Fractal Volatility Index for TSLA : 0.315. Market Wide FVI:0.478
(0 - 0.33: Stable, 0.33 - 0.66: Moderate Volatility, 0.66 - 1: High Volatility)

Red: High Risk FVI zone,Orange: Medium Risk FVI zone, Green: Low Risk FVI zone



Verv Stock Analysis Report: Tesla Inc TSLA FVI 0.315

Analysis Period: 2021-11-18 to 2026-11-18

The Fractal Volatility Index (FVI) is scaled between 0 and 1 reflecting the stock's overall volatility. A higher score indicates greater unpredictability and market instability.

Unlike traditional volatility indicators like VIX or Beta, FVI does not track short-term fluctuations—it detects hidden instability before it manifests in price swings.
FVI is a composite score that incorporates Lyapunov Exponent, Hurst Exponent, and Detrended Fluctuation Analysis (DFA).

Breakout Probability

Breakout Probability Score (BPS): 0.014
Breakout Probability Score (BPS) quantifies price momentum likelihood: BPS > 1.5 suggests high breakout potential, while BPS < 0.5 indicates consolidation.
(BPS > 1.5 High breakout potential - Strong momentum, watch for confirmation.)
(BPS 0.5 - 1.5 Moderate breakout likelihood - Possible move, monitor closely.)
(BPS < 0.5 Low breakout probability - Likely consolidation or range-bound.)
Request ID: FVI
Account ID: WeeklyReport

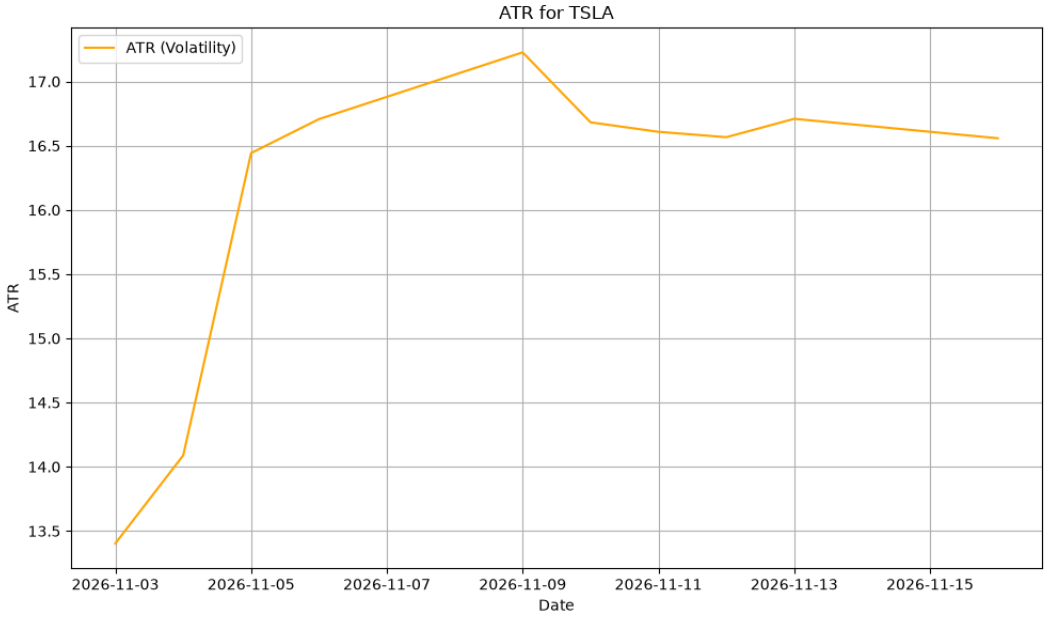
Fractal & Statistical Analysis

FVI Score: 0.315 (Fractal Volatility Index FVI)
DFA Result: 0.5265 (Detrended Fluctuation Analysis)
Lyapunov Exponent: 0.0132 (Measures chaos and predictability)
Hurst Exponent: 0.5416 (Indicates trending or mean-reverting behavior)

Breakout & Recent Price Change Analysis

Breakout Statement: No strong breakout signal detected: The latest closing price of 379.74 is within the Bollinger Bands range (353.90 - 417.99).
Latest ATR: 16.5579

Average True Range (ATR)

