

Advanced Portfolio Correlation Analysis

Comprehensive Risk Assessment Report

Analysis Period: 3 Years

Portfolio Stocks:

AMZN, TESLA, NVDA, AMD, MSFT, AAPL
GOOG, SOFI, CELH, ELF, PLTR, BYND
HOOD, TEM, CMPR

Report Generated: June 22, 2025

Benchmarks: SPY (S&P 500), QQQ (NASDAQ), USO (Oil)

Analysis Methods:

- . Statistical Significance Testing
- . Volatility-Adjusted Correlations
 - . Market Regime Analysis
 - . Tail Dependence Analysis

Executive Summary

Key Findings:

- . Medium Risk Stocks: AMZN, AMD, AAPL, HOOD
- . Low Risk Stocks: NVDA, MSFT, GOOG, SOFI, CELH, ELF, PLTR, BYND, TEM, CMPR

Portfolio Risk Assessment:

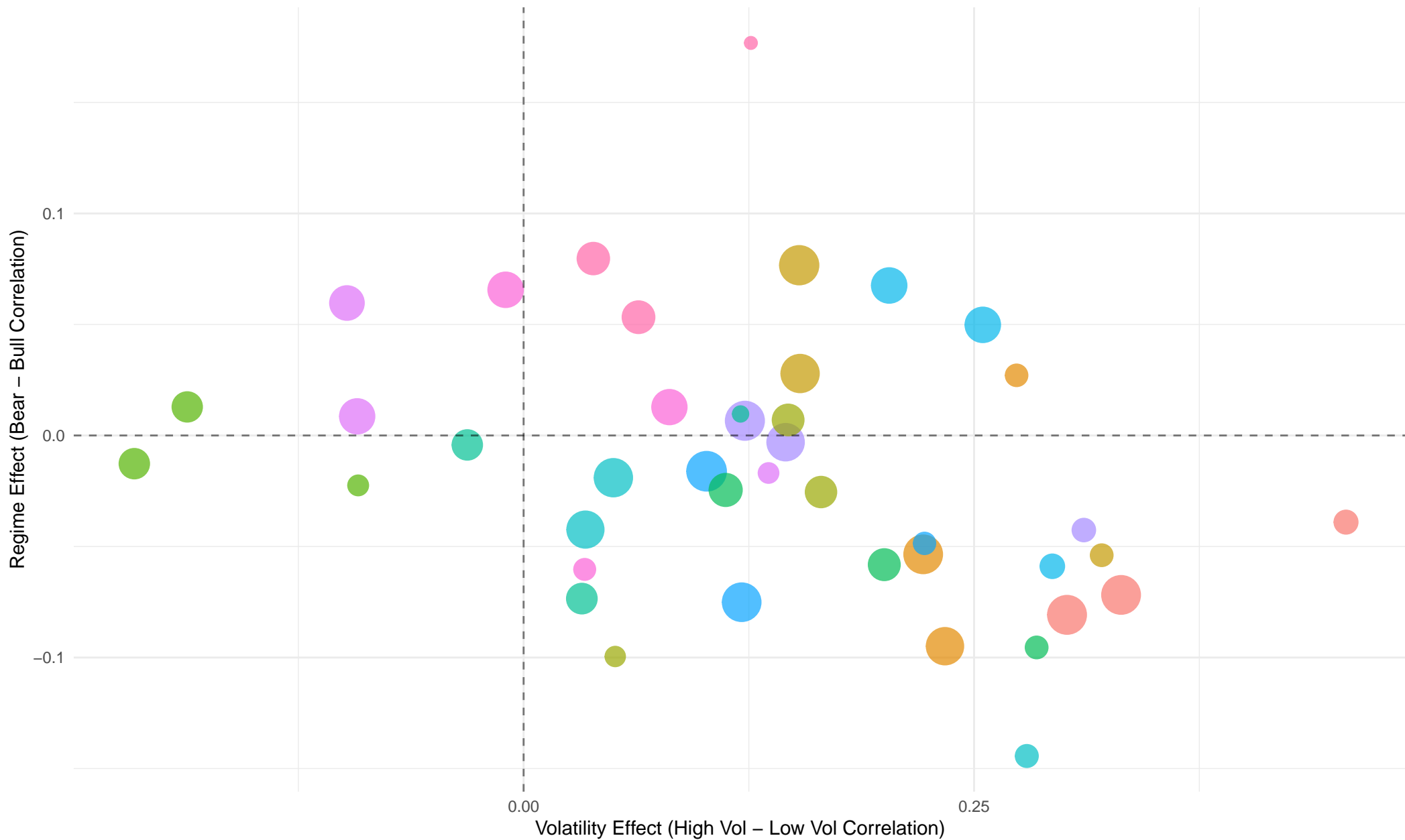
- . Well-diversified portfolio from correlation perspective

