Fractal Volatility Index for AMD : 0.515. 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: Advanced Micro Devices Inc AMD FVI 0.515

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): 0.374
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

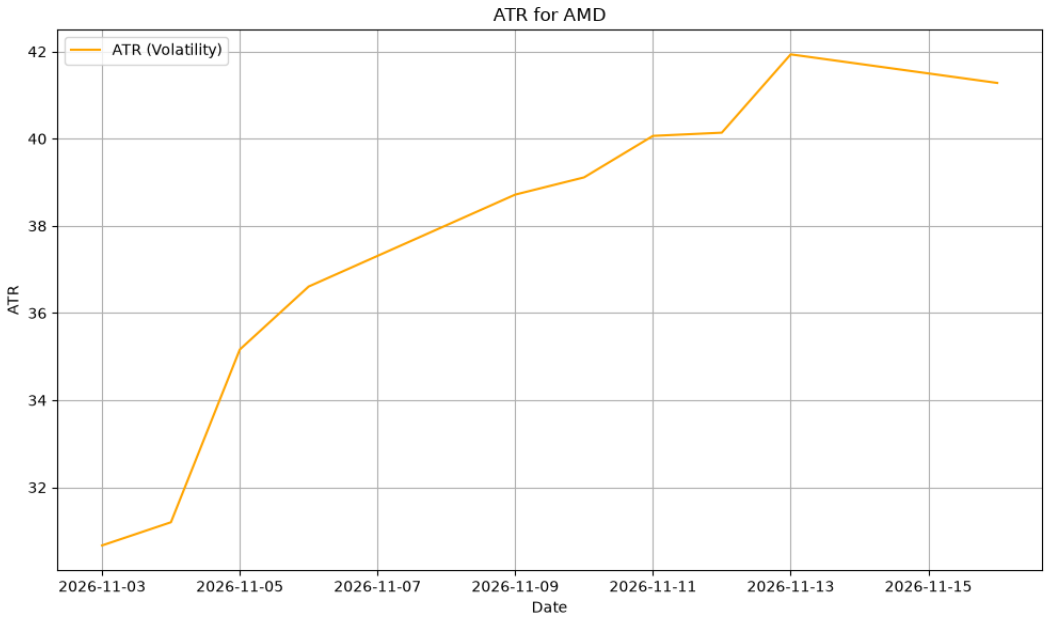
Fractal & Statistical Analysis

FVI Score: 0.515 (Fractal Volatility Index FVI)
DFA Result: 0.4398 (Detrended Fluctuation Analysis)
Lyapunov Exponent: 0.0164 (Measures chaos and predictability)
Hurst Exponent: 0.4952 (Indicates trending or mean-reverting behavior)

Breakout & Recent Price Change Analysis

Breakout Statement: No strong breakout signal detected: The latest closing price of 504.28 is within the Bollinger Bands range (429.81 - 604.85).
Latest ATR: 41.2793

Average True Range (ATR)