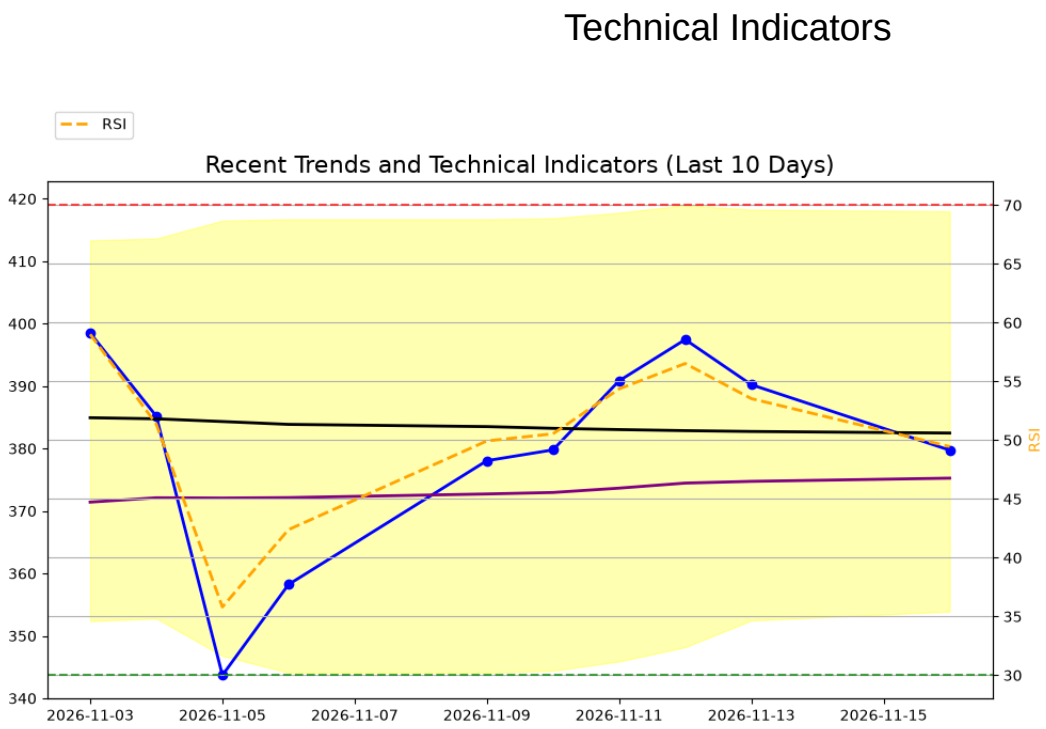


The ATR measures the recent price volatility of a stock, calculating the average range between its high and low prices over a given period (usually 14 days). A higher ATR indicates greater market volatility, and a lower ATR indicates less volatility.

Low ATR (below 2): Stable stock, Moderate ATR (2-5): Mild volatility, High ATR (above 5): Highly volatile stock

Technical Indicators

Technical indicators are based on historical price and volume data used in technical analysis to forecast financial market direction. They help identify trends, momentum, volatility, and potential entry and exit points in the market.



Left y axis - Stock Price. Right y axis - RSI range values (30 - 70)

Close Price(blue line with circles) - Key indicator of the stock's price action and is often used to identify trends or patterns. A rising close price generally indicates an upward trend, while a falling close price shows a downward trend.

SMA_50 and SMA_200 - (purple line SMA_50, black line SMA_200) Simple Moving Averages (SMA) calculated over 50 and 200 periods. Helps identify the direction of stock price trend.

Bollinger Bands - (shaded in yellow): Bollinger Bands consists of upper, middle and lower prices. The middle line is the moving average. Price reaching the upper band can indicate an overbought condition, suggesting the stock might be due for a pullback. Price touching the lower band could indicate an oversold condition, suggesting a potential buying opportunity. When the price moves outside the bands, it may indicate extreme conditions.

Relative Strength Index RSI - (orange dotted line): The RSI is a momentum oscillator that measures the speed and change of price movements. An RSI above 70 suggests the stock is overbought and might be due for a pullback. An RSI below 30 suggests the stock is oversold and might be due for a rebound.An RSI in between indicates a more neutral market condition.