Correlation Summary:

Stock	SPY	QQQ	USO	Risk
AMZN	0.73	0.79	0.12	MED
NVDA	0.68	0.77	0.13	MED
AMD	0.68	0.75	0.11	MED
MSFT	0.75	0.81	0.11	MED
AAPL	0.76	0.77	0.15	MED
GOOG	0.67	0.73	0.12	MED
SOFI	0.58	0.57	0.10	MED
CELH	0.35	0.35	0.08	MED

Portfolio Risk Assessment Matrix

Higher values indicate greater correlation dependency



Stock

AAPL	BYND	ELF	MSFT	SOFI
AMD	CELH	GOOG	NVDA	TEM
AMZN	CMPR	HOOD	PLTR	

Abs Correlation

0.2	0.4	0.6	0.8
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Points in upper-right quadrant show highest risk

Analysis: AMZN

Market Regime Correlations: AMZN



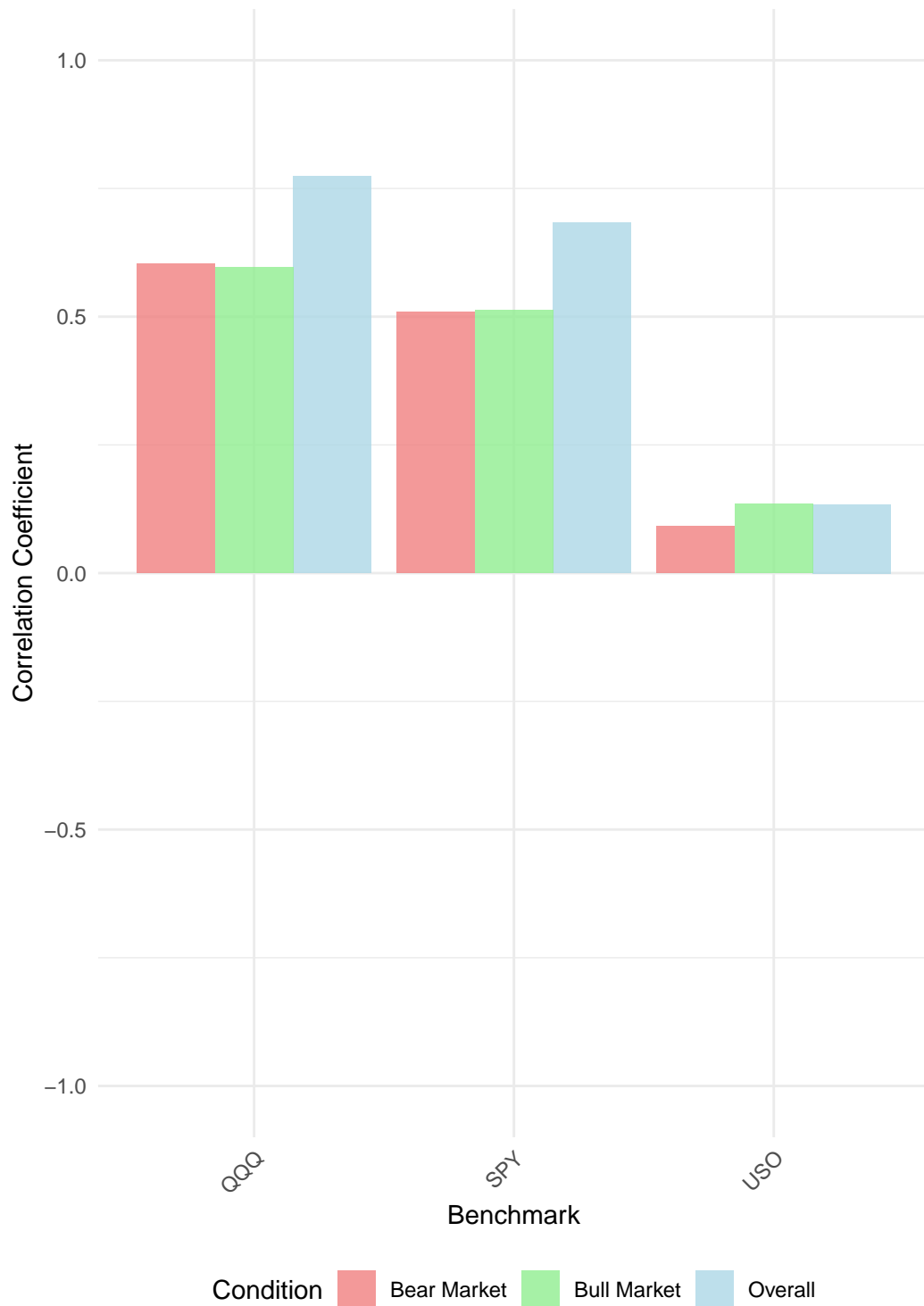
Volatility Regime Correlations: AMZN



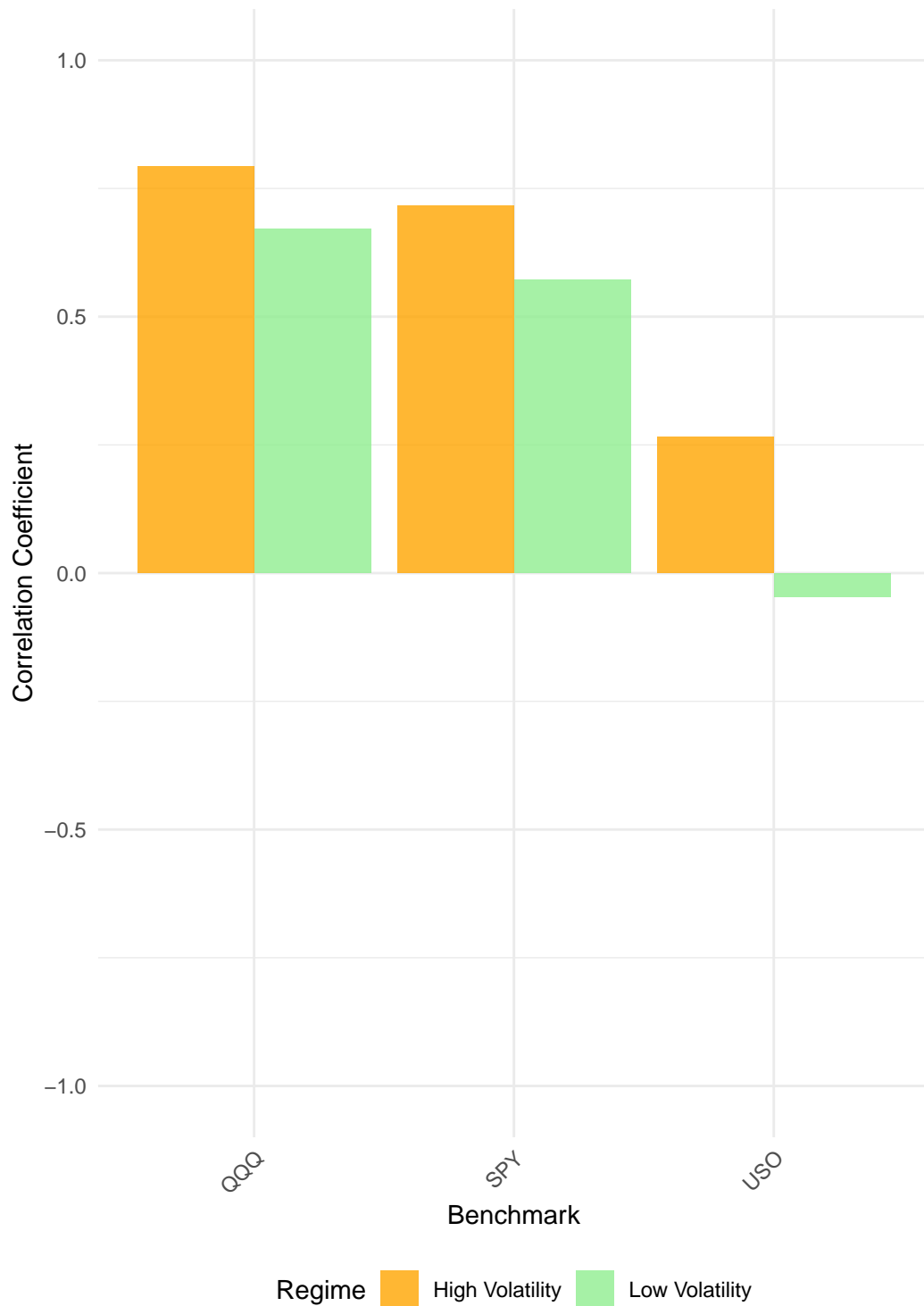
High volatility dependency with USO (+0.32)

