

Portfolio Risk Analysis Report

Report Date: February 23, 2026
Portfolio Size: 69 Assets
Analysis Period: 12 Months
Generated by: Automated Risk Analysis Pipeline

Risk Assessment Summary

HIGH RISK (RED): 6 Assets
MEDIUM RISK (YELLOW): 0 Assets
LOW RISK (GREEN): 63 Assets

Executive Summary

This report presents a comprehensive risk analysis of a portfolio containing 69 assets with a combined market capitalization of \$10167.8 billion. **Key Findings:** • 6 assets (8.7%) are rated as HIGH RISK (RED) • 0 assets (0.0%) are rated as MEDIUM RISK (YELLOW) • Average portfolio volatility: 41.8% • Maximum drawdown observed: -70.9% **Risk Concentration:** The analysis reveals significant risk concentration in 6 assets requiring immediate attention and potential portfolio rebalancing. **Sentiment Analysis:** • 3 RED-flagged assets show negative market sentiment • Average sentiment score for flagged assets: -0.301 • News coverage indicates heightened market concern for these positions

Portfolio Overview

Sector Allocation

Sector	Assets	Market Cap (\$B)	Percentage
Technology	7	2462.34	24.2%
Healthcare	8	1572.28	15.5%
Materials	7	1048.95	10.3%
Real Estate	11	1010.51	9.9%
Industrial	5	934.54	9.2%
Consumer Discretionary	7	739.11	7.3%
Financial Services	6	680.69	6.7%
Consumer Staples	5	651.26	6.4%
Energy	6	553.32	5.4%
Utilities	7	514.82	5.1%

Risk Analysis Results

Risk Distribution:

- HIGH RISK (RED): 6 assets
- MEDIUM RISK (YELLOW): 0 assets
- LOW RISK (GREEN): 63 assets

High Risk Assets

Symbol	Sector	Risk Rating	Volatility	Max Drawdown	Risk Score
ZD	Energy	RED	76.6%	-50.5%	5
MOZ	Energy	RED	47.7%	-58.2%	3
THB	Financial Services	RED	51.2%	-58.7%	3
SS	Financial Services	RED	97.4%	-67.8%	2
DEGN	Consumer Staples	RED	85.8%	-63.9%	2

ZN	Real Estate	RED	66.5%	-70.9%	2
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Machine Learning Analysis

Advanced machine learning techniques were applied to identify anomalies and predict future risk ratings. **Anomaly Detection Summary:**

- Total Anomalies Detected: 11
- Critical Anomalies: 5
- High Risk Anomalies: 1
- Anomaly Rate: 15.9%

Risk Prediction Model:

- Model Accuracy: 100.0%
- Rating Changes Predicted: 0
- Assets Predicted to Deteriorate: 0
- Assets Predicted to Improve: 0

Key Machine Learning Insights

- 5 assets show critical anomalous behavior requiring immediate review
- Anomaly detection identified 11 assets with unusual patterns
- Key risk drivers: Max Drawdown, Volatility, Sharpe Ratio

Critical Anomalies Detected

Symbol	Sector	Anomaly Score	Severity	Recommendation
ZD	Energy	100.0	CRITICAL	Critical anomaly - Consider immediate po...
ZN	Real Estate	99.8	CRITICAL	Critical anomaly - Consider immediate po...
SS	Financial Services	97.9	CRITICAL	Critical anomaly - Consider immediate po...
DEGN	Consumer Staples	96.5	CRITICAL	Critical anomaly - Consider immediate po...
MOZ	Energy	94.6	CRITICAL	Critical anomaly - Consider immediate po...
THB	Financial Services	79.2	HIGH	Significant anomaly - Conduct thorough d...

