Portfolio Risk Analysis Report

Report Date: October 14, 2025
Portfolio Size: 30 Assets
Analysis Period: 12 Months
Generated by: Automated Risk Analysis Pipeline

Risk Assessment Summary

HIGH RISK (RED): 25 Assets
MEDIUM RISK (YELLOW): 0 Assets
LOW RISK (GREEN): 5 Assets

Executive Summary

This report presents a comprehensive risk analysis of a portfolio containing 30 assets with a combined market capitalization of $3169.8 billion. **Key Findings:** • 25 assets (83.3%) are rated as HIGH RISK (RED) • 0 assets (0.0%) are rated as MEDIUM RISK (YELLOW) • Average portfolio volatility: 29.2% • Maximum drawdown observed: -54.6% **Risk Concentration:** The analysis reveals significant risk concentration in 25 assets requiring immediate attention and potential portfolio rebalancing. **Sentiment Analysis:** • 15 RED-flagged assets show negative market sentiment • Average sentiment score for flagged assets: -0.314 • News coverage indicates heightened market concern for these positions

Portfolio Overview

Sector Allocation

Sector	Assets	Market Cap ($B)	Percentage
Technology	2	715.60	22.6%
Healthcare	5	641.38	20.2%
Materials	3	329.25	10.4%
Energy	3	288.50	9.1%
Industrial	3	259.02	8.2%
Consumer Discretionary	4	245.34	7.7%
Consumer Staples	3	239.07	7.5%
Financial Services	3	189.15	6.0%
Real Estate	2	154.75	4.9%
Utilities	2	107.73	3.4%

Risk Analysis Results

Risk Distribution:
• HIGH RISK (RED): 25 assets
• MEDIUM RISK (YELLOW): 0 assets
• LOW RISK (GREEN): 5 assets

High Risk Assets

Symbol	Sector	Risk Rating	Volatility	Max Drawdown	Risk Score
BGE	Materials	RED	43.7%	-31.8%	5
GJI	Real Estate	RED	40.1%	-27.1%	3
XH	Materials	RED	39.2%	-51.3%	3
MNYB	Financial Services	RED	44.6%	-50.8%	3
XQ	Consumer Discretionary	RED	41.2%	-54.6%	3

CMG	Consumer Discretionary	RED	43.1%	-40.7%	3
RUP	Industrial	RED	26.5%	-38.7%	2
DXI	Financial Services	RED	41.9%	-31.8%	2
RD	Healthcare	RED	41.2%	-27.5%	2
ZTJ	Consumer Discretionary	RED	18.3%	-25.1%	2
GV	Consumer Staples	RED	30.8%	-42.9%	2
RG	Energy	RED	25.3%	-43.3%	2
DQ	Materials	RED	23.2%	-49.6%	2
NCH	Utilities	RED	15.5%	-22.8%	2
NUT	Energy	RED	15.5%	-27.0%	2
CADK	Consumer Staples	RED	22.2%	-29.3%	2
GTMM	Technology	RED	26.5%	-42.6%	2
DYK	Utilities	RED	24.3%	-27.3%	1
POQG	Healthcare	RED	31.6%	-32.8%	1
CI	Technology	RED	36.0%	-26.7%	1
RI	Industrial	RED	21.6%	-23.4%	1
NOST	Consumer Staples	RED	29.1%	-25.8%	1
AU	Healthcare	RED	25.9%	-30.1%	1
CF	Industrial	RED	23.8%	-24.1%	1
PA	Financial Services	RED	36.5%	-28.2%	1

Machine Learning Analysis

Advanced machine learning techniques were applied to identify anomalies and predict future risk ratings. **Anomaly Detection Summary:**
• Total Anomalies Detected: 5
• Critical Anomalies: 1
• High Risk Anomalies: 4
• Anomaly Rate: 16.7%
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

