

# Portfolio Risk Analysis Report

Report Date: October 14, 2025  
Portfolio Size: 25 Assets  
Analysis Period: 12 Months  
Generated by: Automated Risk Analysis Pipeline

## Risk Assessment Summary

**HIGH RISK (RED): 19 Assets**  
**MEDIUM RISK (YELLOW): 0 Assets**  
**LOW RISK (GREEN): 6 Assets**

## Executive Summary

This report presents a comprehensive risk analysis of a portfolio containing 25 assets with a combined market capitalization of \$2994.3 billion. **Key Findings:** • 19 assets (76.0%) are rated as HIGH RISK (RED) • 0 assets (0.0%) are rated as MEDIUM RISK (YELLOW) • Average portfolio volatility: 33.9% • Maximum drawdown observed: -59.4% **Risk Concentration:** The analysis reveals significant risk concentration in 19 assets requiring immediate attention and potential portfolio rebalancing. **Sentiment Analysis:** • 12 RED-flagged assets show negative market sentiment • Average sentiment score for flagged assets: -0.327 • News coverage indicates heightened market concern for these positions

## Portfolio Overview

### Sector Allocation

Sector	Assets	Market Cap (\$B)	Percentage
Technology	2	687.54	23.0%
Materials	4	653.09	21.8%
Consumer Staples	4	404.55	13.5%
Healthcare	2	382.06	12.8%
Energy	5	217.64	7.3%
Industrial	2	196.84	6.6%
Utilities	2	194.31	6.5%
Consumer Discretionary	2	159.12	5.3%
Financial Services	1	72.85	2.4%
Real Estate	1	26.25	0.9%

## Risk Analysis Results

### Risk Distribution:

- HIGH RISK (RED): 19 assets
- MEDIUM RISK (YELLOW): 0 assets
- LOW RISK (GREEN): 6 assets

### High Risk Assets

Symbol	Sector	Risk Rating	Volatility	Max Drawdown	Risk Score
ZSN	Consumer Staples	RED	42.9%	-35.5%	6
BDB	Materials	RED	45.9%	-27.2%	4
DVR	Financial Services	RED	33.3%	-20.4%	3
DAG	Utilities	RED	37.2%	-43.6%	2
MHGX	Consumer Staples	RED	42.1%	-44.0%	2

RSR	Industrial	RED	28.2%	-32.6%	2
RTQI	Technology	RED	30.7%	-52.3%	2
XOXD	Industrial	RED	42.9%	-28.6%	2
XJG	Materials	RED	35.6%	-43.5%	2
PPE	Technology	RED	41.1%	-28.9%	2
XGG	Consumer Staples	RED	48.1%	-59.4%	2
VUCV	Healthcare	RED	28.1%	-44.7%	2
ZF	Energy	RED	30.4%	-30.1%	1
NUJ	Consumer Discretionary	RED	34.5%	-26.0%	1
GZNT	Consumer Staples	RED	36.3%	-31.1%	1
RSR	Energy	RED	39.0%	-37.2%	1
MBE	Materials	RED	38.7%	-35.2%	1
TSJI	Healthcare	RED	32.6%	-21.1%	1
CKWI	Energy	RED	35.7%	-30.6%	1

## Machine Learning Analysis

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

- Total Anomalies Detected: 4
- Critical Anomalies: 7
- High Risk Anomalies: 4
- Anomaly Rate: 16.0%

### Risk Prediction Model:

- Model Accuracy: 87.5%
- Rating Changes Predicted: 1
- Assets Predicted to Deteriorate: 1
- Assets Predicted to Improve: 0

## Key Machine Learning Insights

- 7 assets show critical anomalous behavior requiring immediate review
- 1 assets predicted to deteriorate in risk rating
- Anomaly detection identified 4 assets with unusual patterns
- Key risk drivers: Max Drawdown, Volatility, Sharpe Ratio

## Critical Anomalies Detected

Symbol	Sector	Anomaly Score	Severity	Recommendation
RTQI	Technology	100.0	CRITICAL	Critical anomaly - Consider immediate po...
VFX	Energy	96.2	CRITICAL	Critical anomaly - Consider immediate po...
XGG	Consumer Staples	94.6	CRITICAL	Critical anomaly - Consider immediate po...
BDB	Materials	87.4	CRITICAL	Critical anomaly - Consider immediate po...
TYP	Utilities	86.6	CRITICAL	Normal behavior pattern - Continue monit...

PCSP	Real Estate	82.0	CRITICAL	Normal behavior pattern - Continue monit...
VUCV	Healthcare	80.8	CRITICAL	Normal behavior pattern - Continue monit...
XOXD	Industrial	76.8	HIGH	Normal behavior pattern - Continue monit...
RSR	Industrial	62.7	HIGH	Normal behavior pattern - Continue monit...
ZSN	Consumer Staples	60.6	HIGH	Normal behavior pattern - Continue monit...

