Fractal Volatility Index for AAPL : 0.511. 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: Apple Inc. AAPL FVI 0.511

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): 0.472
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

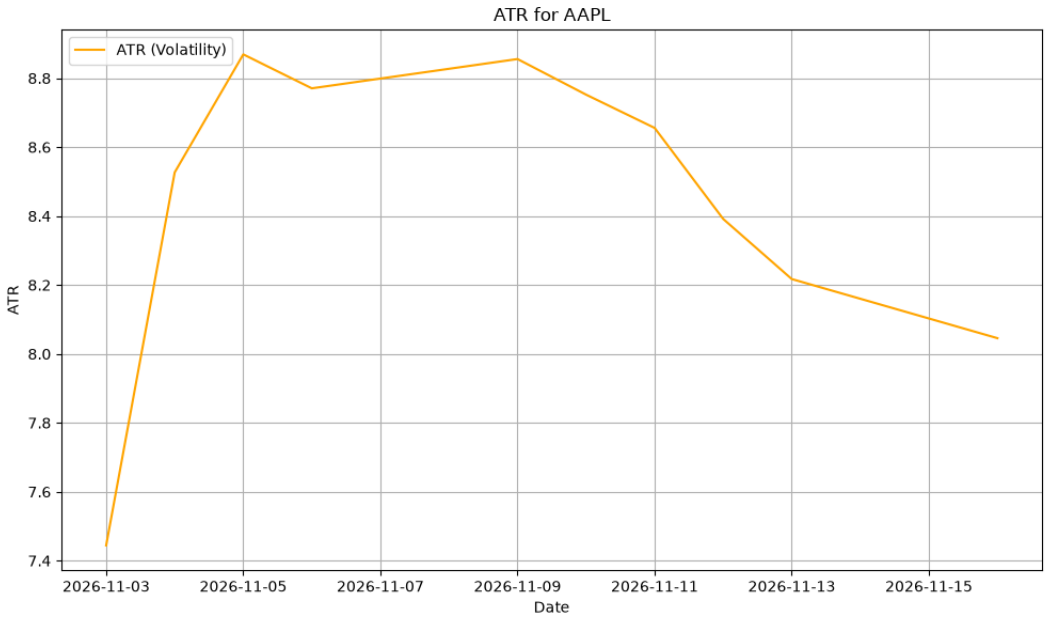
Fractal & Statistical Analysis

FVI Score: 0.511 (Fractal Volatility Index FVI)
DFA Result: 0.5017 (Detrended Fluctuation Analysis)
Lyapunov Exponent: 0.0159 (Measures chaos and predictability)
Hurst Exponent: 0.4902 (Indicates trending or mean-reverting behavior)

Breakout & Recent Price Change Analysis

Breakout Statement: No strong breakout signal detected: The latest closing price of 352.78 is within the Bollinger Bands range (334.77 - 358.51).
Latest ATR: 8.0457

Average True Range (ATR)

