

OIL02: Refining Margin Study

Technical Analysis Report | February 01, 2026

1. Data Overview

Subject: Chevron (CVX)
Analysis Period: 2016-02-03 to 2026-01-30 (~10.0 years)
Total Observations: 14,000 rows
Stock Data: 2,513 daily OHLCV observations
Data Sources: Yahoo Finance API (yfinance), synthetic operational metrics

2. Methodology

2.1 Risk Analytics (CFA Standards)

- **Sharpe Ratio:** $(\text{Return} - R_f) / \text{Volatility} (R_f = 0)$
- **Sortino Ratio:** $\text{Return} / \text{Downside Deviation}$
- **Value at Risk (VaR):** Historical 95% and 99% confidence
- **Maximum Drawdown:** Peak-to-trough decline

2.2 Technical Indicators

- **Moving Averages:** SMA/EMA (20, 50, 200 day)
- **Volatility:** Rolling standard deviation (20, 60, 252 day)
- **Momentum:** RSI-14, Price momentum (20-252 day)

3. Risk Metrics Summary

Ticker	Total Return	Ann. Return	Volatility	Sharpe	Max DD
CVX	220.7%	12.4%	29.1%	0.43	-55.8%

4. Detailed Risk Profile

Return Distribution

Metric	Value
Positive Days	53.3%
Best Day	22.74%
Worst Day	-22.12%
Sortino Ratio	0.53

Value at Risk

Confidence	Daily VaR
95%	-2.57%
99%	-4.52%

5. Data Quality Assessment

Completeness: All trading days covered
Adjustments: Prices adjusted for splits/dividends
Validation: Stock data from Yahoo Finance
Processing: Pandas/NumPy calculations
Disclaimer: Operational metrics are synthetic/illustrative

6. Key Observations

- Sector volatility characteristics relative to market indices
- Risk-adjusted return profile (Sharpe, Sortino)
- Drawdown behavior during market stress periods
- Volume and liquidity patterns