Top Risk Factors (Feature Importance)

1. Max Drawdown: 30.7% importance
2. Volatility: 23.2% importance
3. Sharpe Ratio: 17.2% importance
4. Price Change 6M: 15.2% importance
5. Rsi: 4.0% importance

ML Validation Results

Overall Validation Status: WARNING

Checks Passed: 3 / 4

✓ **Anomaly Detection Validation:** PASS

total_assets: 69, anomalies_detected: 11, anomaly_rate: 15.9

■ **Risk Prediction Validation:** WARNING

model_accuracy: 100.0, predictions_made: 69, rating_changes: 0

✓ **Feature Quality Validation:** PASS

features_checked: 9, nan_features: 0, total_samples: 69

✓ **Feature Importance Validation:** PASS

total_importance: 100.0, top_feature: Max Drawdown, top_importance: 30.7

Validation Warnings (1):

1. Suspiciously high accuracy: 100.0% (possible overfitting)

Sentiment Analysis

Sentiment analysis was conducted on 6 RED-flagged assets using financial news from the past 12 months. **Key Findings:**

- Average sentiment score: -0.301
- Assets with negative sentiment: 3/6
- Total news articles analyzed: 128

Sentiment Analysis Results

Symbol	Sentiment Score	Label	News Count	Trend	Key Themes
MOZ	-0.335	NEGATIVE	23	DETERIORATING	earnings, regulatory, financial_health
SS	-0.334	NEGATIVE	21	IMPROVING	earnings, regulatory, financial_health
ZN	-0.316	NEGATIVE	18	DETERIORATING	regulatory, financial_health, earnings
THB	-0.282	NEUTRAL	19	STABLE	regulatory, financial_health, operations
ZD	-0.279	NEUTRAL	28	DETERIORATING	earnings, regulatory, market_share
DEGN	-0.256	NEUTRAL	19	STABLE	earnings, regulatory, management

Detailed Asset Analysis

Asset: ZD

Sector: Energy

Current Price: \$117.68

Market Cap: \$207.43B

Risk Rating: RED

Risk Metrics:

- Volatility: 76.6%
- Maximum Drawdown: -50.5%
- Beta: 0.03
- Sharpe Ratio: -0.02
- RSI: 39.6

Performance:

- 1-Month Return: -32.2%
- 3-Month Return: -38.2%
- 6-Month Return: -40.9%

Risk Flags:

- High Volatility, Extreme Drawdown, Severe Decline, Extended Decline, Momentum Breakdown

Market Sentiment:

- Sentiment Score: -0.279 (NEUTRAL)
- News Articles: 28
- Trend: DETERIORATING

Asset: MOZ

Sector: Energy

Current Price: \$130.59

Market Cap: \$111.63B

Risk Rating: RED

Risk Metrics:

- Volatility: 47.7%
- Maximum Drawdown: -58.2%
- Beta: 0.19
- Sharpe Ratio: -0.73
- RSI: 44.5

Performance:

- 1-Month Return: -9.9%
- 3-Month Return: -14.6%
- 6-Month Return: -18.3%

Risk Flags:

- High Volatility, Extreme Drawdown, Poor Risk Return

Market Sentiment:

- Sentiment Score: -0.335 (NEGATIVE)
- News Articles: 23
- Trend: DETERIORATING

Asset: THB

Sector: Financial Services

Current Price: \$143.14

Market Cap: \$161.04B

Risk Rating: RED

Risk Metrics:

- Volatility: 51.2%
- Maximum Drawdown: -58.7%
- Beta: -0.04
- Sharpe Ratio: -0.70
- RSI: 33.7

Performance:

- 1-Month Return: -5.8%
- 3-Month Return: 25.7%
- 6-Month Return: 3.7%

Risk Flags:

- High Volatility, Extreme Drawdown, Poor Risk Return

Market Sentiment:

- Sentiment Score: -0.282 (NEUTRAL)
- News Articles: 19
- Trend: STABLE

Asset: SS

Sector: Financial Services

Current Price: \$124.10

Market Cap: \$20.62B

Risk Rating: RED

Risk Metrics:

- Volatility: 97.4%
- Maximum Drawdown: -67.8%
- Beta: 0.59
- Sharpe Ratio: 0.18
- RSI: 60.4

Performance:

- 1-Month Return: 17.4%
- 3-Month Return: 45.9%
- 6-Month Return: -13.7%

Risk Flags:

- High Volatility, Extreme Drawdown

Market Sentiment:

- Sentiment Score: -0.334 (NEGATIVE)
- News Articles: 21
- Trend: IMPROVING

Asset: DEGN

Sector: Consumer Staples

Current Price: \$117.52

Market Cap: \$153.35B

Risk Rating: RED

Risk Metrics:

- Volatility: 85.8%
- Maximum Drawdown: -63.9%
- Beta: -0.35
- Sharpe Ratio: 0.22
- RSI: 74.1

Performance:

- 1-Month Return: 41.8%
- 3-Month Return: 3.8%
- 6-Month Return: -4.2%

Risk Flags:

- High Volatility, Extreme Drawdown

Market Sentiment:

- Sentiment Score: -0.256 (NEUTRAL)
- News Articles: 19
- Trend: STABLE

Recommendations

Based on the comprehensive risk analysis, the following recommendations are provided:

Immediate Actions (RED-flagged assets):

1. Consider reducing position sizes for 6 high-risk assets
2. Implement stop-loss orders to limit further downside exposure
3. Review fundamental analysis for potential divestiture candidates
4. Monitor daily price movements and news flow closely

Medium-term Actions (YELLOW-flagged assets):

1. Conduct deeper due diligence on 0 medium-risk assets
2. Consider hedging strategies for positions with high volatility
3. Review correlation with overall portfolio risk
4. Set up enhanced monitoring and alerts

Portfolio-level Recommendations:

1. Diversify across sectors to reduce concentration risk
2. Consider alternative investments to reduce correlation
3. Implement systematic risk management framework
4. Schedule monthly portfolio risk reviews

Sentiment-based Actions:

1. Monitor news flow for 3 assets with negative sentiment
2. Consider contrarian opportunities if fundamentals remain strong
3. Assess impact of market sentiment on price movements
4. Review analyst coverage and institutional positioning

Appendix

Methodology

This risk analysis employs a four-stage pipeline methodology: **Stage 1 - Data Ingestion:** • Historical price data (252 trading days) • Trading volume information • Market capitalization data • Sector classifications **Stage 2 - Core Analysis:** • Volatility calculation (annualized) • Maximum drawdown analysis • Beta coefficient estimation • Risk-adjusted return metrics (Sharpe ratio) • Technical indicators (RSI) • Rule-based risk flagging system **Stage 3 - Sentiment Analysis:** • News article collection (12-month lookback) • Natural language processing for sentiment scoring • Trend analysis and confidence metrics • Key theme extraction **Stage 4 - Report Generation:** • Comprehensive risk assessment compilation • Visual data presentation • Actionable recommendations • Professional PDF report output

Risk Assessment Thresholds

RED Flag Thresholds: • Volatility > 40% (annualized) • Maximum drawdown < -20% • Volume decline > 50% • 1-month price decline > 15% **YELLOW Flag Thresholds:** • Volatility > 25% (annualized) • Maximum drawdown < -10% • Volume decline > 30% • Multiple warning indicators present **Sentiment Thresholds:** • Negative sentiment: Score < -0.3 • Positive sentiment: Score > 0.3 • Neutral sentiment: $-0.3 \leq \text{Score} \leq 0.3$

Report Generation Details:

- Generated: 2026-02-23 21:02:45
- Analysis Period: 12 months
- Total Assets Analyzed: 69
- Pipeline Version: 1.0

Test Data - Portfolio Details

Complete portfolio and risk analysis data has been exported to CSV files for further analysis:

Portfolio Data CSV: portfolio_data_20260223_210245.csv

Risk Analysis CSV: risk_analysis_20260223_210245.csv

The tables below provide summary information for quick reference.