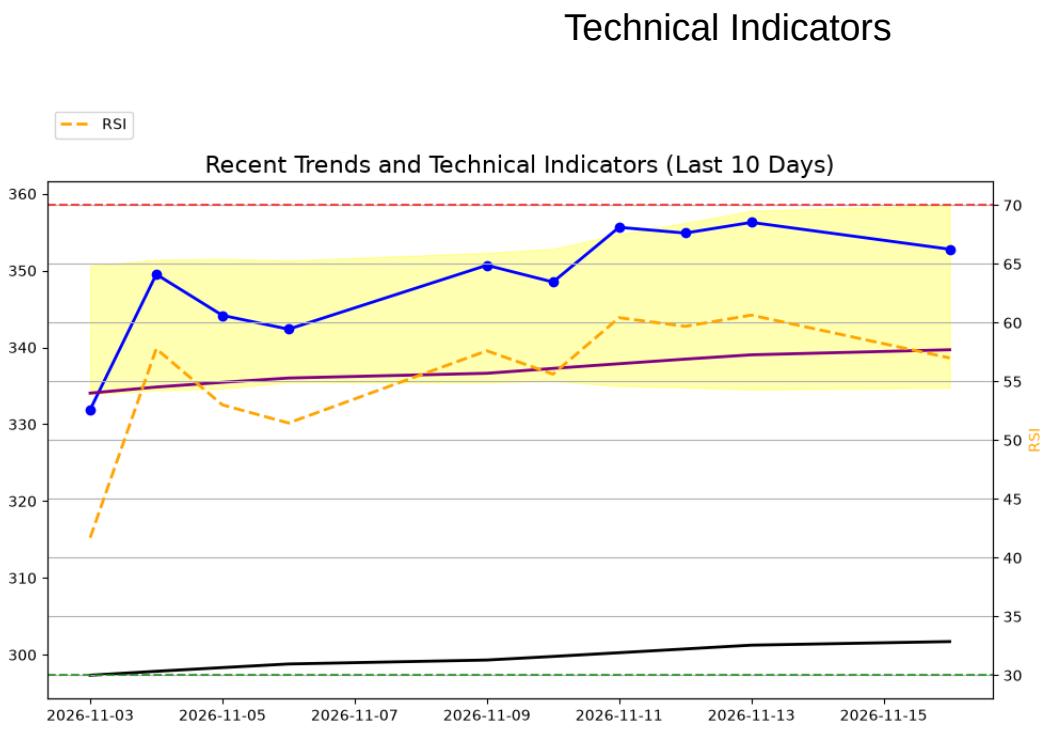


The ATR measures the recent price volatility of a stock, calculating the average range between its high and low prices over a given period (usually 14 days). A higher ATR indicates greater market volatility, and a lower ATR indicates less volatility.

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
- Observation: AAPL's Fractal Volatility Index (FVI) is 0.5106 versus a market-wide FVI of 0.478. Hurst exponent is 0.4902 (near 0.5). DFA is 0.5017. Lyapunov exponent is 0.0159.
- Interpretation: The stock's FVI sits modestly above the market-wide level, indicating somewhat higher structural instability than the broad market over the assessed period; FVI does not imply price direction. The Hurst value near 0.5 provides only weak evidence for either persistence or anti-persistence (with a slight tilt toward anti-persistence), and DFA near 0.5 suggests limited long-range correlation structure. The Lyapunov exponent quantifies sensitivity/divergence within the system; without a threshold or baseline, its magnitude cannot be classified, so it is best read in conjunction with the near-0.5 Hurst and DFA as consistent with a moderately uncertain but not strongly regime-shifted state.

2. Breakout Evidence
- Observation: Breakout Probability Score (BPS) is 0.4719. The latest close (352.78) is within the Bollinger Bands (334.77–358.51), with no strong breakout signal detected.
- Interpretation: The explicit breakout observation indicates no confirmed breakout at present; BPS provides evidence of breakout potential but does not determine direction, and no direction is established by the supplied data.

3. Participation and Technical Context
- Observation: Volume change is 3.16%. Latest ATR is 8.046 (price units). Beta is 1.089.
- Interpretation: The volume change and ATR are factual point estimates; without historical or normalized comparisons (e.g., versus average volume or ATR relative to price history), their relative elevation cannot be determined. Beta above 1 indicates slightly higher systematic sensitivity to the market than average, but it does not resolve near-term direction or breakout risk.

4. Macro and Sector Context
- Observation: Gold FVI is 0.5936, FX FVI is 0.4343, and TWI FVI is 0.4694. The Technology sector's GHG variability score is low (0.048), with Apple's sector sensitivity at 0.04825.
- Interpretation: Among the macro proxies, structural instability appears highest in Gold and lower in FX, with TWI closer to the market-wide FVI, indicating uneven cross-asset instability without implying specific causes. The low sectoral GHG variability suggests emissions-related variability is not a dominant source of sector risk; it is not a complete measure of geopolitical or supply-chain exposure.

5. Risk Interpretation
- Synthesis: Evidence points to moderate uncertainty: AAPL's FVI is modestly above the market-wide FVI, Hurst and DFA hover near 0.5, and the Lyapunov measure is unclassified without a baseline. With no strong breakout signal and a mid-range BPS, the profile leans toward structural steadiness with slightly elevated instability relative to the market, but without breakout confirmation; macro proxies show higher instability in Gold than in FX or TWI, which may color the backdrop without dictating equity behavior.

6. Monitoring Implications
- Track the stock FVI relative to the market-wide FVI for changes in structural instability.
- Monitor BPS alongside the explicit breakout observation (price versus Bollinger Bands) for any shift toward confirmed breakout conditions; direction remains undetermined without further evidence.
- Observe movements in Hurst and DFA away from 0.5 for signs of emerging persistence or changing correlation structure; note changes in the Lyapunov measure as a gauge of sensitivity.
- Revisit ATR and volume change over time with appropriate baselines if available; continue to reference Gold, FX, and TWI FVI as macro risk proxies within the supplied framework.
- Keep beta in view as context for systematic sensitivity, recognizing it does not resolve short-term structural state by itself.

