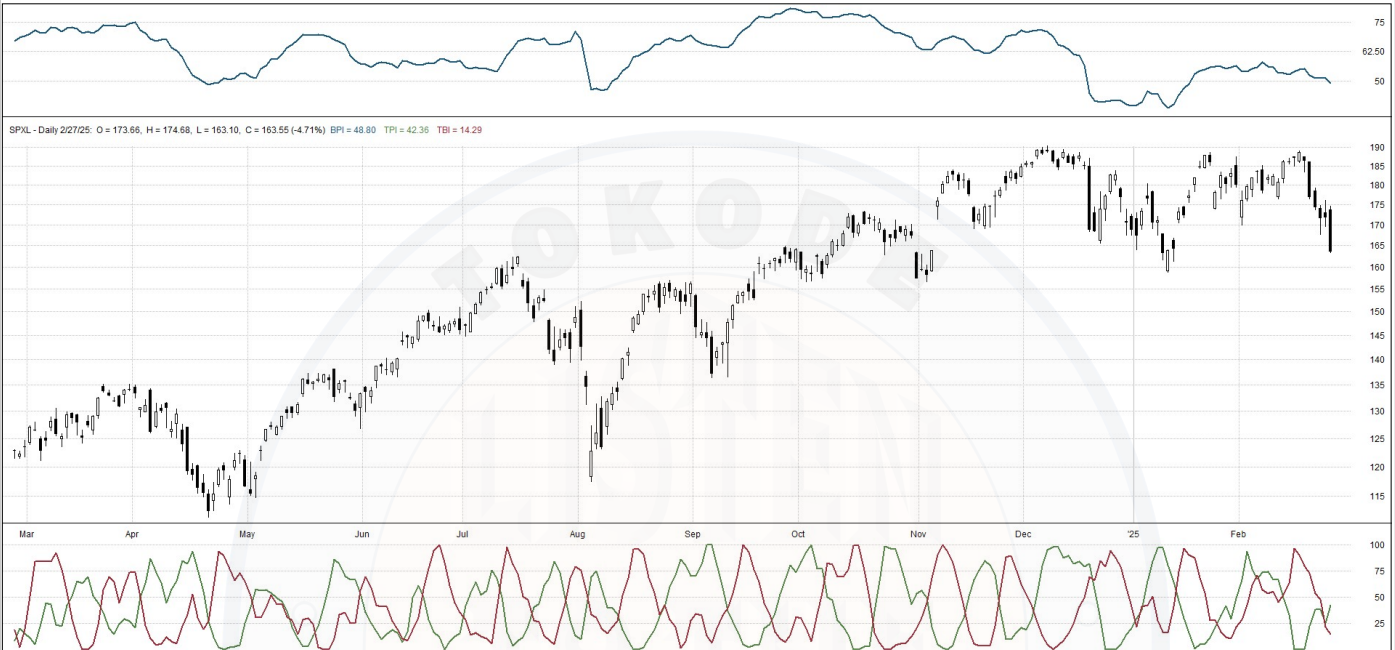## BREADTH

Tokode Breadth Study (TBS) is a process that employs three oscillators to assess "Market Breadth Conditions" at any given time in the stock market. The Tokode Pullback Index (TPI), evaluates down-side exhaustion during a pullback or correction while the Tokode Breakout Index (TBI) evaluates up-side participation after a market pullback or correction. The Bullish Percent Index (BPI) measures the percentage of stocks within the index (S&P 500) exhibiting a bullish setup. These three indicators are triangulated to determine market breadth conditions.

USE

For discretionary trading, the analysis consists of a quantitative (statistical) and qualitative (subjective) analysis.

Quantitative

Market breadth condition is determined using ranges. The default size of each range is: 5 points for TPI, 10 points for TBI and 33 points for BPI. The upper boundary is the "Close + (Range Size/2)", the lower boundary is the "Close - (Range Size/2). For example, when TPI's close is 93, a scan for (TPI's Close + 2.5 > TPI's Close AND TPI's Close > TPI's Close - 2.5) gives the range for TPI (similarly for TBI and BPI) is performed and the results are analysed to obtain market breadth condition.

Date ▼	Symbol	BPI	TPI	TBI	Day0Close	Day5Close	Day15Close	Day25Close	PctChgDay5	PctChgDay15	PctChgDay25
2/27/25	SPXL	48.80	42.36	14.29	163.55	n/a	n/a	n/a	n/a	n/a	n/a
1/29/25	SPXL	55.00	41.99	11.88	180.23	181.82	186.32	n/a	0.88	3.38	n/a
8/8/24	SPXL	46.40	40.28	15.50	131.82	148.67	152.16	153.53	12.78	15.43	16.47
10/6/21	SPXL	48.40	41.12	15.71	111.08	111.08	125.88	134.00	0.00	13.32	20.63
5/1/18	SPXL	50.20	40.56	14.01	41.44	42.26	44.90	47.17	1.98	8.35	13.83

Each moment in time is unique, so obtaining enough data points to satisfy statistical significance is not the goal. From the data in the result, the following can be determined and used to assess proba-bilities:

• Number of times a particular "Market Breadth Condition" has occurred

• Percentage of times SPXL closed higher "X" days later after occurrence

• The average rise in SPXL "X" days later after occurrence

BREADTH - Tokode Breadth Study (TBS)

Qualitative

Entry and Exit can be based on "Oversold" and "Overbought" market conditions. TPI is the most suitable oscillator for determining these levels. Default threshold for both are:

- 95 for oversold
- 0 for overbought

Entry and exit at these default thresholds for TPI, with a basic stretch as is commonplace for mean reversion, reveals the edge in TPI signals. Although, the win rate and payoff ratio are unusual for mean reversion, the results are reproducible in other levered ETFs.