Performance Metrics Data

Symbol	1M Return	3M Return	6M Return	Vol Decline	Sharpe Ratio
AD	1.0%	2.4%	12.0%	0.3%	0.65
AF	1.8%	1.7%	9.6%	3.3%	0.54
AICZ	0.2%	3.8%	9.1%	1.2%	0.68
AT	-0.1%	1.2%	9.3%	1.1%	0.55
AW	1.2%	2.0%	5.0%	-0.1%	0.49
BIT	4.3%	6.3%	12.6%	-2.4%	0.76
BKIE	-0.3%	3.0%	9.4%	5.2%	0.61
BTV	3.3%	1.9%	7.4%	3.1%	0.47
BU	0.2%	4.5%	6.4%	-1.1%	0.44
CDV	-0.6%	8.5%	14.5%	1.9%	0.71
CEBS	3.5%	4.6%	6.5%	2.0%	0.62
CFBW	0.4%	4.8%	6.0%	2.0%	0.43
CFT	2.1%	3.4%	7.2%	2.5%	0.62
CP	2.0%	8.1%	14.9%	0.5%	0.77
CZ	1.6%	7.5%	9.7%	0.3%	0.71
DDRU	-1.1%	5.7%	10.4%	-0.5%	0.54
DEGN	41.8%	3.8%	-4.2%	3.2%	0.22
DHJ	1.6%	4.9%	6.4%	1.1%	0.55
DM	0.7%	2.0%	6.5%	1.5%	0.56
DNAE	4.4%	4.2%	7.9%	0.4%	0.66
DSB	2.5%	2.5%	13.7%	2.0%	0.76
DV	4.2%	3.0%	6.7%	-1.2%	0.57
GKJ	3.3%	4.8%	6.3%	0.8%	0.63
GMEE	0.3%	3.5%	11.1%	2.5%	0.60
GQAG	3.7%	4.7%	12.1%	1.1%	0.70
MI	3.5%	2.7%	13.3%	-0.5%	0.77
MNI	1.6%	0.4%	7.9%	1.3%	0.51
MOZ	-9.9%	-14.6%	-18.3%	-15.4%	-0.73
NCEA	2.2%	1.7%	6.1%	-0.6%	0.50
NQTC	4.7%	3.9%	11.2%	0.4%	0.76

NQXJ	1.3%	3.6%	7.6%	-0.4%	0.48
NTNK	1.9%	3.0%	10.9%	2.5%	0.64
NZ	4.6%	3.7%	10.2%	-1.2%	0.68
PCY	4.0%	2.0%	8.6%	0.5%	0.64
PHH	0.1%	3.1%	6.7%	4.1%	0.57
PJG	1.4%	2.1%	4.3%	1.3%	0.54
PKQ	2.0%	5.2%	13.3%	2.8%	0.78
POU	1.5%	7.9%	13.3%	-2.5%	0.77
PT	-0.5%	2.6%	11.4%	-0.1%	0.80
PWPR	3.1%	6.0%	8.6%	0.9%	0.48
RGSF	1.4%	6.2%	15.2%	2.1%	0.86
RRC	-1.4%	6.1%	7.7%	-0.0%	0.47
RRT	4.3%	3.5%	9.9%	0.9%	0.76
RVV	0.6%	7.2%	11.5%	1.4%	0.68
SS	17.4%	45.9%	-13.7%	10.2%	0.18
SS	3.9%	4.6%	5.0%	3.4%	0.49
TD	2.2%	1.1%	5.6%	1.9%	0.62
THB	-5.8%	25.7%	3.7%	-4.9%	-0.70
TK	-1.0%	7.9%	9.5%	2.1%	0.77
TNG	3.9%	4.0%	5.1%	0.7%	0.57
TRD	0.2%	5.3%	8.5%	0.2%	0.48
TRSZ	1.0%	7.0%	9.1%	1.6%	0.75
TT	2.3%	6.7%	5.9%	0.8%	0.60
VAD	1.4%	3.3%	6.1%	-0.4%	0.60
VLER	3.3%	3.6%	11.9%	0.5%	0.68
VSI	1.6%	4.1%	12.0%	0.9%	0.70
VXQ	4.4%	1.6%	8.4%	2.4%	0.62
VXR	1.5%	6.8%	6.7%	0.4%	0.63
XEFW	1.0%	4.9%	8.9%	-2.0%	0.60
XEMC	-0.4%	4.0%	11.6%	-1.2%	0.63
XN	-1.8%	0.7%	4.0%	-1.7%	0.51
XNGS	2.1%	4.5%	6.2%	1.6%	0.46
XP	-0.9%	4.5%	6.1%	2.5%	0.49
XTB	-1.7%	4.4%	7.9%	0.5%	0.54
ZA	-1.1%	5.9%	12.3%	-3.4%	0.64
ZAG	1.0%	1.4%	10.9%	-2.6%	0.49
ZD	-32.2%	-38.2%	-40.9%	-6.0%	-0.02
ZN	27.3%	54.6%	87.2%	-5.3%	-0.46
ZXP	2.0%	2.5%	10.5%	1.8%	0.64