Analysis: NVDA

Market Regime Correlations: NVDA



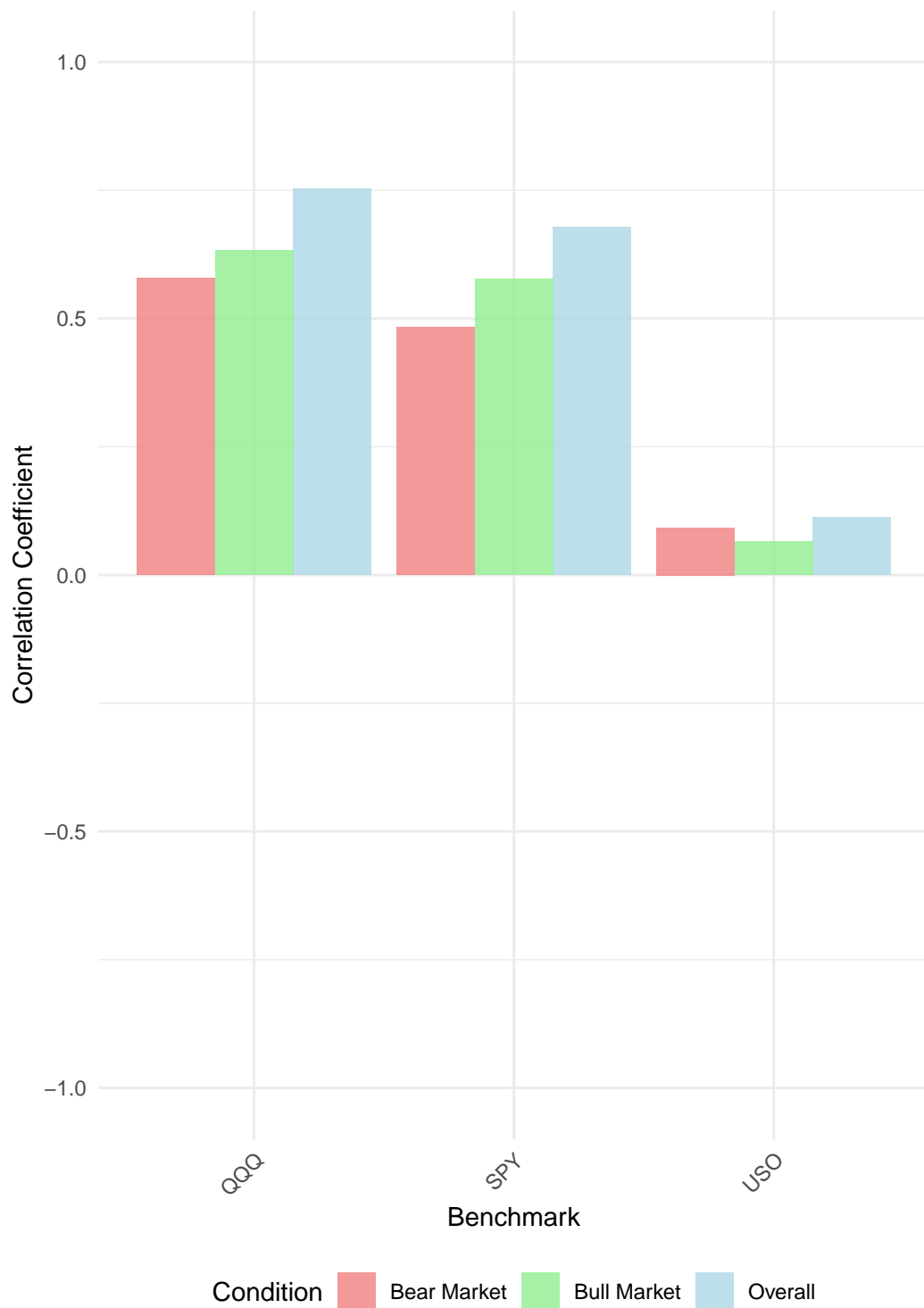
Volatility Regime Correlations: NVDA