### Predicted Risk Rating Changes

Symbol	Current Rating	Predicted Rating	Confidence	Trend
TYP	GREEN	RED	91.0%	DETERIORATING

### Top Risk Factors (Feature Importance)

- 1. Max Drawdown: 41.2% importance
- 2. Volatility: 38.0% importance
- 3. Sharpe Ratio: 6.5% importance
- 4. Price Change 6M: 3.8% importance
- 5. Beta: 3.6% importance

### Sentiment Analysis

Sentiment analysis was conducted on 19 RED-flagged assets using financial news from the past 12 months. **Key Findings:**

- Average sentiment score: -0.327
- Assets with negative sentiment: 12/19
- Total news articles analyzed: 421

### Sentiment Analysis Results

Symbol	Sentiment Score	Label	News Count	Trend	Key Themes
VUCV	-0.493	NEGATIVE	24	IMPROVING	regulatory, earnings, financial_health
DAG	-0.451	NEGATIVE	23	DETERIORATING	regulatory, management, earnings
XOXD	-0.408	NEGATIVE	17	STABLE	earnings, operations, regulatory
BDB	-0.408	NEGATIVE	27	IMPROVING	earnings, regulatory, financial_health
TSJI	-0.399	NEGATIVE	28	IMPROVING	regulatory, financial_health, earnings
RTQI	-0.391	NEGATIVE	17	DETERIORATING	regulatory, financial_health, operations
PPE	-0.359	NEGATIVE	28	DETERIORATING	regulatory, operations, earnings
NUJ	-0.353	NEGATIVE	20	STABLE	financial_health, regulatory, earnings
ZF	-0.341	NEGATIVE	26	DETERIORATING	earnings, financial_health, regulatory
ZSN	-0.334	NEGATIVE	26	DETERIORATING	regulatory, earnings, operations
GZNT	-0.319	NEGATIVE	15	IMPROVING	earnings, regulatory, financial_health

XJG	-0.311	NEGATIVE	16	IMPROVING	earnings, regulatory, market_share
XGG	-0.299	NEUTRAL	19	STABLE	earnings, regulatory, management
MHGX	-0.282	NEUTRAL	23	IMPROVING	regulatory, operations, earnings
RSR	-0.250	NEUTRAL	30	IMPROVING	regulatory, earnings, operations
DVR	-0.238	NEUTRAL	26	IMPROVING	earnings, financial_health, regulatory
MBE	-0.223	NEUTRAL	16	IMPROVING	earnings, regulatory, management
CKWI	-0.210	NEUTRAL	18	IMPROVING	market_share, financial_health, earnings
RSR	-0.147	NEUTRAL	22	IMPROVING	operations, growth, regulatory

## Detailed Asset Analysis

### Asset: ZSN

**Sector:** Consumer Staples

**Current Price:** \$75.09

**Market Cap:** \$100.25B

**Risk Rating:** RED

**Risk Metrics:**

- Volatility: 42.9%
- Maximum Drawdown: -35.5%
- Beta: -0.06
- Sharpe Ratio: -0.85
- RSI: 24.3

**Performance:**

- 1-Month Return: -18.9%
- 3-Month Return: -26.7%
- 6-Month Return: -7.9%

**Risk Flags:**

• High Volatility, Extreme Drawdown, Severe Decline, Extended Decline, Poor Risk Return, Momentum Breakdown

**Market Sentiment:**

- Sentiment Score: -0.334 (NEGATIVE)
- News Articles: 26
- Trend: DETERIORATING

### Asset: BDB

**Sector:** Materials

**Current Price:** \$183.09

**Market Cap:** \$269.24B

**Risk Rating:** RED

**Risk Metrics:**

- Volatility: 45.9%
- Maximum Drawdown: -27.2%
- Beta: 0.20
- Sharpe Ratio: 0.23
- RSI: 22.9

**Performance:**

- 1-Month Return: -18.2%
- 3-Month Return: -13.8%
- 6-Month Return: -7.4%

**Risk Flags:**

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

**Market Sentiment:**

- Sentiment Score: -0.408 (NEGATIVE)
- News Articles: 27
- Trend: IMPROVING

## Asset: DVR

**Sector:** Financial Services

**Current Price:** \$66.67

**Market Cap:** \$72.85B

**Risk Rating:** RED

**Risk Metrics:**

- Volatility: 33.3%
- Maximum Drawdown: -20.4%
- Beta: -0.07
- Sharpe Ratio: 0.81
- RSI: 15.6

**Performance:**

- 1-Month Return: -16.0%
- 3-Month Return: -12.7%
- 6-Month Return: -2.9%

**Risk Flags:**

- Extreme Drawdown, Severe Decline, Momentum Breakdown

**Market Sentiment:**

- Sentiment Score: -0.238 (NEUTRAL)
- News Articles: 26
- Trend: IMPROVING

## Asset: DAG

**Sector:** Utilities

**Current Price:** \$103.33

**Market Cap:** \$80.04B

**Risk Rating:** RED

**Risk Metrics:**

- Volatility: 37.2%
- Maximum Drawdown: -43.6%
- Beta: -0.06
- Sharpe Ratio: -1.36
- RSI: 34.2

**Performance:**

- 1-Month Return: -8.9%
- 3-Month Return: -1.4%
- 6-Month Return: -17.7%

**Risk Flags:**

- Extreme Drawdown, Poor Risk Return

**Market Sentiment:**

- Sentiment Score: -0.451 (NEGATIVE)
- News Articles: 23
- Trend: DETERIORATING

## Asset: MHQX

**Sector:** Consumer Staples

**Current Price:** \$96.21

**Market Cap:** \$183.52B

**Risk Rating:** RED

**Risk Metrics:**

- Volatility: 42.1%
- Maximum Drawdown: -44.0%
- Beta: -0.12
- Sharpe Ratio: 0.11
- RSI: 46.8

**Performance:**

- 1-Month Return: -4.4%
- 3-Month Return: 14.6%
- 6-Month Return: 9.9%

**Risk Flags:**

- High Volatility, Extreme Drawdown

**Market Sentiment:**

- Sentiment Score: -0.282 (NEUTRAL)
- News Articles: 23
- Trend: IMPROVING

## Recommendations

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

**Immediate Actions (RED-flagged assets):**

1. Consider reducing position sizes for 19 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 12 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: 2025-10-14 10:21:24
- Analysis Period: 12 months
- Total Assets Analyzed: 25
- Pipeline Version: 1.0