FINAL TAKEAWAY

The strongest supported conclusion is a state of moderate uncertainty: AAPL's structural instability is modestly above the market backdrop while Hurst and DFA remain near 0.5 and no strong breakout is observed. The most important indicators to monitor for confirmation or change are the stock FVI versus market-wide FVI and the combination of BPS with the explicit breakout observation, along with any drift of Hurst/DFA away from 0.5.

Stock Information

Market Capitalization: 5126663176000, Industry: CONSUMER ELECTRONICS, Latest Volume: 50292161, Description: Apple Inc., Sector: TECHNOLOGY, Price to Book: 46.19, Trailing PE: 39.29, Forward PE: 37.17, Enterprise to Ebitda: 30.33, Enterprise to Revenue: 10.86, Profit Margins: 0.276

The trading volume has changed by 3.16% 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: 1.09
Beta of 1.09 suggests high volatility compared to the market.

Stock Investment Character Report

Analysis based on supplied stock characteristics and market context.

Investment Character: Valuation-Sensitive Quality
Resilience: 64%
Momentum: 28%
Structural Stress: 41%
Narrative Dependence: 40%
Confidence: 57%

Calculated Metrics:
- Price-Volume Divergence: 0.000
- Volatility Dissonance Index: -0.682

Evidence:
- Company FVI indicates moderate volatility on the supplied scale and is slightly above the market-wide FVI.
  Indicators: Fractal Volatility Index=0.511, Market-wide FVI=0.478
  Supports: Structural Stress
- Beta is above 1, indicating higher market sensitivity, and ATR is above 5 per the provided thresholds, indicating high recent trading-range volatility.
  Indicators: Beta=1.089, Latest ATR=8.04566446697284
  Supports: Structural Stress
- No strong breakout signal is detected and the latest close remains within the stated Bollinger Bands.
  Indicators: Breakout Probability Score=0.4718826149590556, Bollinger Bands range statement=Price within 334.77 - 358.51
  Supports: Momentum
- A profit margin of 27.6% evidences profitability while multiple valuation measures are elevated.
  Indicators: Profit margin=0.276, Price-to-book ratio=46.19, Trailing P/E=39.29, Forward P/E=37.17, EV/EBITDA=30.33, EV/Revenue=10.86
  Supports: Resilience
- Hurst and DFA results are near 0.5 and the Lyapunov value is small and positive, offering no strong indication of persistent trending behavior.
  Indicators: Hurst Exponent=0.49019211546159164, DFA Result=0.50171536224353, Lyapunov Exponent=0.015898367496718507
  Supports: Uncertainty

Assessment:
The stock shows solid operating profitability, but its valuation multiples are demanding, pointing toward quality supported by earnings yet sensitive to expectations. Structural instability appears moderate (FVI mid-range), while recent trading-range volatility is high and market sensitivity is slightly above the market. No strong breakout signal is present, so momentum does not dominate the current character.

Limitations:
- Earnings detail is limited (trailing and forward EPS fields are non-meaningful), constraining assessment of earnings power versus valuation.
- ATR is absolute and, beyond the provided thresholds, lacks historical normalization for this stock.
- No supplied data on revenue growth, cash flow trends, or balance sheet metrics beyond P/B to further corroborate resilience.

- The analysis does not establish price direction, causation, or future performance.

