Portfolio Risk Analysis Report

Report Date: February 23, 2026
Portfolio Size: 53 Assets
Analysis Period: 12 Months
Generated by: Automated Risk Analysis Pipeline

Risk Assessment Summary

HIGH RISK (RED): 11 Assets
MEDIUM RISK (YELLOW): 0 Assets
LOW RISK (GREEN): 42 Assets

Executive Summary

This report presents a comprehensive risk analysis of a portfolio containing 53 assets with a combined market capitalization of $6735.9 billion. **Key Findings:** • 11 assets (20.8%) are rated as HIGH RISK (RED) • 0 assets (0.0%) are rated as MEDIUM RISK (YELLOW) • Average portfolio volatility: 44.5% • Maximum drawdown observed: -71.1% **Risk Concentration:** The analysis reveals significant risk concentration in 11 assets requiring immediate attention and potential portfolio rebalancing. **Sentiment Analysis:** • 6 RED-flagged assets show negative market sentiment • Average sentiment score for flagged assets: -0.303 • News coverage indicates heightened market concern for these positions

Portfolio Overview

Sector Allocation

Sector	Assets	Market Cap ($B)	Percentage
Real Estate	6	1381.88	20.5%
Technology	4	1110.62	16.5%
Healthcare	5	834.56	12.4%
Materials	5	625.37	9.3%
Energy	7	548.04	8.1%
Industrial	3	507.43	7.5%
Financial Services	7	490.84	7.3%
Consumer Staples	7	486.11	7.2%
Consumer Discretionary	6	483.12	7.2%
Utilities	3	267.92	4.0%

Risk Analysis Results

Risk Distribution:
• HIGH RISK (RED): 11 assets
• MEDIUM RISK (YELLOW): 0 assets
• LOW RISK (GREEN): 42 assets

High Risk Assets

Symbol	Sector	Risk Rating	Volatility	Max Drawdown	Risk Score
TMA	Healthcare	RED	64.6%	-45.9%	5
ZC	Technology	RED	55.9%	-43.2%	5
RK	Financial Services	RED	61.3%	-55.2%	4
CG	Consumer Staples	RED	105.6%	-63.3%	2
GBC	Consumer Staples	RED	46.2%	-50.1%	2

XWEU	Energy	RED	49.5%	-48.2%	2
VYBB	Utilities	RED	73.5%	-52.3%	2
VAEU	Real Estate	RED	72.2%	-71.1%	2
APT	Energy	RED	67.1%	-39.7%	2
ZEP	Energy	RED	64.3%	-60.0%	2
SLHB	Real Estate	RED	61.9%	-55.4%	2

Machine Learning Analysis

Advanced machine learning techniques were applied to identify anomalies and predict future risk ratings. **Anomaly Detection Summary:**
• Total Anomalies Detected: 8
• Critical Anomalies: 2
• High Risk Anomalies: 6
• Anomaly Rate: 15.1%
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

• 2 assets show critical anomalous behavior requiring immediate review
• Anomaly detection identified 8 assets with unusual patterns
• Key risk drivers: Max Drawdown, Volatility, Sharpe Ratio

Critical Anomalies Detected

Symbol	Sector	Anomaly Score	Severity	Recommendation
CG	Consumer Staples	100.0	CRITICAL	Critical anomaly - Consider immediate po...
VYBB	Utilities	90.0	CRITICAL	Critical anomaly - Consider immediate po...
ZC	Technology	70.4	HIGH	Significant anomaly - Conduct thorough d...
TMA	Healthcare	67.1	HIGH	Significant anomaly - Conduct thorough d...
APT	Energy	66.3	HIGH	Significant anomaly - Conduct thorough d...
VAEU	Real Estate	64.5	HIGH	Significant anomaly - Conduct thorough d...
SLHB	Real Estate	64.4	HIGH	Significant anomaly - Conduct thorough d...
RK	Financial Services	62.2	HIGH	Significant anomaly - Conduct thorough d...