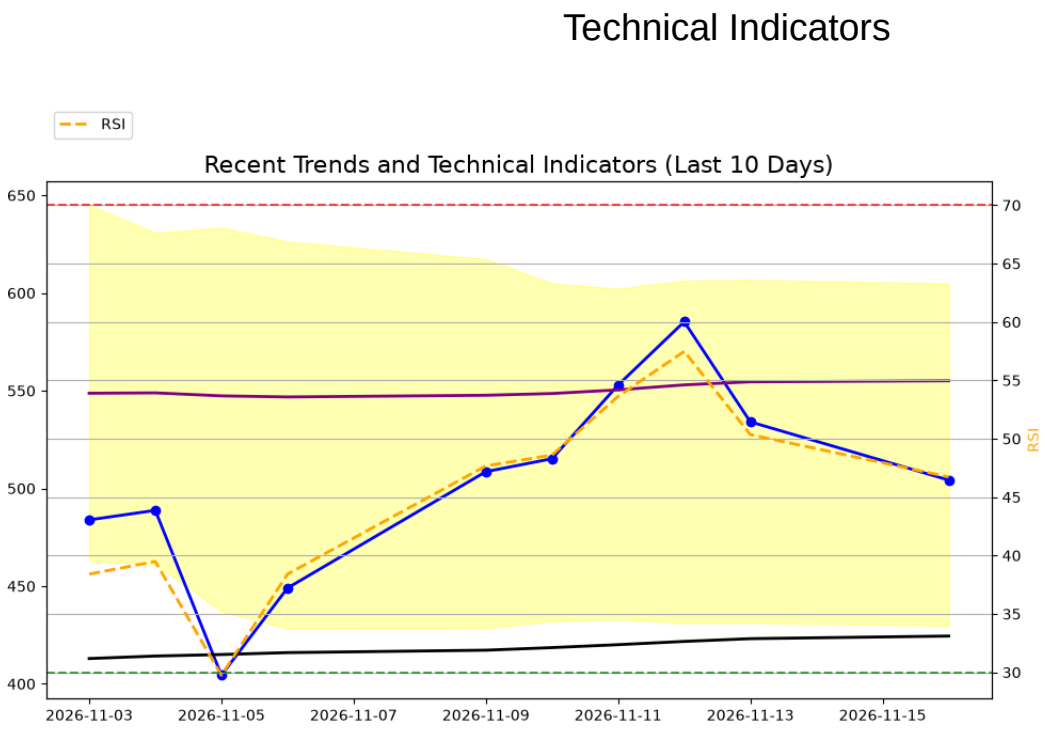


The ATR measures the recent price volatility of a stock, calculating the average range between its high and low prices over a given period (usually 14 days). A higher ATR indicates greater market volatility, and a lower ATR indicates less volatility.

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: AMD's Fractal Volatility Index (FVI) is 0.5146 versus the market-wide FVI of 0.478.
- Interpretation: This places AMD modestly above the broad-market structural instability snapshot, suggesting somewhat greater structural complexity than the average market reading without implying price direction.
- Hurst Exponent: 0.4952 is near 0.5, which provides only weak evidence for either persistence or anti-persistence in the series.
- Lyapunov Exponent: 0.01636 indicates sensitivity and divergence are present in the reconstructed system; absent a benchmark or historical comparison, its magnitude cannot be classified.
- DFA: 0.4398 confirms the presence of scale-dependent correlation structure; by itself it does not predict a breakout, a volatility surge, or direction.

2. Breakout Evidence
- Observation: Breakout Probability Score (BPS) is 0.3742, and the latest close of 504.28 is within the Bollinger Bands (429.81–604.85) with "no strong breakout signal detected."
- Interpretation: The BPS and band-based observation are consistent with limited current breakout evidence; the direction of any future breakout is not determined by the supplied data.

3. Participation and Technical Context
- Observation: Volume change is -27.595%.
- Observation: Latest ATR is 41.2793 price units; relative to the latest close, this is approximately 8.2% of price. The Bollinger Band range spans 175.04 points (429.81–604.85).
- Interpretation: These figures describe current amplitude and participation but, without a longer historical or seasonal baseline, we cannot assess whether they are atypical or signaling an impending move.

4. Macro and Sector Context
- Observation: Macro FVIs — Gold: 0.5936; FX: 0.4343; TWI: 0.4694.
- Interpretation: Gold's structural instability reading is the highest among the proxies, FX the lowest, with TWI near the market-wide FVI; AMD's FVI (0.5146) sits between FX/TWI and Gold. These are macro risk proxies and do not assign causes.
- Sectoral variability: Technology sector GHG variability is low (0.048), and AMD's sector sensitivity (0.04825) aligns with that low emissions-related variability; this is not a full measure of geopolitical, energy-security, or supply-chain exposure.

5. Risk Interpretation
- Synthesis: The evidence points to moderate uncertainty with slightly elevated structural instability relative to the market (FVI above market-wide), weak serial-memory indications (Hurst near 0.5), and no strong breakout confirmation (BPS and Bollinger observation aligned).
- There is no directional inference, and the sensitivity indicated by the Lyapunov value cannot be classified without a benchmark.

6. Monitoring Implications
- Track AMD’s FVI versus the market-wide FVI for shifts in relative structural instability.
- Monitor BPS in conjunction with whether price exits the Bollinger Band range for changes from “no strong breakout” to a confirmed signal.
- Watch the Hurst exponent for sustained moves away from 0.5, and observe any material change in the Lyapunov Exponent for evolving sensitivity.
- Observe ATR relative to price and volume change for updates on amplitude and participation, noting that historical context is required for classification.
- Keep an eye on macro FVIs (Gold, FX, TWI) for broader structural context that may frame equity volatility.