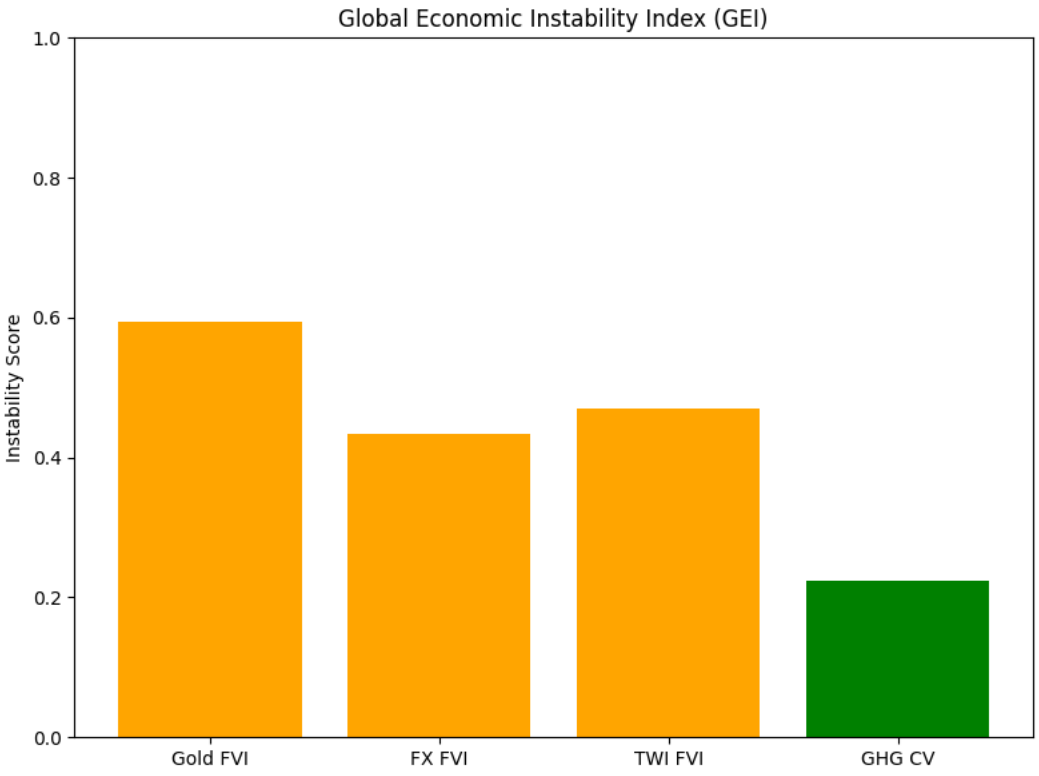
Medium-Term Fit:
Potentially compatible with an independent thesis favoring profitable large-cap technology platforms where durable margins justify a premium, while accepting valuation sensitivity and episodes of heightened trading-range volatility without relying on immediate breakout momentum.

Fractal Volatility Indices

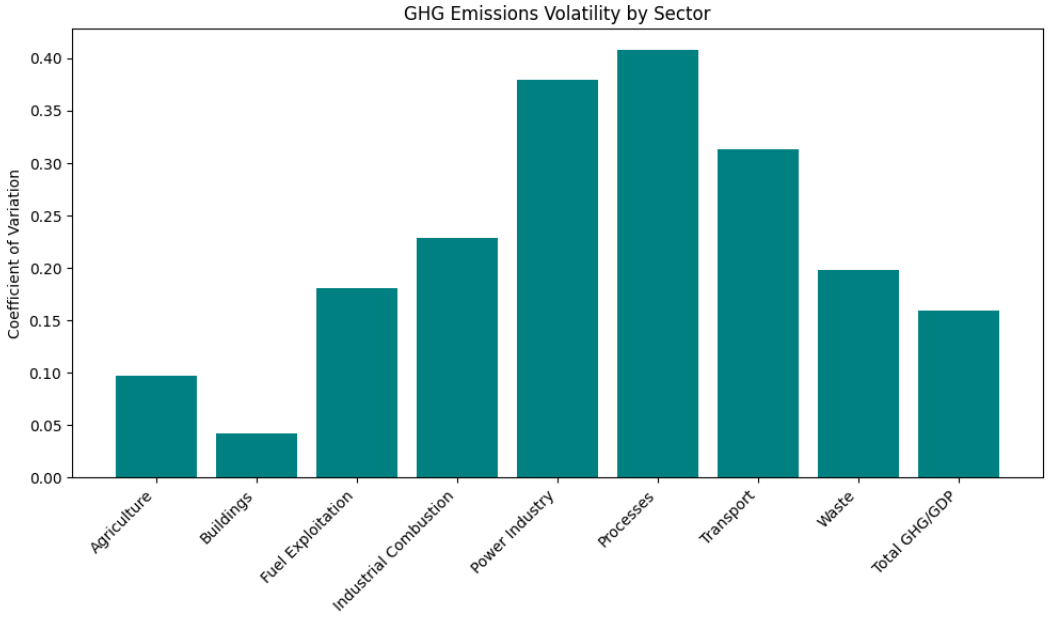
Global Geopolitical Fractal Volatility (Gold, Forex, TWI (Tariffs) and GHG Emissions)
FVI_GOLD: 0.593608 => Moderate gold volatility indicates increased investor caution
FVI_FX: 0.434301 => Moderate FX volatility indicates ongoing currency-market adjustment
FVI_TWI: 0.469352 => Moderate trade-weighted 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



Low GHG impact (0.048) for the Technology 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.

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