Fractal Volatility Index for MSFT : 0.474. 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: Microsoft Corporation MSFT FVI 0.474

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): 0.515
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

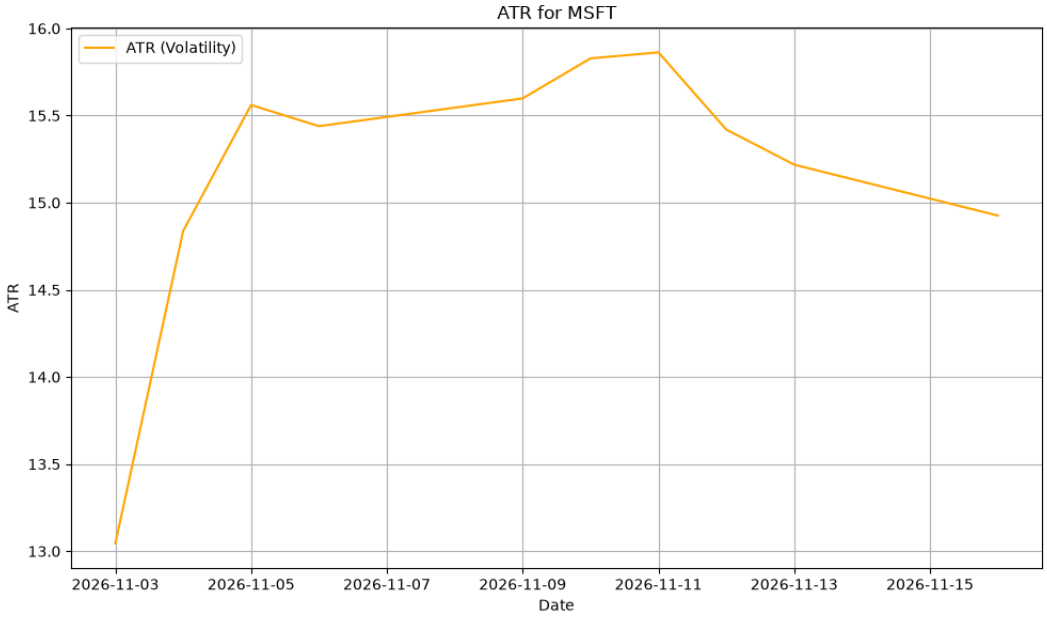
Fractal & Statistical Analysis

FVI Score: 0.474 (Fractal Volatility Index FVI)
DFA Result: 0.5107 (Detrended Fluctuation Analysis)
Lyapunov Exponent: 0.0153 (Measures chaos and predictability)
Hurst Exponent: 0.5024 (Indicates trending or mean-reverting behavior)

Breakout & Recent Price Change Analysis

Breakout Statement: No strong breakout signal detected: The latest closing price of 517.99 is within the Bollinger Bands range (508.54 - 548.68).
Latest ATR: 14.9261

Average True Range (ATR)

