**Fractal Volatility Index for MSFT : 0.529. 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 0.529

Analysis Period: 2021-08-13 to 2026-08-13

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): 0.320**
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

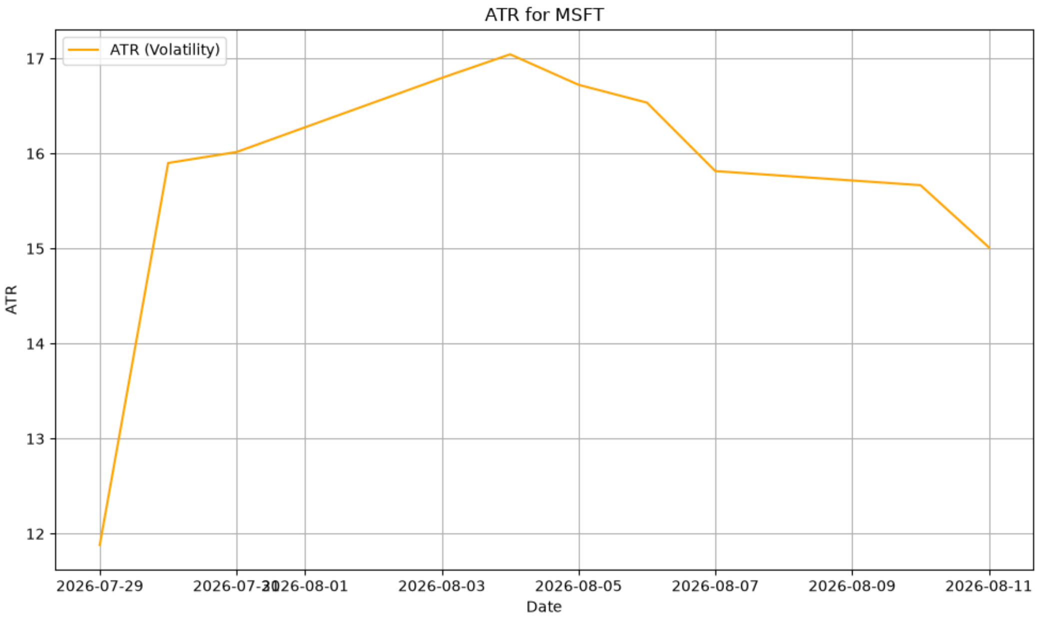
## Fractal & Statistical Analysis

FVI Score: 0.529 (Fractal Volatility Index FVI)
DFA Result: 0.4893 (Detrended Fluctuation Analysis)
Lyapunov Exponent: 0.0161 (Measures chaos and predictability)
Hurst Exponent: 0.5061 (Indicates trending or mean-reverting behavior)

## Breakout & Recent Price Change Analysis

Breakout Statement: No strong breakout signal detected: The latest closing price of 503.81 is within the Bollinger Bands range (336.97 - 534.10). On a 10-day average basis, the mean closing price 478.40 is also above the mean Bollinger Upper Band 476.50, reinforcing the bullish trend.
Latest ATR: 15.0125

### Average True Range (ATR)



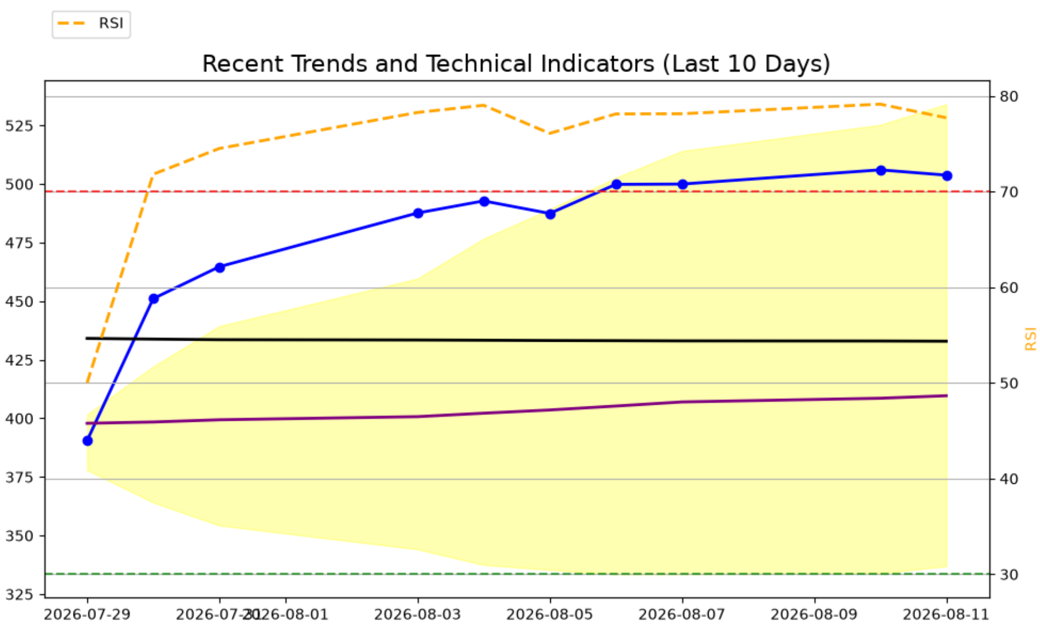

The ATR measures the recent price volatility of a stock, calculating the average range between its high and low prices over a given period (usually 14 days). A higher ATR indicates greater market volatility, and a lower ATR indicates less volatility.

