



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

Sector & Top 20 and Bottom 20

The focus post-election results has been on Trump's possible new policies and their effect on the economy. At the same time, the main focus of the past few years has been inflation and the tight housing market. The economy seems to remain robust looking at the broad measures of GDP, corporate profits, consumer spending, and unemployment.

The problem for Real Estate (IYR) Housing is that most of the elements that would help these sectors do not look good in a Trump administration:

1. Tariffs will make the raw materials needed for home building more expensive and harder to attain.
2. Tough immigration laws will reduce the homebuilder workforce.
3. Inflation will help to keep interest rates up.
4. The economy's strength will also keep interest rates higher.

The chart below shows that ITB, the Homebuilder ETF, has vastly outperformed the S&P500. In the past 2 years, ITB has risen by 102%, while the S&P 500 has risen by only 54%. This may make builders vulnerable.

Chart 2 shows that REIT briefly outperformed SPY when rates began to decline, but the rally fell apart as it became clear that the economic strength and possible inflationary pressures from the new administration had caused rates to move higher.

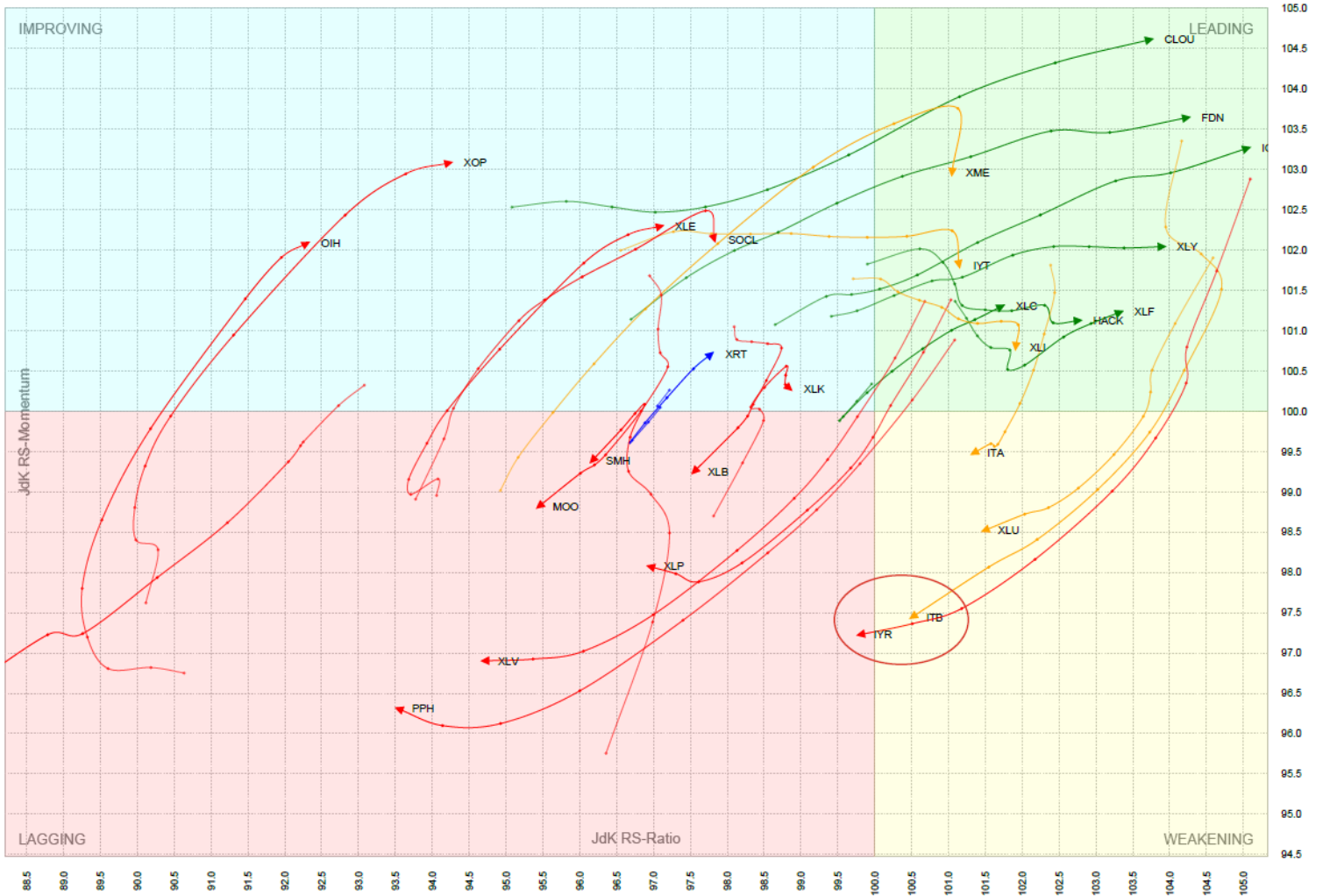
The ETF RRG below shows that ITB and IYR have displayed weak relative strength and relative momentum and have moved out of the Leading quadrant and toward the Lagging quadrant.