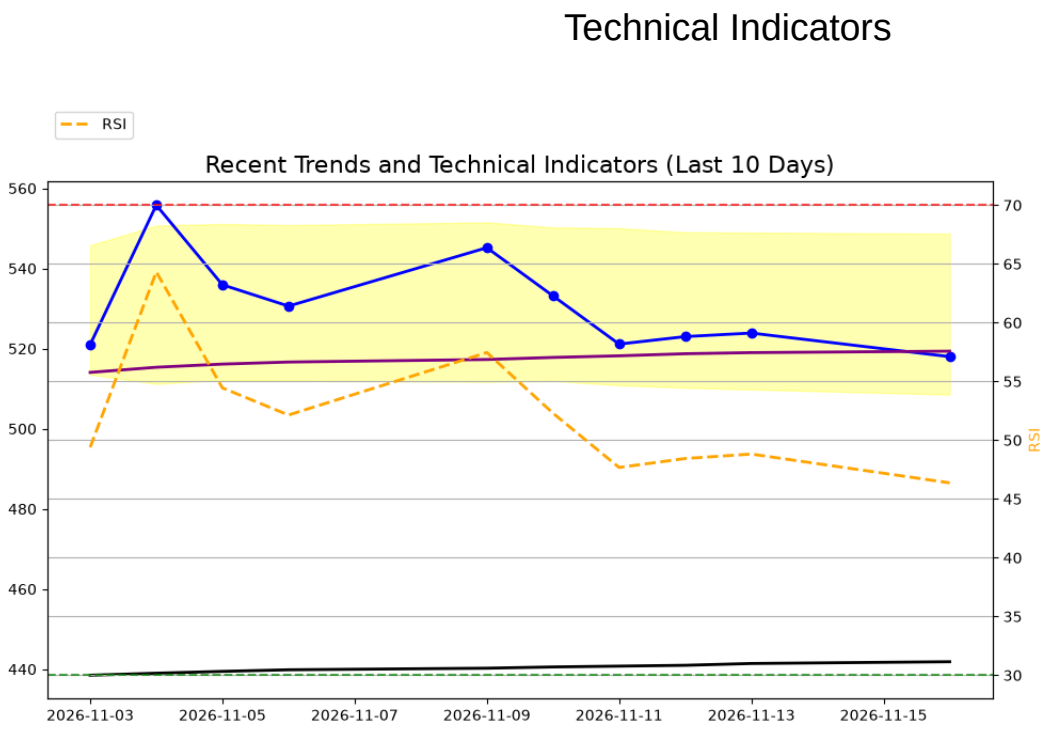


The ATR measures the recent price volatility of a stock, calculating the average range between its high and low prices over a given period (usually 14 days). A higher ATR indicates greater market volatility, and a lower ATR indicates less volatility.

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: MSFT's Fractal Volatility Index (FVI) is 0.4742 versus a market-wide FVI of 0.478. Hurst exponent is 0.5024 (near 0.5). DFA is 0.5107. The Lyapunov exponent is 0.01528.
Interpretation: The stock's FVI sits slightly below the market-wide reading, suggesting structural instability comparable to, and marginally calmer than, the broad market. The Hurst value near 0.5 provides only weak evidence of persistence or anti-persistence, consistent with a largely memoryless return structure. DFA confirms the presence of scale-dependent correlations but, on its own, does not imply a breakout or volatility surge; the Lyapunov value quantifies sensitivity to initial conditions without an available threshold for magnitude assessment.
Unknown: Whether these values are high or low versus MSFT's own history or regime norms cannot be established without historical calibration.

2. Breakout Evidence
Observation: Breakout Probability Score (BPS) is 0.5154. The explicit breakout observation states no strong breakout signal: the latest close (517.99) is within Bollinger Bands (508.54–548.68).
Interpretation: With BPS only modestly above 0.5 and the explicit observation indicating no strong breakout, current evidence does not confirm a breakout. Breakout direction is not determined by the supplied indicators.
Unknown: The timing and direction of any future breakout cannot be inferred from the provided data.

3. Participation and Technical Context
Observation: Volume change is 19.2649%. Latest ATR is 14.9261 (price units). Beta is 1.045.
Interpretation: The reported volume change and ATR quantify participation and trading range, respectively, but without historical baselines or price-normalized context, their relative significance cannot be evaluated. Beta 1.045 indicates MSFT's return co-movement is close to the market's, but this is descriptive rather than predictive.
Missing comparisons: Historical average volume, ATR relative to price or its own history, and prior Bollinger Band width would permit stronger conclusions about participation and volatility regime shifts.

4. Macro and Sector Context
Observation: Gold FVI = 0.5936, FX FVI = 0.4343, TWI FVI = 0.4694. Technology sector GHG variability score is 0.048; company GHG sector sensitivity is 0.04825.
Interpretation: Among the macro proxies, structural instability appears highest in Gold and lowest in FX, with TWI in between; these are context markers rather than directional drivers for MSFT. The low sectoral GHG variability score indicates limited emissions-related variability at the sector level; it is not a full measure of geopolitical, energy-security, or supply-chain exposure.
Unknown: Specific causal links between these macro proxies or GHG measures and MSFT's price dynamics are not established by the supplied data.

5. Risk Interpretation
Interpretation: The combination of an FVI slightly below the market, a Hurst exponent near 0.5, and

DFA around 0.51 most strongly supports a reading of moderate uncertainty within a broadly stable structural regime. Breakout evidence is limited at present: BPS is only modestly above 0.5 and the explicit observation reports no strong breakout, yielding no confirmed directional inference; this constitutes mild tension rather than a decisive signal.