FINAL TAKEAWAY

AMD shows slightly higher structural instability than the broad market with weak serial-memory evidence and no strong breakout signal, supporting a view of moderate uncertainty rather than imminent regime change. The most important item to monitor is the Breakout Probability Score together with the explicit breakout observation for any transition toward a confirmed breakout.

Stock Information

Market Capitalization: 875905024000, Industry: SEMICONDUCTORS, Latest Volume: 37115577, Description: Advanced Micro Devices Inc, Sector: TECHNOLOGY, Price to Book: 12.81, Trailing PE: 114.12, Forward PE: 31.85, Enterprise to Ebitda: 76.8, Enterprise to Revenue: 19.13, Profit Margins: 0.168

The trading volume has changed by -27.59% 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: 2.54
Beta of 2.54 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: 40%
Momentum: 28%
Structural Stress: 38%
Narrative Dependence: 70%
Confidence: 57%

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

Evidence:
- Structural volatility is moderate while market sensitivity is high relative to the market.
  Indicators: Fractal Volatility Index=0.515, Market-wide FVI=0.478, Beta=2.542
  Supports: Structural Stress
- ATR exceeds the supplied high-volatility threshold (Above 5 indicates High).
  Indicators: Latest ATR=41.27925381811425
  Supports: Structural Stress
- No strong breakout evidence is present and price remains within bands.
  Indicators: Breakout Probability Score=0.3741734341593125, Breakout statement=No strong breakout signal detected: price within Bollinger Bands (429.81 - 604.85)
  Supports: Momentum
- Valuation multiples are elevated alongside a positive profit margin, with EPS figures reported as 0.
  Indicators: Trailing P/E=114.12, Forward P/E=31.85, EV/EBITDA=76.8, EV/Revenue=19.13, Profit margin=0.168, Trailing EPS=0, Forward EPS=0
  Supports: Narrative Dependence

Assessment:
The stock appears narrative-dependent: valuation multiples are elevated relative to the limited operating detail provided, while no strong breakout momentum is currently indicated. Structural instability is moderate by FVI, but market-relative and absolute trading-range volatility are both high (beta and ATR), distinguishing volatility from structural deterioration. The absence of a breakout tempers momentum characterization, pointing more to sentiment and valuation as drivers than to confirmed price acceleration.

Limitations:
- Operational depth is limited (EPS fields are non-meaningful and no revenue or cash flow trends are supplied), constraining assessment of quality versus valuation.
- No historical context for ATR or valuations is provided, limiting comparability and trend analysis.
- No sector or macro conditions are supplied with dated values, so external drivers cannot be incorporated.