Top Risk Factors (Feature Importance)

1. Max Drawdown: 36.5% importance
2. Volatility: 30.0% importance
3. Sharpe Ratio: 19.4% importance
4. Price Change 3M: 4.9% importance

5. Price Change 6M: 3.2% importance

ML Validation Results

Overall Validation Status: WARNING
Checks Passed: 3 / 4

✓ **Anomaly Detection Validation:** PASS
total_assets: 53, anomalies_detected: 8, anomaly_rate: 15.1
■ **Risk Prediction Validation:** WARNING
model_accuracy: 100.0, predictions_made: 53, rating_changes: 0
✓ **Feature Quality Validation:** PASS
features_checked: 9, nan_features: 0, total_samples: 53
✓ **Feature Importance Validation:** PASS
total_importance: 100.0, top_feature: Max Drawdown, top_importance: 36.5

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

Sentiment Analysis

Sentiment analysis was conducted on 11 RED-flagged assets using financial news from the past 12 months. **Key Findings:**
• Average sentiment score: -0.303
• Assets with negative sentiment: 6/11
• Total news articles analyzed: 239

Sentiment Analysis Results

Symbol	Sentiment Score	Label	News Count	Trend	Key Themes
VAEU	-0.404	NEGATIVE	19	IMPROVING	earnings, regulatory, financial_health
GBC	-0.352	NEGATIVE	23	DETERIORATING	earnings, financial_health, regulatory
ZEP	-0.346	NEGATIVE	23	IMPROVING	financial_health, regulatory, earnings
RK	-0.338	NEGATIVE	16	STABLE	earnings, regulatory, operations
CG	-0.326	NEGATIVE	29	DETERIORATING	earnings, financial_health, operations
XWEU	-0.301	NEGATIVE	23	DETERIORATING	earnings, financial_health, regulatory
TMA	-0.277	NEUTRAL	22	STABLE	regulatory, earnings, financial_health
ZC	-0.265	NEUTRAL	16	IMPROVING	earnings, financial_health, regulatory
VYBB	-0.245	NEUTRAL	26	DETERIORATING	earnings, regulatory, operations
SLHB	-0.245	NEUTRAL	24	DETERIORATING	regulatory, financial_health, earnings
APT	-0.229	NEUTRAL	18	STABLE	operations, regulatory, financial_health

Detailed Asset Analysis

Asset: TMA

Sector: Healthcare
Current Price: $51.97
Market Cap: $88.67B
Risk Rating: RED
Risk Metrics:
• Volatility: 64.6%
• Maximum Drawdown: -45.9%
• Beta: -0.02
• Sharpe Ratio: -0.05
• RSI: 21.4
Performance:
• 1-Month Return: -34.6%
• 3-Month Return: -26.1%
• 6-Month Return: -11.6%
Risk Flags:
• High Volatility, Extreme Drawdown, Severe Decline, Extended Decline, Momentum Breakdown
Market Sentiment:
• Sentiment Score: -0.277 (NEUTRAL)
• News Articles: 22
• Trend: STABLE

Asset: ZC

Sector: Technology
Current Price: $71.83
Market Cap: $61.95B
Risk Rating: RED
Risk Metrics:
• Volatility: 55.9%
• Maximum Drawdown: -43.2%
• Beta: 0.01
• Sharpe Ratio: -0.35
• RSI: 27.5
Performance:
• 1-Month Return: -35.0%
• 3-Month Return: -32.5%
• 6-Month Return: -24.9%
Risk Flags:
• High Volatility, Extreme Drawdown, Severe Decline, Extended Decline, Momentum Breakdown
Market Sentiment:
• Sentiment Score: -0.265 (NEUTRAL)
• News Articles: 16
• Trend: IMPROVING

Asset: RK

Sector: Financial Services
Current Price: $115.70
Market Cap: $46.66B
Risk Rating: RED
Risk Metrics:
• Volatility: 61.3%
• Maximum Drawdown: -55.2%

• Beta: 0.31
• Sharpe Ratio: 0.01
• RSI: 41.0
Performance:
• 1-Month Return: -22.1%
• 3-Month Return: -11.9%
• 6-Month Return: 33.4%
Risk Flags:
• High Volatility, Extreme Drawdown, Severe Decline, Momentum Breakdown
Market Sentiment:
• Sentiment Score: -0.338 (NEGATIVE)
• News Articles: 16
• Trend: STABLE

Asset: CG

Sector: Consumer Staples
Current Price: $112.25
Market Cap: $68.51B
Risk Rating: RED
Risk Metrics:
• Volatility: 105.6%
• Maximum Drawdown: -63.3%
• Beta: 0.26
• Sharpe Ratio: 0.17
• RSI: 88.1
Performance:
• 1-Month Return: 115.5%
• 3-Month Return: 82.3%
• 6-Month Return: 45.8%
Risk Flags:
• High Volatility, Extreme Drawdown
Market Sentiment:
• Sentiment Score: -0.326 (NEGATIVE)
• News Articles: 29
• Trend: DETERIORATING