AI Executive Assessment

1. Volatility Structure
- Observations:
  - Fractal Volatility Index (FVI): 0.3148 for TSLA versus market-wide FVI: 0.478.
  - Hurst exponent: 0.5416.
  - Detrended Fluctuation Analysis (DFA): 0.5265.
  - Lyapunov exponent: 0.01322.
- Interpretations:
  - Relative to the market-wide FVI, TSLA's lower FVI suggests comparatively lower structural instability in its return series over the analyzed period (2021-11-18 to 2026-11-18); FVI does not indicate direction.
  - Hurst modestly above 0.5 is consistent with mild persistence, though the evidence is not strong given its proximity to 0.5.
  - DFA reflects scale-dependent correlation structure; in isolation it does not imply a breakout or directional view but is directionally consistent with the mild persistence indicated by Hurst.
  - A positive Lyapunov value indicates sensitivity and divergence exist in the system; without thresholds or benchmarks, its magnitude cannot be classified.
- Unknowns:
  - Whether TSLA's FVI is rising or falling over time (no prior FVI series provided).
  - The practical significance of the Lyapunov and DFA magnitudes absent calibration or historical baselines.

2. Breakout Evidence
- Observations:
  - Breakout Probability Score (BPS): 0.01398.
  - Explicit breakout observation: No strong breakout signal detected; latest close 379.74 is within Bollinger Bands (353.90–417.99).
- Interpretations:
  - The explicit observation indicates limited current breakout evidence; BPS is reported but does not determine direction.
- Unknowns:
  - Breakout direction is not established by the supplied indicators.

3. Participation and Technical Context
- Observations:
  - Volume change: -16.78%.
  - Latest ATR: 16.56 (price units).
  - Beta: 1.743.
- Interpretations:
  - The volume decline indicates reduced traded volume over the measurement window; without a baseline (e.g., longer-run average), its typicality is unclear.
  - ATR quantifies recent absolute price range; without historical or price-normalized comparison, its magnitude cannot be qualified.

  - Beta above 1 indicates higher sensitivity to broad equity moves, but it does not alter the structural readings from FVI/Hurst/DFA.
- Unknowns:
  - Whether the volume change reflects a transient fluctuation or a persistent shift (no multi-period participation context).
  - How current ATR compares to TSLA's own history or to price-normalized metrics.

4. Macro and Sector Context
- Observations:
  - Gold FVI: 0.5936; FX FVI: 0.4343; TWI FVI: 0.4694; market-wide FVI: 0.478.
  - GHG sector variability score: Not available for Consumer Cyclical; company GHG sector sensitivity: Not available.
- Interpretations:
  - Among the macro proxies, structural instability is highest in Gold, followed by the broad equity market and TWI, with FX lower among the three; these serve as macro risk proxies only.
  - TSLA's FVI (0.3148) is below these macro proxies and below the market-wide FVI, indicating comparatively calmer structure in TSLA's series versus these broader references during the window; this does not imply price direction.
  - With no GHG variability metrics, sectoral emissions-related volatility context cannot be incorporated.
- Unknowns:
  - Any company-specific exposure to macro channels (e.g., FX, trade-weighted equity risk, commodity linkages) beyond the proxy comparisons cannot be inferred from the supplied data.
  - Emissions-related variability effects at the sector or company level.

5. Risk Interpretation
- Evidence most strongly supports a structurally stable-to-moderately-uncertain state: TSLA's FVI is lower than the market-wide and macro proxy FVIs, Hurst suggests mild persistence, and the explicit observation shows no strong breakout signal.
- Residual uncertainty stems from system sensitivity (positive Lyapunov), equity market sensitivity (beta 1.743), and the lack of calibrated thresholds for DFA/Lyapunov; these elements warrant caution without implying direction.

6. Monitoring Implications
- Track TSLA's FVI relative to market-wide FVI for shifts toward higher structural instability.
- Monitor BPS and the explicit Bollinger-band status for any emergence of stronger breakout evidence (direction not predetermined).
- Watch for changes in Hurst and DFA to gauge evolving persistence and multi-scale correlation structure.
- Observe Lyapunov over time for changes in system sensitivity/divergence.
- Follow volume trends and ATR alongside appropriate historical or price-normalized baselines to contextualize participation and range.
- Keep an eye on macro FVIs (Gold, FX, TWI) for cross-asset structural shifts that could alter the backdrop; incorporate GHG-related variability metrics if they become available.

FINAL TAKEAWAY

TSLA currently exhibits comparatively low structural instability versus the broader market, with weak breakout evidence and only modest persistence in the return series. The most important items to monitor for confirmation or change are BPS and TSLA’s FVI relative to market-wide FVI, alongside shifts in Hurst/Lyapunov and the macro FVIs that could signal a transition toward a higher-instability or breakout regime.