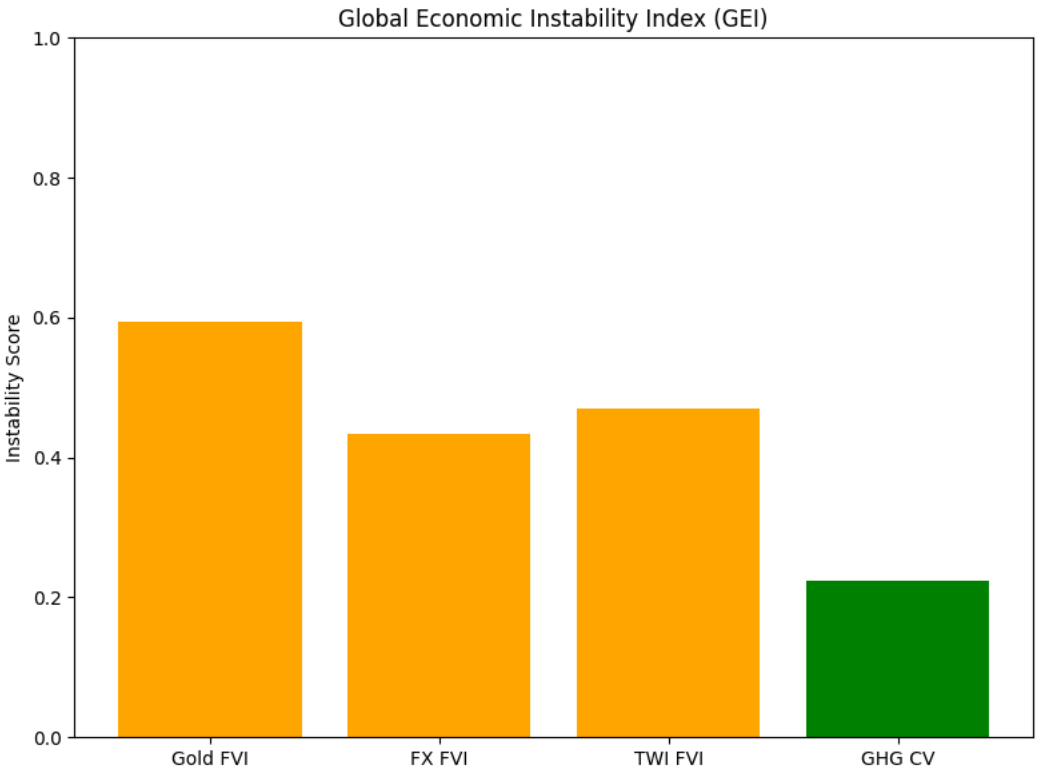
Medium-Term Fit:
Potential fit for an independent thesis focused on secular compute and semiconductor demand where the investor accepts valuation-driven sentiment cycles and elevated market sensitivity, seeking exposure with moderate structural stability but high trading volatility.

Fractal Volatility Indices

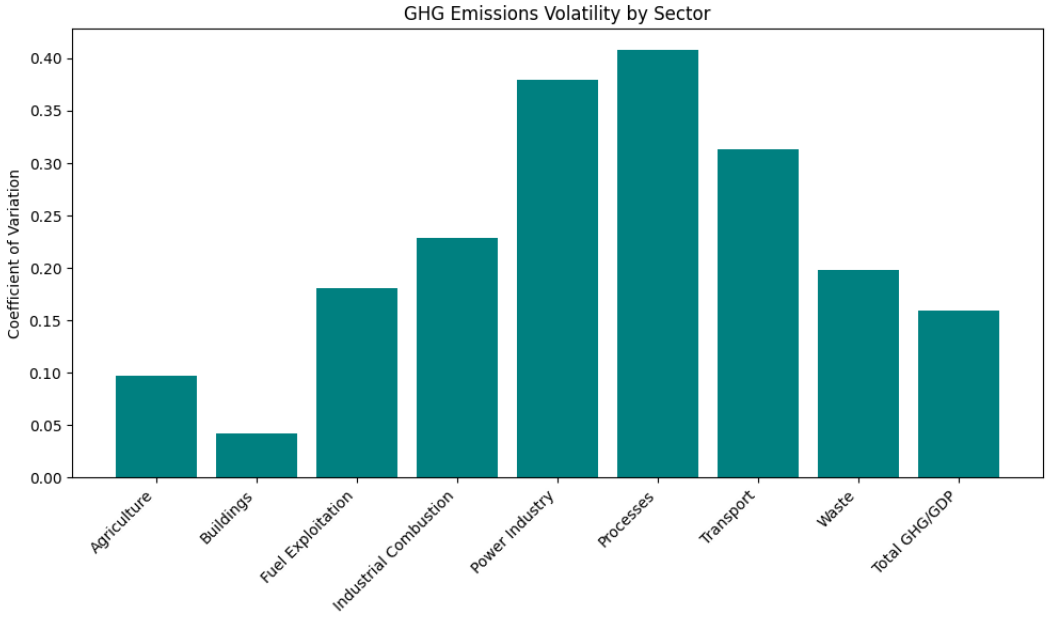
Global Geopolitical Fractal Volatility (Gold, Forex, TWI (Tariffs) and GHG Emissions)
FVI_GOLD: 0.593608 => Moderate gold volatility indicates increased investor caution
FVI_FX: 0.434301 => Moderate FX volatility indicates ongoing currency-market adjustment
FVI_TWI: 0.469352 => Moderate trade-weighted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



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_____