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.

Technical Indicators




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

**Investment Report:**

--- INVESTMENT REPORT ---

1. Volatility & Breakout Potential

- MSFT appears to be in a regime of relative stability as indicated by its moderate FVI of 0.529 and a low Lyapunov score of 0.016, suggesting a lower level of systemic risk compared to the market-wide values.
- The Bollinger Bands are currently within a tight range, indicating a lack of volatility and the potential for a breakout in the future.
- However, a significant drop in volume (-54.32%) may not confirm the price moves, signaling that caution should be exercised.

2. Market Sentiment

- The large institutional-driven behavior suggests a bullish sentiment, potentially indicating a strong belief in the stock's future performance.

3. Geopolitical Risk Assessment

- MSFT's low sector sensitivity score of 0.04825 implies less exposure to energy, transport, and emissions volatility, which could be beneficial in the current geopolitical climate.
- However, given MSFT's global presence, it may still be affected by global stress indicators such as Gold, FX, and TWI FVI.

4. Sector and Supply Chain Exposure

- As a technology company, MSFT may have some exposure to Asia-sourced components, which could be impacted by trade disruptions or increased tariffs.
- However, MSFT's diversified product portfolio and strong financial position may help mitigate these risks.

Strategy Recommendation
- Given the current consolidation phase and moderate volatility, a mean-reversion strategy may be optimal for MSFT.
- The low BPS and FVI pattern suggest a breakout may not be imminent, and investors should be cautious of any potential false signals.

--- FINAL TAKEAWAY ---
"Despite the presence of some global stress indicators and potential supply chain risks, MSFT's strong financial position, diversified product portfolio, and low sector sensitivity score suggest a stable investment opportunity in the current geopolitical climate. However, the significant drop in volume and moderate volatility indicate that investors should proceed with caution and consider a mean-reversion strategy."

## Stock Information

Market Capitalization: 3741064102000, Industry: SOFTWARE - INFRASTRUCTURE, Latest Volume: 23049791, Description: Microsoft Corporation, Sector: TECHNOLOGY, Price to Book: 8.49, Trailing PE: 28.04, Forward PE: 25.71, Enterprise to Ebitda: 18.01, Enterprise to Revenue: 11.26, Profit Margins: 0.403

The trading volume has changed by -54.32% 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:  1.10
Beta of 1.10 suggests high volatility compared to the market.

## Stock Investment Character Report

Analysis in view of stock characteristics and current global macroeconomic information.

Investment Character: Steady Operator

Resilience: 78%
Momentum: 43%
Structural Stress: 12%
Narrative Dependence: 25%
Confidence: 64%

Calculated Metrics:
- Price-Volume Divergence: 0.000
- Volatility Dissonance Index: -0.914

Evidence:
- Profit margin 0.403 alongside EV/EBITDA 18.01 and EV/Revenue 11.26 indicates strong profitability with a quality-tilted valuation profile
- Fractal Volatility Index 0.529 vs market-wide FVI 0.478 and Beta 1.099 suggest moderate, near-market risk characteristics
- Hurst Exponent 0.506 and DFA 0.4893 imply largely non-trending, stable price dynamics
- Breakout Probability 0.3196 with recent volume change -54.32% and no strong breakout signal (price 503.81 within Bollinger 336.97–534.10) indicates consolidation with a bullish bias
- ATR 15.01 relative to price 503.81 implies contained day-to-day volatility

Assessment:
Microsoft currently presents as a steady, highly profitable large-cap operator. Volatility metrics are moderate and near-market, while statistical measures point to stable, non-chaotic price behavior. Momentum is present but not forceful: the setup reflects consolidation with a mild bullish tilt, tempered by lower recent volume and a modest breakout probability. There is little evidence of operational or balance-sheet stress in the supplied data, and the

valuation appears consistent with a resilient, cash-generative profile rather than reliance on a purely narrative-driven bid.