Stock Information

Market Capitalization: 1501020291000, Industry: AUTO MANUFACTURERS, Latest Volume: 30242399, Description: Tesla Inc, Sector: CONSUMER CYCLICAL, Price to Book: 17.27, Trailing PE: 417.3, Forward PE: 158.73, Enterprise to Ebitda: 134.36, Enterprise to Revenue: 14.61, Profit Margins: 0.0311

The trading volume has changed by -16.78% over the past week, indicating potential shifts in market sentiment. Please factor this into the volatility and risk analysis.

Beta measures stock volatility relative to the overall market: 1.74
Beta of 1.74 suggests high volatility compared to the market.

Stock Investment Character Report

Analysis based on supplied stock characteristics and market context.

Investment Character: Narrative-Dependent
Resilience: 45%
Momentum: 15%
Structural Stress: 35%
Narrative Dependence: 82%
Confidence: 62%

Calculated Metrics:
- Price-Volume Divergence: 0.000
- Volatility Dissonance Index: -1.000

Evidence:
- Stock-level FVI sits in the Stable band and is below the market-wide FVI.
  Indicators: Fractal Volatility Index=0.315, Market-wide FVI=0.478
  Supports: Resilience
- Sensitivity to the market is above 1 and ATR exceeds the high threshold.
  Indicators: Beta=1.743, Latest ATR=16.557916604999416
  Supports: Structural Stress
- No strong breakout signal is detected; persistence metrics do not constitute confirmed momentum.
  Indicators: Breakout Probability Score=0.013981414910728587, Bollinger Bands status=Within range (353.90 - 417.99), Hurst Exponent=0.5415777081686033, DFA Result=0.5264789645096996
  Supports: Momentum
- Valuation multiples are very demanding alongside a thin profit margin.
  Indicators: Price-to-book ratio=17.27, Trailing P/E=417.3, Forward P/E=158.73, EV/EBITDA=134.36, EV/Revenue=14.61, Profit margin=0.0311
  Supports: Narrative Dependence

Assessment:
Structural instability appears contained by FVI, offering some resilience, while trading characteristics remain volatile given high beta and ATR. Momentum evidence is weak, with a very low breakout probability and price remaining within Bollinger Bands. Extremely demanding valuation multiples relative to a modest profit margin indicate reliance on expectations beyond currently visible operating performance. Overall, the profile skews toward narrative dependence rather than confirmed momentum or steady-operator characteristics.

Limitations:
- EPS fields are non-meaningful or missing, limiting operating-quality assessment.
- ATR lacks historical context for this specific stock beyond the supplied threshold.
- Breakout and band observations reflect current conditions only and do not predict future performance.
- No verified macroeconomic data is provided to contextualize sector demand or financing conditions.

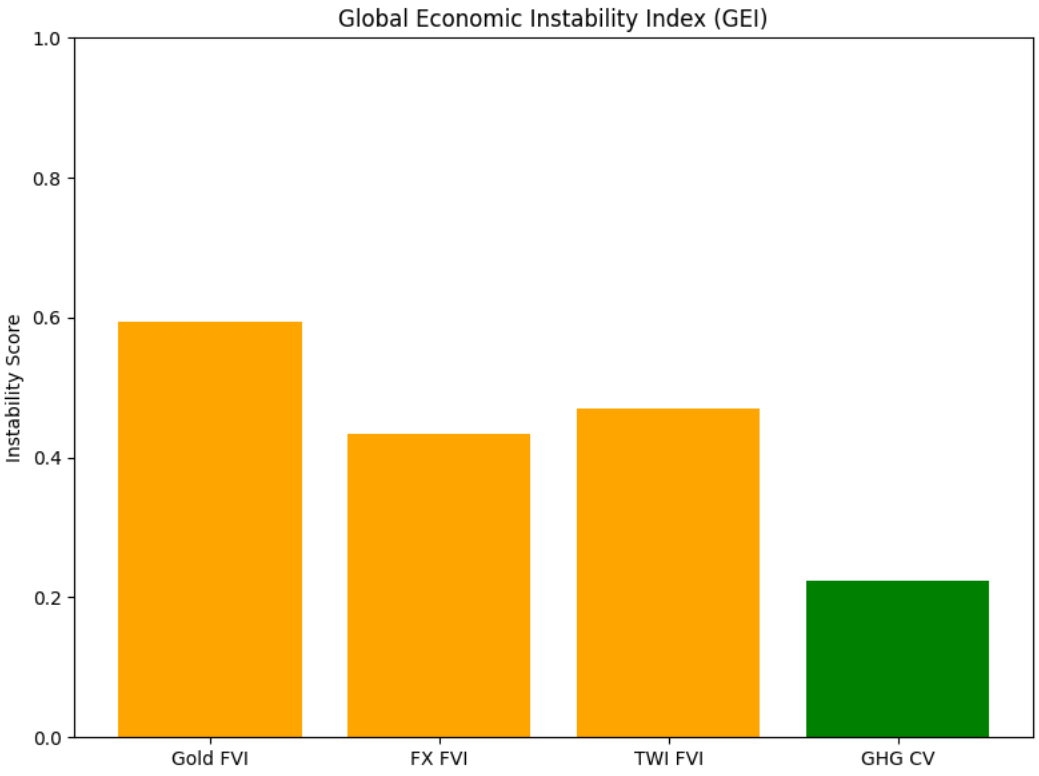
Medium-Term Fit:
Potential fit for an independent thesis that anticipates sustained premium valuation supported by future margin expansion, scaling efficiencies, or new high-margin revenue streams, accepting higher market sensitivity and episodic volatility.