Asset: GBC

Sector: Consumer Staples
Current Price: $111.75
Market Cap: $136.63B
Risk Rating: RED
Risk Metrics:
• Volatility: 46.2%
• Maximum Drawdown: -50.1%
• Beta: -0.02
• Sharpe Ratio: -0.46
• RSI: 77.0
Performance:
• 1-Month Return: 16.2%
• 3-Month Return: 9.2%
• 6-Month Return: -4.6%
Risk Flags:
• High Volatility, Extreme Drawdown
Market Sentiment:
• Sentiment Score: -0.352 (NEGATIVE)

• News Articles: 23
• Trend: DETERIORATING

Recommendations

Based on the comprehensive risk analysis, the following recommendations are provided:
Immediate Actions (RED-flagged assets):
1. Consider reducing position sizes for 11 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 6 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 ≤ Score ≤ 0.3

Report Generation Details:
• Generated: 2026-02-23 20:33:57
• Analysis Period: 12 months
• Total Assets Analyzed: 53
• 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_203357.csv
Risk Analysis CSV: risk_analysis_20260223_203357.csv

The tables below provide summary information for quick reference.

Performance Metrics Data

Symbol	1M Return	3M Return	6M Return	Vol Decline	Sharpe Ratio
APT	2.0%	6.5%	-5.0%	-10.7%	-0.21
ATLQ	2.9%	7.1%	9.0%	-0.3%	0.67
AUSP	0.4%	3.1%	7.7%	0.8%	0.55
AXL	3.0%	1.7%	9.2%	0.7%	0.67
AZ	0.7%	2.3%	5.3%	0.3%	0.50
BG	0.1%	5.9%	9.8%	2.3%	0.72
BPH	1.1%	5.9%	11.9%	0.5%	0.65
BZA	3.5%	5.9%	8.6%	-0.5%	0.44
CCBR	2.3%	2.7%	5.3%	0.3%	0.41
CG	115.5%	82.3%	45.8%	3.4%	0.17
CM	2.7%	3.7%	6.8%	2.4%	0.50
CPMR	0.5%	4.0%	5.5%	-1.1%	0.58
CQK	3.2%	1.3%	8.7%	1.7%	0.38
CYMN	4.0%	5.9%	9.8%	1.6%	0.77
DHG	-0.9%	6.9%	5.4%	-0.4%	0.52
GBC	16.2%	9.2%	-4.6%	2.1%	-0.46
GYDR	1.4%	5.0%	8.2%	-0.8%	0.52
MI	3.5%	1.4%	7.0%	0.1%	0.52
NWB	2.7%	6.2%	5.9%	1.1%	0.47
PCE	3.2%	4.0%	12.4%	2.8%	0.83
PQB	-0.0%	5.4%	12.4%	0.6%	0.70
PVTV	2.1%	2.1%	7.5%	1.7%	0.55
RA	2.2%	2.4%	8.9%	0.5%	0.66
RGVQ	3.5%	5.6%	13.4%	0.4%	0.74
RK	-22.1%	-11.9%	33.4%	4.2%	0.01
RLLD	1.0%	4.6%	8.6%	-1.8%	0.53
RPN	0.0%	3.2%	9.6%	-0.3%	0.82
RTF	1.1%	0.8%	3.7%	-1.6%	0.45
RTZ	1.5%	5.8%	9.1%	2.2%	0.70
RUKD	0.8%	0.6%	9.5%	2.0%	0.45

RW	4.3%	2.8%	10.8%	0.3%	0.77
RY	2.7%	2.9%	11.5%	2.0%	0.79
SLHB	-2.4%	-21.3%	-53.7%	1.5%	-0.32
SOI	2.0%	0.4%	4.6%	2.9%	0.38
STD	0.1%	2.3%	7.0%	0.4%	0.44
TIA	-0.9%	4.2%	10.2%	0.5%	0.65
TMA	-34.6%	-26.1%	-11.6%	-2.8%	-0.05
VAEU	27.5%	6.1%	-38.9%	3.5%	0.09
VXS	-1.1%	6.0%	12.7%	4.1%	0.71
VYBB	68.5%	64.9%	41.8%	-6.2%	0.09
XBU	1.2%	5.5%	7.2%	0.7%	0.73
XJXX	-1.0%	4.8%	10.0%	3.7%	0.56
XKA	3.6%	1.8%	8.9%	0.4%	0.55
XPN	-1.7%	2.0%	8.4%	0.1%	0.39
XUY	-1.0%	4.7%	4.9%	2.0%	0.47
XWEU	-4.3%	-12.1%	-26.9%	-2.5%	-0.18
ZA	-0.5%	4.8%	14.9%	-1.1%	0.78
ZC	-35.0%	-32.5%	-24.9%	5.2%	-0.35
ZEP	9.5%	-8.4%	-30.4%	-5.5%	-0.42
ZH	-0.7%	3.0%	7.5%	2.8%	0.77
ZI	-1.0%	3.2%	13.1%	2.4%	0.87
ZRX	2.4%	4.5%	11.0%	-0.6%	0.57
ZZR	4.6%	6.0%	9.5%	-0.0%	0.78