PERFORMANCE OF ITB AND SPY – 2 YEARS



RATIO OF IYR/SPY AND 10 YEAR RATE OVER THE PAST 2 YEARS





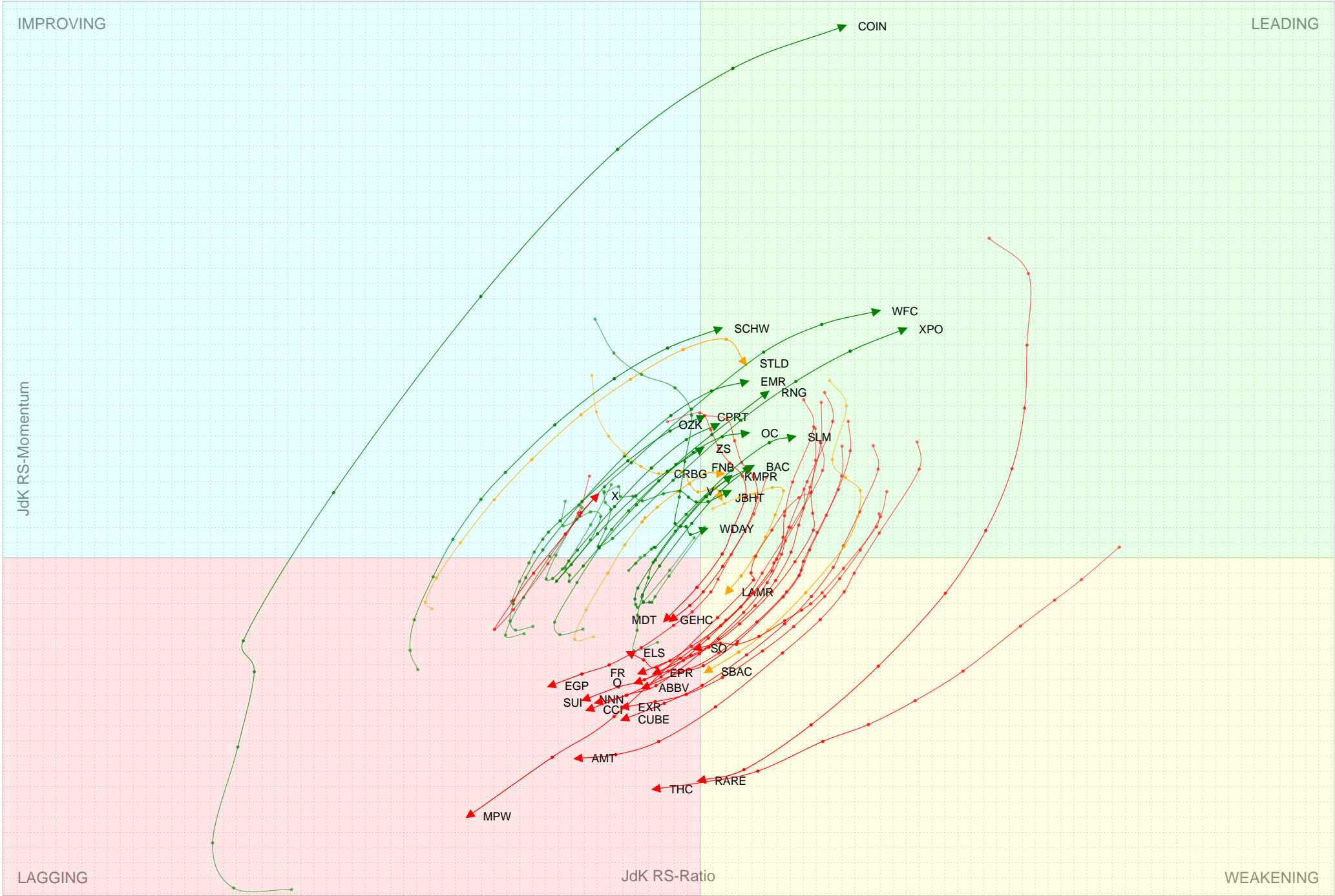
TPA-RRG TOP 20 & BOTTOM 20 (table below)