Fractal Volatility Indices

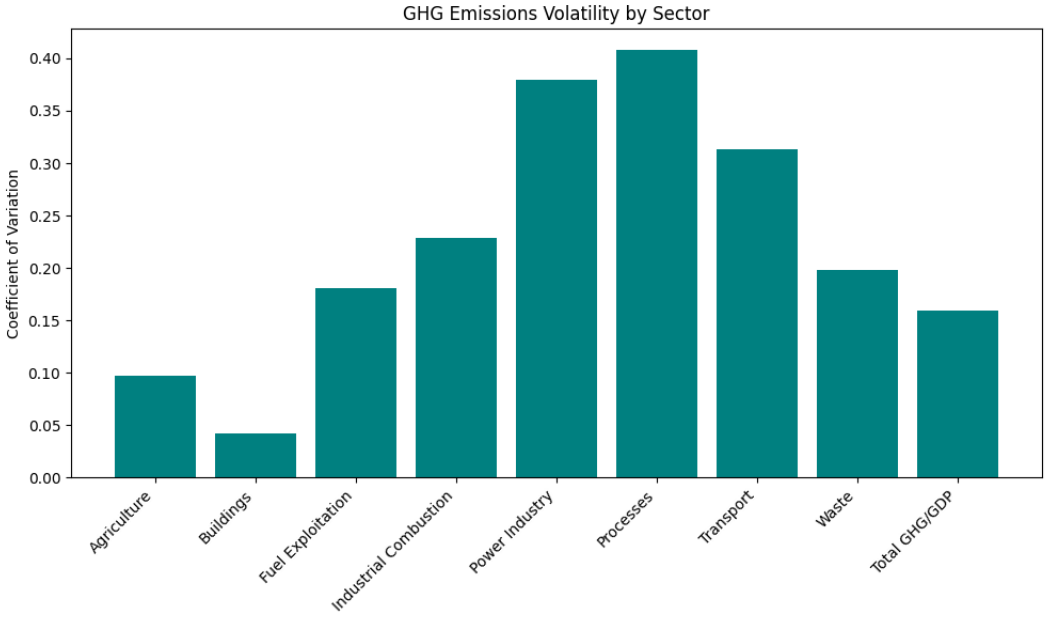
Global Geopolitical Fractal Volatility (Gold, Forex, TWI (Tariffs) and GHG Emissions)
FVI_GOLD: 0.593608 => Moderate gold volatility indicates increased investor caution
FVI_FX: 0.434301 => Moderate FX volatility indicates ongoing currency-market adjustment
FVI_TWI: 0.469352 => Moderate trade-weighted volatility indicates some external-sector adjustment
GHG_CV: 0.223036 => Moderate GHG sector variability indicates some sector-level carbon-risk dispersion

Primary Risk Driver: Gold volatility is a good proxy for global geopolitical risk. 0.593608.

Global Geopolitical Volatility



Volatility Indicators of GHG Emissions by Industry and GDP



No GHG score available for Consumer cyclical sector.

Disclaimer: The Fractal Volatility Index (FVI) measures structural market instability, not short-term price direction. High FVI (red dot) does not necessarily indicate a price breakout—rather, it signals unpredictable price behavior and potential structural shifts. While market instability can precede significant moves in either direction, Verv Stock Reports do not predict price trends but offer insight into underlying volatility patterns. Investors should interpret FVI alongside fundamental and technical analysis before making decisions.

_____END OF REPORT_____