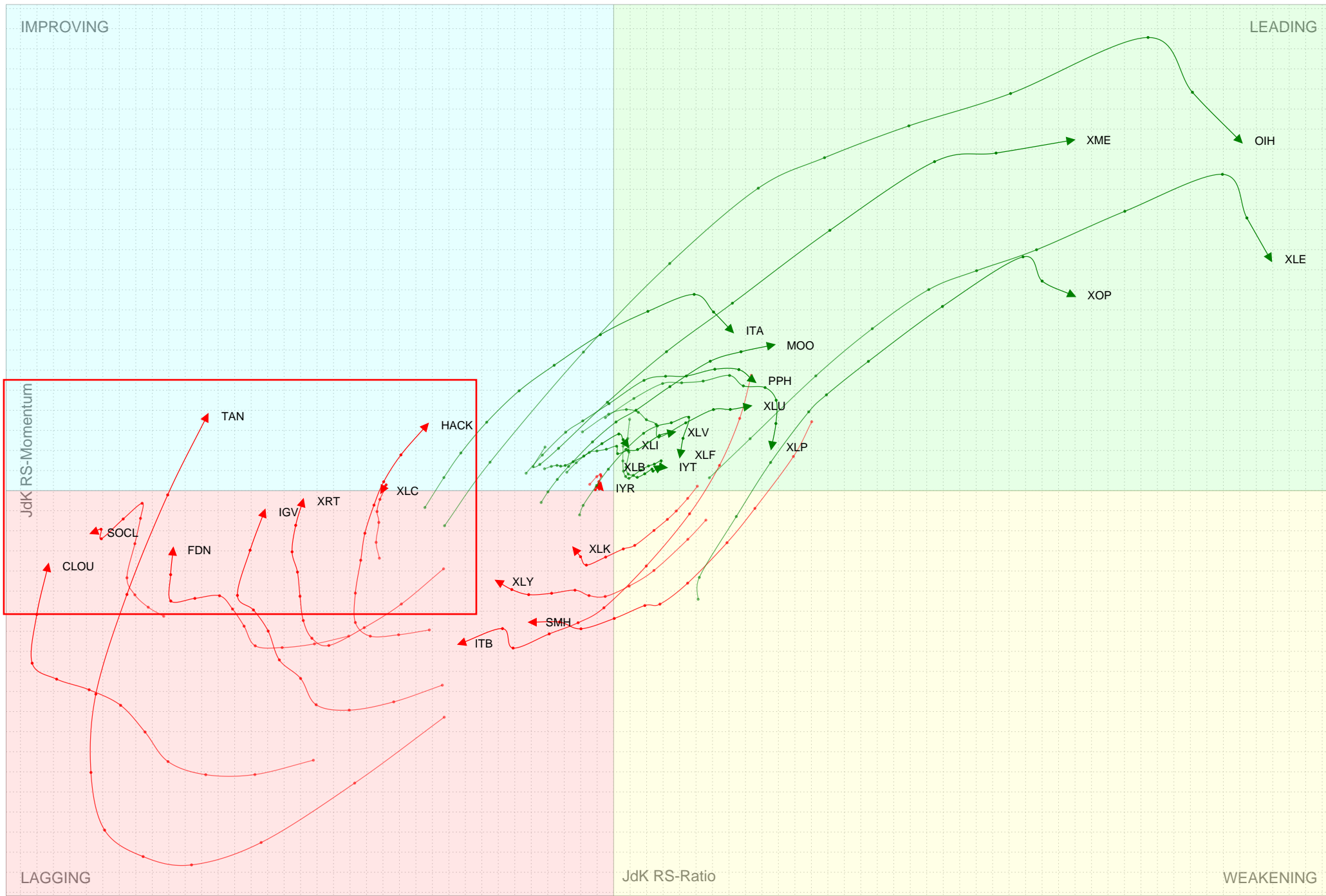
There are still mostly TECH and Consumer stocks in the Bottom 20. This will take a while or an end to the Ukrainian conflict to change wholesale.

TPA-RRG 25 SECTOR ETFS

TPA-RRG U.S. SECTOR & SUBSECTOR ETFS						3/30/22	
<u>Code</u>	<u>Name</u>	<u>Last</u>	<u>RRG Ratio</u>	<u>RRG Momentum</u>	<u>Quadrant</u>	<u>TPA-RRG SCORE</u>	
TAN	Solar	75.36	67.34	101.85	Improving	3.27	
HACK	Cyber Security	58.49	53.45	101.63	Improving	3.24	
ITA	Aerospace & Defense	112.95	104.14	103.98	Leading	3.23	
XLI	Industrial	103.72	96.27	101.13	Leading	3.21	
XLV	Health Care	136.27	126.40	101.45	Leading	3.17	
MOO	Agribusiness	106.80	92.89	103.62	Leading	3.15	
XME	Metals & Mining	63.33	52.30	108.72	Leading	3.11	
XLU	Utilities	72.78	67.79	102.10	Leading	3.08	
XLB	Materials	89.29	78.64	100.59	Leading	2.98	
XLF	Financials	39.52	35.45	100.89	Leading	2.16	
XLP	Staples	75.04	71.45	101.09	Leading	2.12	
PPH	Pharma	79.50	73.10	102.73	Leading	2.11	
OIH	Oil Services	293.52	240.75	108.70	Leading	2.10	
XLE	Energy	78.75	70.09	105.76	Leading	2.07	
XOP	Oil&Gas E&P	138.60	114.60	104.86	Leading	2.05	
IYT	Transportation	269.01	244.23	100.58	Leading	2.04	
IYR	Real Estate	105.87	100.87	100.05	Improving	1.98	
IGV	Software	338.12	302.26	99.47	Lagging	1.05	
CLOU	Cloud Computing	77.50	71.77	99.73	Lagging	1.03	
FDN	Internet	185.82	161.16	98.52	Lagging	1.03	
XLC	Communications	69.18	63.25	99.99	Lagging	-1.99	
SOCL	Social Media	42.46	36.43	98.96	Lagging	-2.00	
XLY	Consumer Discretionary	183.36	160.39	97.74	Lagging	-2.12	
ITB	Home Construction	61.31	61.06	96.19	Lagging	-3.19	
XLK	TECH	158.22	140.70	98.55	Lagging	-3.24	
SMH	SEMI	275.33	237.59	96.72	Lagging	-3.32	

Relative Rotation Graph for 25 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/692867630>



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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 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 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 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 RRG's 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's 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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