Buy	Prices as of 12/6/24							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
WDAY	Workday Inc	266.42	100.19	100.94	Leading	\$70,868	Tech-Software	5.51	2.02	7.53
ZS	Zscaler Inc	211.99	100.06	103.58	Leading	\$32,525	Tech-Software	5.00	2.02	7.03
RNG	RingCentral Inc.	41.03	102.58	105.42	Leading	\$3,710	Tech-Software	4.76	2.02	6.78
V	Visa Inc	311.01	101.11	102.17	Leading	\$609,499	Technology	4.71	2.00	6.71
CPRT	Copart Inc.	62.08	100.10	104.63	Leading	\$59,816	Industrial	4.68	2.01	6.68
KMPR	Kemper Corporation	70.64	101.15	102.66	Leading	\$4,524	Financial	4.66	2.01	6.67
OZK	Bank OZK	47.49	100.66	104.37	Leading	\$5,387	Financial	4.65	2.01	6.66
SCHW	Charles Schwab Corp.	81.47	100.76	107.52	Leading	\$144,989	Financial	4.65	2.01	6.66
COIN	Coinbase Global Inc	343.62	105.56	117.44	Leading	\$86,025	Financial	4.53	2.01	6.54
FNB	F.N.B. Corp.	16.55	101.90	102.96	Leading	\$5,951	Financial	4.53	2.01	6.54
CRBG	Corebridge Financial Inc.	31.95	100.84	102.76	Leading	\$18,175	Financial	4.53	2.01	6.53
EMR	Emerson Electric Co.	130.98	101.78	105.78	Leading	\$74,685	Industrial	4.50	2.01	6.51
OC	Owens Corning	201.91	101.81	104.09	Leading	\$17,321	Industrial	4.47	2.01	6.47
BAC	Bank Of America Corp.	46.75	102.00	102.99	Leading	\$358,707	Financial	4.46	2.01	6.47
WFC	Wells Fargo & Co.	74.33	106.88	108.10	Leading	\$247,481	Financial	4.35	2.01	6.36
X	United States Steel Corp.	38.45	95.99	102.04	Improving	\$8,658	Metals and Mining	3.28	3.02	6.30
SLM	SLM Corp.	26.57	103.61	103.97	Leading	\$5,642	Financial	4.28	2.01	6.28
JBHT	J.B. Hunt Transport Services Inc.	180.99	100.80	101.96	Leading	\$18,249	Transportation	3.24	3.01	6.25
STLD	Steel Dynamics Inc.	136.90	101.74	106.39	Leading	\$20,842	Metals and Mining	3.22	3.02	6.24
XPO	XPO Inc	151.63	107.93	107.51	Leading	\$17,650	Transportation	3.18	3.01	6.19

Buy	Prices as of 12/6/24							STOCK	SECTOR	TOTAL
Sell			BOTTOM 20					TPA-RRG	TPA-RRG	TPA-RRG
RARE	Ultragenyx Pharmaceutical Inc.	49.38	100.00	92.70	Lagging	\$4,560	Health Care	-3.41	-2.01	-5.43
MDT	Medtronic PLC	84.01	98.88	97.96	Lagging	\$107,725	Health Care	-3.43	-2.01	-5.44
THC	Tenet Healthcare Corp.	138.94	98.24	92.42	Lagging	\$13,213	Health Care	-3.44	-2.01	-5.45
ABBV	AbbVie Inc	176.19	97.82	95.74	Lagging	\$311,352	Pharmaceutical	-3.44	-2.01	-5.46
SBAC	SBA Communications Corp	220.38	100.25	96.27	Weakening	\$23,696	Real Estate	-2.44	-3.02	-5.46
LAMR	Lamar Advertising Co	131.22	101.05	98.87	Weakening	\$13,431	Real Estate	-2.54	-3.02	-5.56
SO	Southern Company	84.81	99.84	97.02	Lagging	\$92,925	Utilities	-3.56	-2.01	-5.57
GEHC	GE HealthCare Technologies Inc	81.24	98.65	97.97	Lagging	\$37,116	Health Care	-3.79	-2.01	-5.80
EGP	Eastgroup Properties Inc.	168.00	94.18	95.80	Lagging	\$8,317	Real Estate	-3.12	-3.02	-6.14
MPW	Medical Properties Trust Inc	4.14	91.01	91.53	Lagging	\$2,486	Real Estate	-3.16	-3.02	-6.18
NNN	NNN REIT Inc	42.50	95.51	95.36	Lagging	\$7,970	Real Estate	-3.22	-3.02	-6.24
SUI	Sun Communities Inc.	124.69	96.00	95.26	Lagging	\$15,884	Real Estate	-3.23	-3.02	-6.25
ELS	Equity Lifestyle Properties Inc.	69.70	97.23	96.89	Lagging	\$13,316	Real Estate	-3.25	-3.02	-6.27
CCI	Crown Castle Inc	101.85	95.67	95.02	Lagging	\$44,264	Real Estate	-3.26	-3.02	-6.28
AMT	American Tower Corp.	207.10	95.22	93.42	Lagging	\$96,776	Real Estate	-3.27	-3.02	-6.30
EXR	Extra Space Storage Inc.	163.54	97.02	95.11	Lagging	\$34,668	Real Estate	-3.33	-3.02	-6.35
FR	First Industrial Realty Trust Inc.	51.56	97.67	96.23	Lagging	\$6,824	Real Estate	-3.38	-3.02	-6.40
O	Realty Income Corp.	56.17	97.53	95.91	Lagging	\$49,161	Real Estate	-3.38	-3.02	-6.40
CUBE	CubeSmart	47.48	97.02	94.71	Lagging	\$10,738	Real Estate	-3.39	-3.02	-6.41
EPR	EPR Properties	45.10	98.25	96.22	Lagging	\$3,416	Real Estate	-3.41	-3.02	-6.44