6. Monitoring Implications
- Track MSFT’s FVI relative to the market-wide FVI for shifts toward greater structural instability or stability.
- Monitor BPS alongside the explicit Bollinger Band observation for any move from “no strong breakout” toward a confirmed breakout (direction not determined by these indicators).
- Watch changes in Hurst and DFA for evolving temporal correlation structure.
- Observe Lyapunov over time for alterations in sensitivity/divergence properties.
- Follow ATR (preferably normalized to price) and volume change versus historical baselines to contextualize trading range and participation.
- Keep an eye on the macro FVI mix (Gold vs FX vs TWI) as background markers of cross-asset structural instability.
- Sector GHG variability and company sensitivity can be revisited, acknowledging their limited scope.

FINAL TAKEAWAY

MSFT’s fractal volatility is marginally below the market and, together with a near-0.5 Hurst and the explicit Bollinger-Band observation, indicates a broadly stable structure with no strong breakout signal. The key uncertainty is whether BPS and the band-based observation converge toward a confirmed regime shift; monitor BPS, stock-vs-market FVI, and changes in ATR/volume (with historical baselines) for confirmation.

Stock Information

Market Capitalization: 3846694502000, Industry: SOFTWARE - INFRASTRUCTURE, Latest Volume: 30218641, Description: Microsoft Corporation, Sector: TECHNOLOGY, Price to Book: 8.27, Trailing PE: 27.04, Forward PE: 25.97, Enterprise to Ebitda: 17.42, Enterprise to Revenue: 11.21, Profit Margins: 0.412

The trading volume has changed by 19.26% 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: 1.04
Beta of 1.04 suggests high volatility compared to the market.

Stock Investment Character Report

Analysis based on supplied stock characteristics and market context.

Investment Character: Steady Operator
Resilience: 70%
Momentum: 35%
Structural Stress: 35%
Narrative Dependence: 20%
Confidence: 62%

Calculated Metrics:
- Price-Volume Divergence: 0.000
- Volatility Dissonance Index: -0.993

Evidence:
- Structural volatility is moderate and broadly in line with the market.
  Indicators: Fractal Volatility Index=0.474, Market-wide FVI=0.478
  Supports: Resilience
- The company reports a strong profit margin.
  Indicators: Profit margin=0.412
  Supports: Resilience
- Breakout evidence is modest but unconfirmed, with price remaining within Bollinger Bands.
  Indicators: Breakout Probability Score=0.5154485868191252, Breakout statement=No strong breakout signal detected
  Supports: Momentum
- Sensitivity to the market is slightly above 1 and recent trading-range volatility is high per given ATR thresholds.
  Indicators: Beta=1.045, Latest ATR=14.926142319232822
  Supports: Uncertainty

Assessment:
Evidence points to a steady, profitable operator with structural volatility similar to the market and no confirmed breakout momentum. A strong profit margin supports operational resilience, while beta and ATR indicate active trading conditions without implying structural instability. Overall, steadiness and quality dominate, with momentum signals not yet decisive.

Limitations:
- The absence of meaningful EPS data limits valuation and growth inferences.
- ATR is absolute and lacks historical context for this stock beyond the provided threshold.
- Volume and its change cannot establish accumulation, distribution, or investor intent.
- Price direction and future performance cannot be determined from the supplied indicators.