• 1 assets show critical anomalous behavior requiring immediate review
• Anomaly detection identified 5 assets with unusual patterns
• Key risk drivers: Max Drawdown, Volume Decline, Volatility

Critical Anomalies Detected

Symbol	Sector	Anomaly Score	Severity	Recommendation
RD	Healthcare	100.0	CRITICAL	Critical anomaly - Consider immediate po...
NUT	Energy	79.0	HIGH	Significant anomaly - Conduct thorough d...
BGE	Materials	70.2	HIGH	Significant anomaly - Conduct thorough d...
XH	Materials	66.8	HIGH	Significant anomaly - Conduct thorough d...
CI	Technology	60.8	HIGH	Significant anomaly - Conduct thorough d...

Top Risk Factors (Feature Importance)

1. Max Drawdown: 49.8% importance
2. Volume Decline: 11.7% importance
3. Volatility: 9.9% importance
4. Price Change 3M: 9.1% importance
5. Sharpe Ratio: 4.9% importance

ML Validation Results

Overall Validation Status: WARNING
Checks Passed: 3 / 4

✓ **Anomaly Detection Validation:** PASS
total_assets: 30, anomalies_detected: 5, anomaly_rate: 16.7
■ **Risk Prediction Validation:** WARNING
model_accuracy: 100.0, predictions_made: 30, rating_changes: 0
✓ **Feature Quality Validation:** PASS
features_checked: 9, nan_features: 0, total_samples: 30
✓ **Feature Importance Validation:** PASS
total_importance: 100.0, top_feature: Max Drawdown, top_importance: 49.8

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

Sentiment Analysis

Sentiment analysis was conducted on 25 RED-flagged assets using financial news from the past 12 months. **Key Findings:**
• Average sentiment score: -0.314
• Assets with negative sentiment: 15/25
• Total news articles analyzed: 537

Sentiment Analysis Results

Symbol	Sentiment Score	Label	News Count	Trend	Key Themes
NCH	-0.443	NEGATIVE	15	IMPROVING	regulatory, earnings, market_share
CF	-0.435	NEGATIVE	15	IMPROVING	operations, earnings, management

CMG	-0.419	NEGATIVE	15	STABLE	regulatory, earnings, management
RUP	-0.387	NEGATIVE	19	STABLE	earnings, regulatory, financial_health
ZTJ	-0.373	NEGATIVE	26	IMPROVING	regulatory, financial_health, operations
RG	-0.342	NEGATIVE	20	IMPROVING	regulatory, earnings, financial_health
POQG	-0.333	NEGATIVE	28	DETERIORATING	regulatory, financial_health, earnings
XH	-0.333	NEGATIVE	18	DETERIORATING	financial_health, earnings, regulatory
AU	-0.330	NEGATIVE	30	DETERIORATING	earnings, regulatory, financial_health
CADK	-0.324	NEGATIVE	16	IMPROVING	regulatory, financial_health, earnings
RI	-0.322	NEGATIVE	26	STABLE	earnings, regulatory, management
GTMM	-0.317	NEGATIVE	26	DETERIORATING	earnings, operations, financial_health
RD	-0.312	NEGATIVE	28	DETERIORATING	earnings, financial_health, regulatory
PA	-0.309	NEGATIVE	17	DETERIORATING	regulatory, earnings, operations
MNYB	-0.306	NEGATIVE	24	IMPROVING	regulatory, financial_health, earnings
CI	-0.295	NEUTRAL	16	DETERIORATING	management, financial_health, earnings
NUT	-0.292	NEUTRAL	17	DETERIORATING	regulatory, earnings, market_share
BGE	-0.283	NEUTRAL	18	IMPROVING	regulatory, financial_health, earnings
DQ	-0.280	NEUTRAL	16	STABLE	operations, regulatory, earnings
GJI	-0.273	NEUTRAL	29	STABLE	regulatory, operations, earnings
DXI	-0.258	NEUTRAL	27	DETERIORATING	financial_health, earnings, market_share
GV	-0.249	NEUTRAL	19	STABLE	regulatory, financial_health, earnings
NOST	-0.236	NEUTRAL	22	IMPROVING	regulatory, earnings, financial_health
DYK	-0.203	NEUTRAL	28	IMPROVING	earnings, regulatory, financial_health
XQ	-0.197	NEUTRAL	22	DETERIORATING	operations, earnings, regulatory