Risk Flags Details

Symbol	High Vol	Ext. DD	Vol Collapse	Severe Dec	Ext. Dec	Poor Sharpe	Mom. Break
TMA	✓	✓	✗	✓	✓	✗	✓
ZC	✓	✓	✗	✓	✓	✗	✓
RK	✓	✓	✗	✓	✗	✗	✓
CG	✓	✓	✗	✗	✗	✗	✗
GBC	✓	✓	✗	✗	✗	✗	✗
XWEU	✓	✓	✗	✗	✗	✗	✗
VYBB	✓	✓	✗	✗	✗	✗	✗
VAEU	✓	✓	✗	✗	✗	✗	✗
APT	✓	✓	✗	✗	✗	✗	✗
ZEP	✓	✓	✗	✗	✗	✗	✗
SLHB	✓	✓	✗	✗	✗	✗	✗
CCBR	✓	✗	✗	✗	✗	✗	✗
XUY	✓	✗	✗	✗	✗	✗	✗

STD	✓	✗	✗	✗	✗	✗	✗
RTF	✓	✗	✗	✗	✗	✗	✗
XPN	✓	✗	✗	✗	✗	✗	✗
VXS	✓	✗	✗	✗	✗	✗	✗
PQB	✓	✗	✗	✗	✗	✗	✗
RW	✓	✗	✗	✗	✗	✗	✗
RTZ	✓	✗	✗	✗	✗	✗	✗
ZA	✗	✗	✗	✗	✗	✗	✗
ZH	✗	✗	✗	✗	✗	✗	✗
TIA	✗	✗	✗	✗	✗	✗	✗
BPH	✗	✗	✗	✗	✗	✗	✗
RA	✗	✗	✗	✗	✗	✗	✗
XBU	✗	✗	✗	✗	✗	✗	✗
ZRX	✗	✗	✗	✗	✗	✗	✗
PCE	✗	✗	✗	✗	✗	✗	✗
BG	✗	✗	✗	✗	✗	✗	✗
MI	✗	✗	✗	✗	✗	✗	✗
ATLQ	✗	✗	✗	✗	✗	✗	✗
PVTV	✗	✗	✗	✗	✗	✗	✗
RY	✗	✗	✗	✗	✗	✗	✗
NWB	✗	✗	✗	✗	✗	✗	✗
CQK	✗	✗	✗	✗	✗	✗	✗
AUSP	✗	✗	✗	✗	✗	✗	✗
RPN	✗	✗	✗	✗	✗	✗	✗
CPMR	✗	✗	✗	✗	✗	✗	✗
XJXX	✗	✗	✗	✗	✗	✗	✗
RLLD	✗	✗	✗	✗	✗	✗	✗
RGVQ	✗	✗	✗	✗	✗	✗	✗
RUKD	✗	✗	✗	✗	✗	✗	✗
ZZR	✗	✗	✗	✗	✗	✗	✗
GYDR	✗	✗	✗	✗	✗	✗	✗
XKA	✗	✗	✗	✗	✗	✗	✗
AXL	✗	✗	✗	✗	✗	✗	✗
ZI	✗	✗	✗	✗	✗	✗	✗
DHG	✗	✗	✗	✗	✗	✗	✗
AZ	✗	✗	✗	✗	✗	✗	✗
SOI	✗	✗	✗	✗	✗	✗	✗
CM	✗	✗	✗	✗	✗	✗	✗
BZA	✗	✗	✗	✗	✗	✗	✗
CYMN	✗	✗	✗	✗	✗	✗	✗

Data Summary:
- Total Assets: 53
- Data Generated: 2026-02-23 20:33:57
- 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.