Risk Flags Details

Symbol	High Vol	Ext. DD	Vol Collapse	Severe Dec	Ext. Dec	Poor Sharpe	Mom. Break
ZD	✓	✓	✗	✓	✓	✗	✓
MOZ	✓	✓	✗	✗	✗	✓	✗
THB	✓	✓	✗	✗	✗	✓	✗
SS	✓	✓	✗	✗	✗	✗	✗
DEGN	✓	✓	✗	✗	✗	✗	✗
ZN	✓	✓	✗	✗	✗	✗	✗
MNI	✓	✗	✗	✗	✗	✗	✗
BU	✓	✗	✗	✗	✗	✗	✗
NQTC	✓	✗	✗	✗	✗	✗	✗
TRD	✓	✗	✗	✗	✗	✗	✗
ZAG	✓	✗	✗	✗	✗	✗	✗
VLER	✓	✗	✗	✗	✗	✗	✗
BTV	✓	✗	✗	✗	✗	✗	✗
DSB	✓	✗	✗	✗	✗	✗	✗
AT	✓	✗	✗	✗	✗	✗	✗
CEBS	✓	✗	✗	✗	✗	✗	✗
VXQ	✓	✗	✗	✗	✗	✗	✗
XP	✓	✗	✗	✗	✗	✗	✗
NZ	✓	✗	✗	✗	✗	✗	✗
GKJ	✓	✗	✗	✗	✗	✗	✗
ZXP	✓	✗	✗	✗	✗	✗	✗
SS	✓	✗	✗	✗	✗	✗	✗
GQAG	✓	✗	✗	✗	✗	✗	✗
NCEA	✗	✗	✗	✗	✗	✗	✗
AD	✗	✗	✗	✗	✗	✗	✗
BIT	✗	✗	✗	✗	✗	✗	✗
CZ	✗	✗	✗	✗	✗	✗	✗
TNG	✗	✗	✗	✗	✗	✗	✗
GMEE	✗	✗	✗	✗	✗	✗	✗
BKIE	✗	✗	✗	✗	✗	✗	✗
NQXJ	✗	✗	✗	✗	✗	✗	✗
XN	✗	✗	✗	✗	✗	✗	✗
VAD	✗	✗	✗	✗	✗	✗	✗
TRSZ	✗	✗	✗	✗	✗	✗	✗
AF	✗	✗	✗	✗	✗	✗	✗
DV	✗	✗	✗	✗	✗	✗	✗
TK	✗	✗	✗	✗	✗	✗	✗
PCY	✗	✗	✗	✗	✗	✗	✗

RVV	X	X	X	X	X	X	X
PWPR	X	X	X	X	X	X	X
AW	X	X	X	X	X	X	X
CDV	X	X	X	X	X	X	X
TD	X	X	X	X	X	X	X
CFT	X	X	X	X	X	X	X
VXR	X	X	X	X	X	X	X
PJG	X	X	X	X	X	X	X
RGSF	X	X	X	X	X	X	X
PT	X	X	X	X	X	X	X
TT	X	X	X	X	X	X	X
XEMC	X	X	X	X	X	X	X
PKQ	X	X	X	X	X	X	X
DDRU	X	X	X	X	X	X	X
DHJ	X	X	X	X	X	X	X
XEFW	X	X	X	X	X	X	X
PHH	X	X	X	X	X	X	X
ZA	X	X	X	X	X	X	X
RRC	X	X	X	X	X	X	X
DM	X	X	X	X	X	X	X
XNGS	X	X	X	X	X	X	X
POU	X	X	X	X	X	X	X
CP	X	X	X	X	X	X	X
RRT	X	X	X	X	X	X	X
XTB	X	X	X	X	X	X	X
MI	X	X	X	X	X	X	X
NTNK	X	X	X	X	X	X	X
VSI	X	X	X	X	X	X	X
DNAE	X	X	X	X	X	X	X
CFBW	X	X	X	X	X	X	X
AICZ	X	X	X	X	X	X	X

Data Summary:

- Total Assets: 69
- Data Generated: 2026-02-23 21:02:45
- Note: This test data is provided for further analysis, validation, and detailed review purposes.
- All metrics are calculated from 252 trading days of historical data.