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/O1rTXRL1w1U>



73.0 73.5 74.0 74.5 75.0 75.5 76.0 76.5 77.0 77.5 78.0 78.5 79.0 79.5 80.0 80.5 81.0 81.5 82.0 82.5 83.0 83.5 84.0 84.5 85.0 85.5 86.0 86.5 87.0 87.5 88.0 88.5 89.0 89.5 90.0 90.5 91.0 91.5 92.0 92.5 93.0 93.5 94.0 94.5 95.0 95.5 96.0 96.5 97.0 97.5 98.0 98.5 99.0 99.5 100.0 100.5 101.0 101.5 102.0 102.5 103.0 103.5 104.0 104.5 105.0 105.5 106.0 106.5 107.0 107.5 108.0 108.5 109.0 109.5 110.0 110.5 111.0 111.5 112.0 112.5 113.0 113.5 114.0 114.5 115.0 115.5 116.0 116.5 117.0 117.5 118.0 118.5 119.0 119.5 120.0 120.5 121.0 121.5 122.0 122.5 123.0 123.5 124.0 124.5

TPA-RRG 25 SECTOR ETFS

TPA-RRG U.S. SECTOR & SUBSECTOR ETFS						12/8/24	
Code	Name	Last	RRG Ratio	RRG Momentum	Quadrant	TPA-RRG SCORE	
CLOU	Cloud Computing	25.59	103.74	104.61	77.11	3.04	
XME	Metals & Mining	65.44	101.05	102.95	42.33	3.02	
IYT	Transportation	71.60	101.15	101.81	44.63	3.01	
IGV	Software	110.05	105.06	103.26	73.29	2.02	
FDN	Internet	255.40	104.24	103.64	78.96	2.02	
XOP	Oil&Gas E&P	135.82	94.24	103.08	38.58	2.01	
XLY	Consumer Discretionary	232.80	103.91	102.04	80.23	2.01	
XLE	Energy	91.02	97.10	102.29	38.58	2.01	
XLF	Financials	50.40	103.33	101.23	59.98	2.01	
XLC	Communications	100.93	101.73	101.30	77.81	2.01	
OIH	Oil Services	284.08	92.30	102.08	39.03	2.01	
SOCL	Social Media	44.73	97.83	102.13	67.79	2.01	
HACK	Cyber Security	76.45	102.77	101.12	67.72	2.01	
XRT	Retail	83.62	97.78	100.71	64.00	2.01	
XLI	Industrial	140.56	101.91	100.79	50.34	2.01	
XLK	TECH	240.84	98.85	100.28	64.41	2.00	
ITA	Aerospace & Defense	152.11	101.34	99.48	49.15	-2.01	
XLP	Staples	82.38	96.95	98.07	55.89	-2.01	
SMH	SEMI	248.61	96.17	99.38	51.97	-2.01	
XLU	Utilities	79.69	101.48	98.52	45.48	-2.01	
PPH	Pharma	90.24	93.54	96.31	51.07	-2.01	
XLV	Health Care	144.28	94.70	96.90	39.67	-2.01	
MOO	Agribusiness	70.65	95.44	98.82	42.54	-2.01	
XLB	Materials	91.91	97.55	99.25	38.97	-2.02	
ITB	Home Construction	118.98	100.51	97.44	44.07	-2.02	
TAN	Solar	35.32	87.38	96.35	43.10	-2.03	
IYR	Real Estate	99.69	99.80	97.23	48.17	-3.02	

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

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

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

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

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/H45zxqzdX_s

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

What are RRG's?

Julius de Kempnaer 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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