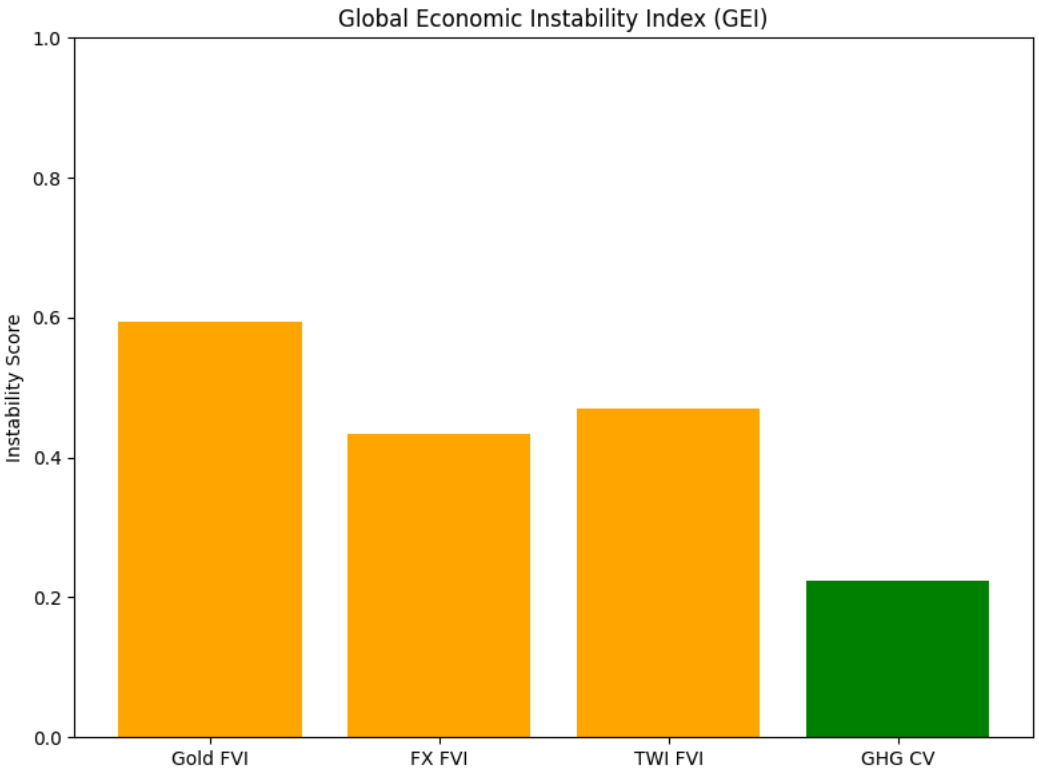
Medium-Term Fit:
Potential fit for a thesis seeking durable exposure to large-cap software infrastructure with strong profitability, accepting market-like structural volatility and the absence of a confirmed breakout.

Fractal Volatility Indices

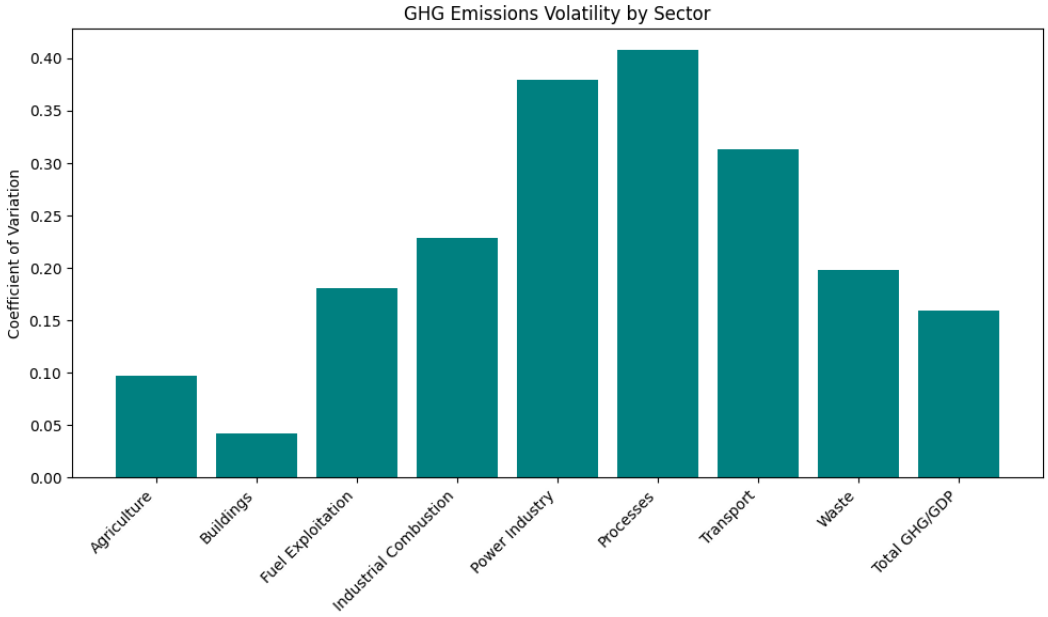
Global Geopolitical Fractal Volatility (Gold, Forex, TWI (Tariffs) and GHG Emissions)
FVI_GOLD: 0.593608 => Moderate gold volatility indicates increased investor caution
FVI_FX: 0.434301 => Moderate FX volatility indicates ongoing currency-market adjustment
FVI_TWI: 0.469352 => Moderate trade-weighted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

_____END OF REPORT_____