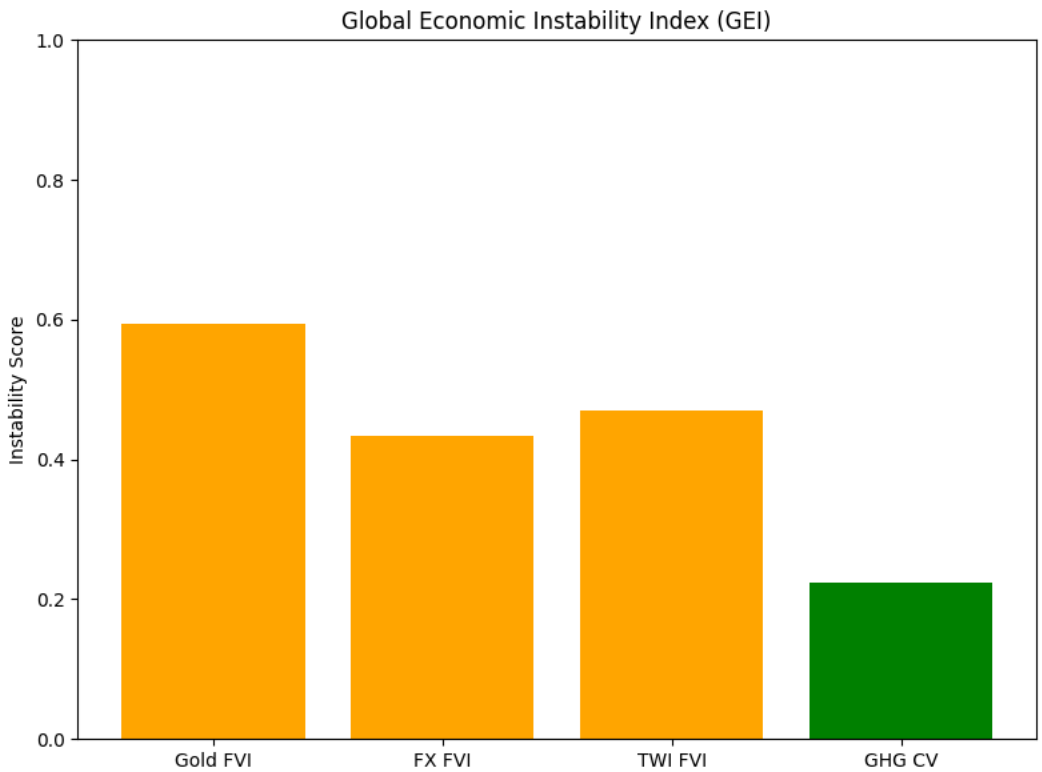
Medium-Term Fit:
May suit an independent thesis favoring durable, cash-generative infrastructure software platforms expected to maintain operational resilience through varying rate and liquidity regimes, where steady compounding and defensive quality are preferred over high-beta or speculative momentum exposure..

## Fractal Volatility Indices

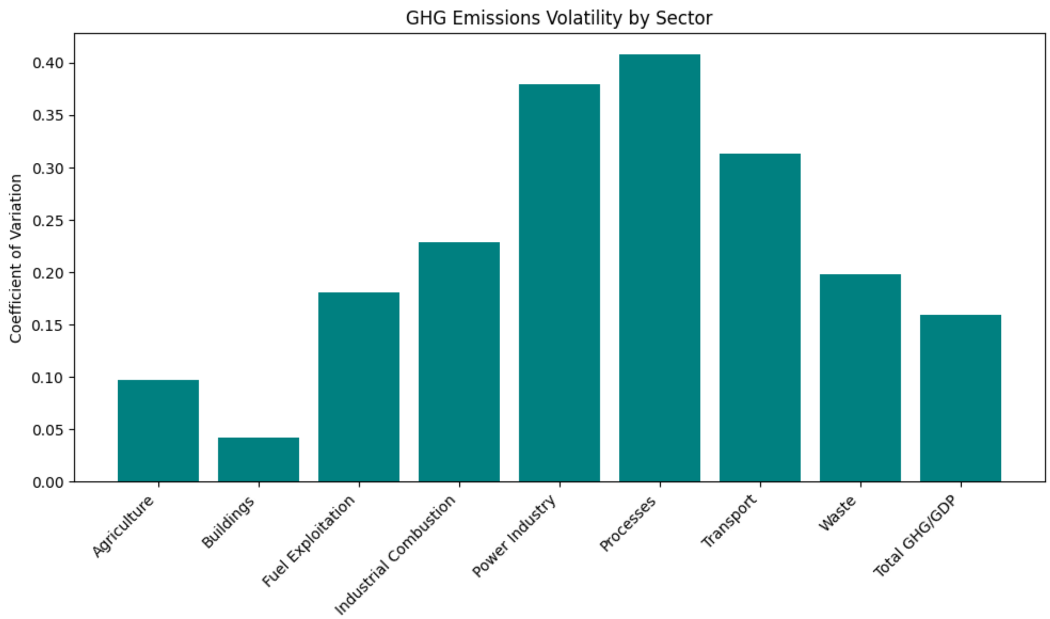
**Global Geopolitical Fractal Volatility (Gold, Forex, TWI (Tariffs) and GHG Emissions)**
FVI_GOLD: 0.593608 => Moderate gold volatility indicates increased investor caution
FVI_FX: 0.434301 => Low FX volatility indicates relatively stable currency markets
FVI_TWI: 0.469352 => Moderate trade-weighted 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 theTechnology 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__________