Dates	Periods	NetProfit	Comp	CAGR	MaxDD	MAR	GPR	Calmar	UI	MAE	MFE	Trades	PctWins	AvgWin	AvgLoss	PayoffRatio	WinLen	LossLen	Expectancy	ProfitFactor	Sharpe	Sortino	AvgExp	MaxExp
1/3/12 - 2/27/25	3,221	$2,624,865	True	29.46%	-34.93%	0.84	1.27	0.87	9.47	-36.25%	41.05%	24	83.33%	21.75%	8.38%	2.60	57.55	40.25	16.73%	4.48	1.05	1.67	40.67%	101.11%
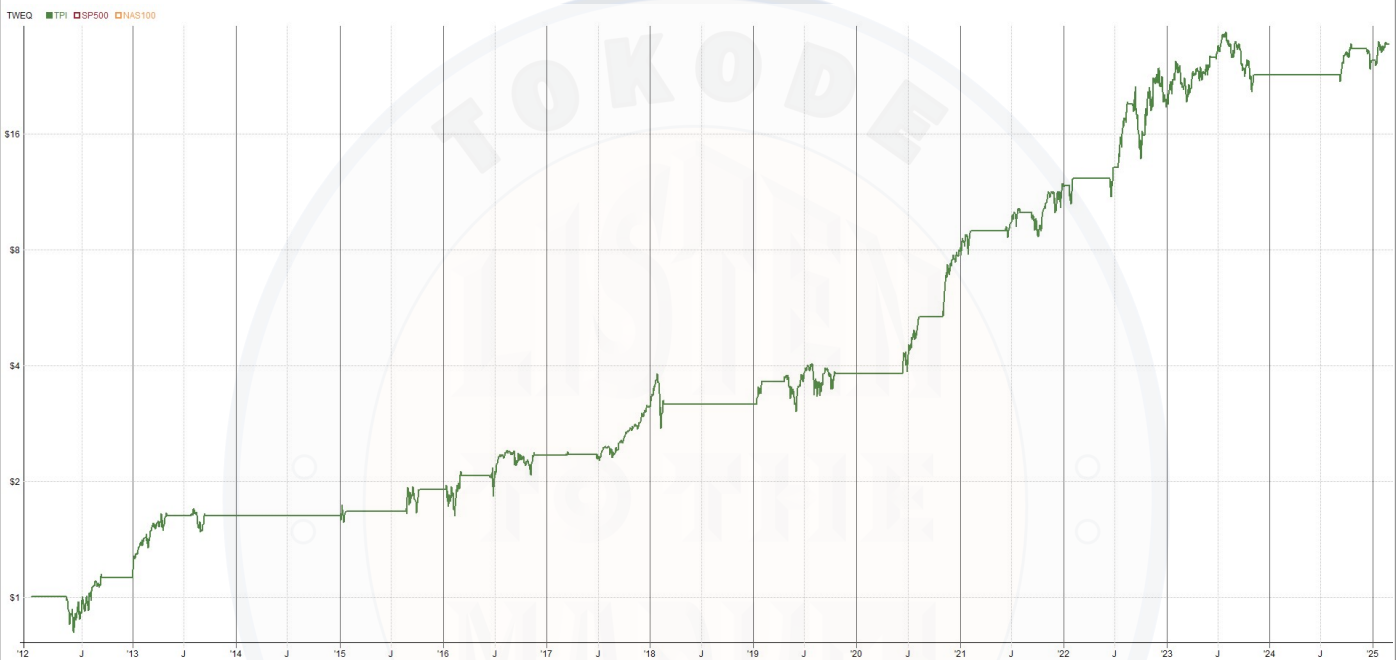
Risk management is an important aspect of discretionary trading hence, with a variety of appropriate risk controls, further edges can be realised with the general principles of:

- TPI for entry signals
- ⇒ Above 90 for oversold, long signals
- ⇒ At 100 for extremely oversold, long signals

- TBI for pyramid signals
- ⇒ Above 70 for breakout, after TPI long signals

- BPI as a filter for TPI signals
- ⇒ Below 45 to confirm oversold, TPI long signals
- ⇒ Below 70 to prevent false, TPI long signals
- ⇒ Above 65 to confirm pyramid, TBI long signals

REGIME

The Bull Bear Indicator (BBI) identifies the prevailing "Market Regime" in the stock market. There are two market regimes:

1. Bull Market - This indicates prices of stocks in the broader market are rising
2. Bear Market - This indicates prices of stocks in the broader market are falling

Both regimes are indicated by a background colour:

- A green background or an upward green triangle below the bar indicates an environment of rising prices.
- A red background or a downward red triangle above the bar indicates an environment of falling prices.

Absence of a coloured background or triangle indicates a transition period from Bull to Bear or Bear to Bull market regimes. The regimes and transitions may be prolonged or short lived.