Detailed Asset Analysis

Asset: BGE

Sector: Materials
Current Price: $160.14
Market Cap: $259.66B
Risk Rating: RED
Risk Metrics:
• Volatility: 43.7%
• Maximum Drawdown: -31.8%
• Beta: 0.03
• Sharpe Ratio: 0.25
• RSI: 21.9
Performance:
• 1-Month Return: -23.2%
• 3-Month Return: -27.6%
• 6-Month Return: -3.8%
Risk Flags:
• High Volatility, Extreme Drawdown, Severe Decline, Extended Decline, Momentum Breakdown
Market Sentiment:
• Sentiment Score: -0.283 (NEUTRAL)

- News Articles: 18
- Trend: IMPROVING

Asset: GJI

Sector: Real Estate
Current Price: $156.28
Market Cap: $140.15B
Risk Rating: RED
Risk Metrics:
- Volatility: 40.1%
- Maximum Drawdown: -27.1%
- Beta: 0.02
- Sharpe Ratio: -0.11
- RSI: 38.9
Performance:
- 1-Month Return: -7.8%
- 3-Month Return: -27.1%
- 6-Month Return: -22.4%
Risk Flags:
- High Volatility, Extreme Drawdown, Extended Decline
Market Sentiment:
- Sentiment Score: -0.273 (NEUTRAL)
- News Articles: 29
- Trend: STABLE

Asset: XH

Sector: Materials
Current Price: $57.01
Market Cap: $44.58B
Risk Rating: RED
Risk Metrics:
- Volatility: 39.2%
- Maximum Drawdown: -51.3%
- Beta: -0.20
- Sharpe Ratio: -0.75
- RSI: 67.3
Performance:
- 1-Month Return: 17.4%
- 3-Month Return: -25.4%
- 6-Month Return: -21.9%
Risk Flags:
- Extreme Drawdown, Extended Decline, Poor Risk Return
Market Sentiment:
- Sentiment Score: -0.333 (NEGATIVE)
- News Articles: 18
- Trend: DETERIORATING

Asset: MNYB

Sector: Financial Services
Current Price: $53.01
Market Cap: $82.89B
Risk Rating: RED

Risk Metrics:
• Volatility: 44.6%
• Maximum Drawdown: -50.8%
• Beta: 0.16
• Sharpe Ratio: -0.83
• RSI: 55.6
Performance:
• 1-Month Return: -6.0%
• 3-Month Return: -19.8%
• 6-Month Return: -27.0%
Risk Flags:
• High Volatility, Extreme Drawdown, Poor Risk Return
Market Sentiment:
• Sentiment Score: -0.306 (NEGATIVE)
• News Articles: 24
• Trend: IMPROVING

Asset: XQ

Sector: Consumer Discretionary
Current Price: $132.04
Market Cap: $17.46B
Risk Rating: RED
Risk Metrics:
• Volatility: 41.2%
• Maximum Drawdown: -54.6%
• Beta: 0.13
• Sharpe Ratio: -1.21
• RSI: 48.3
Performance:
• 1-Month Return: 6.6%
• 3-Month Return: -8.7%
• 6-Month Return: -32.1%
Risk Flags:
• High Volatility, Extreme Drawdown, Poor Risk Return
Market Sentiment:
• Sentiment Score: -0.197 (NEUTRAL)
• News Articles: 22
• 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 25 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 15 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: 2025-10-14 14:20:01
• Analysis Period: 12 months
• Total Assets Analyzed: 30
• Pipeline Version: 1.0