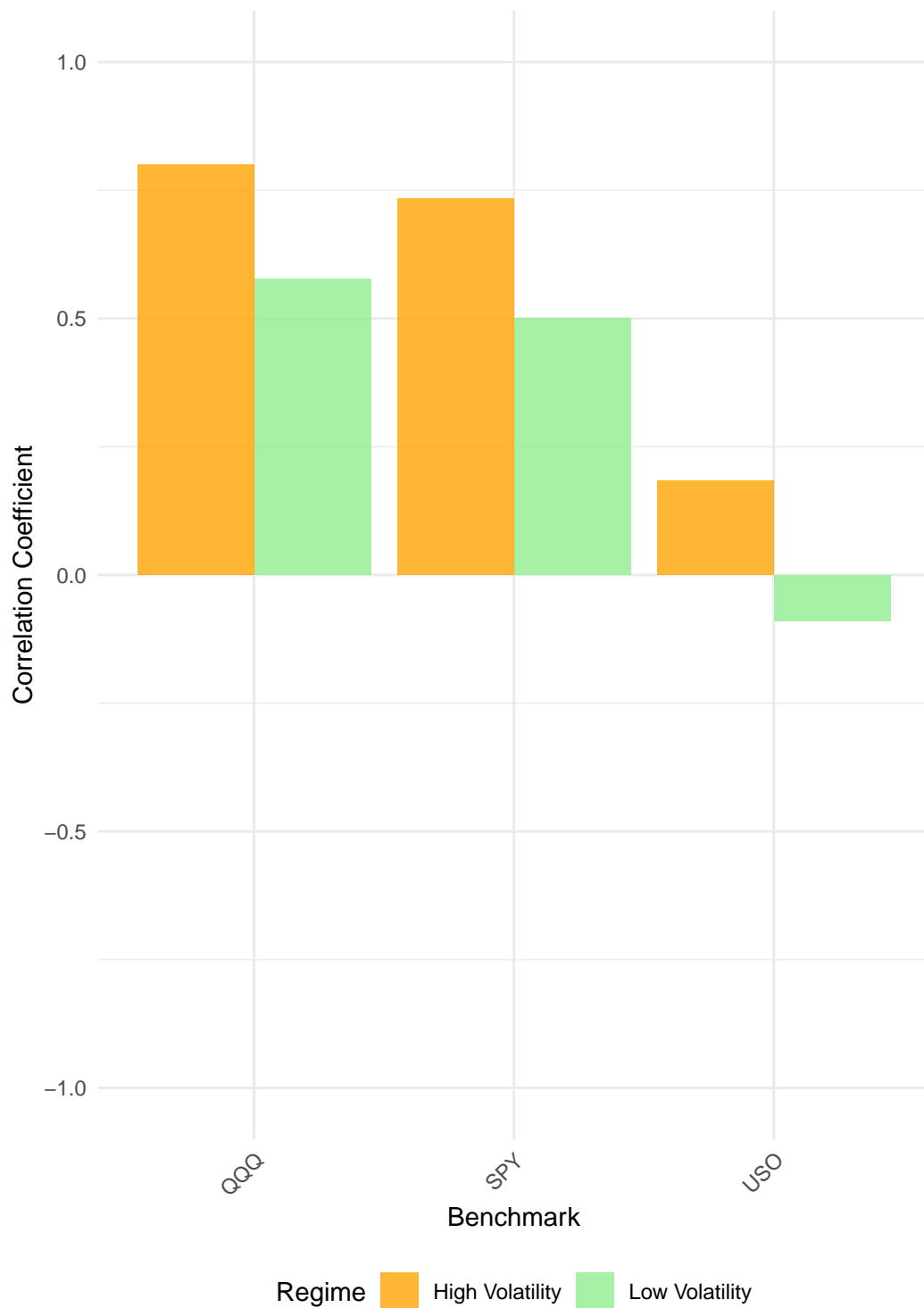
High volatility dependency with USO (+0.31)

Analysis: AMD

Market Regime Correlations: AMD



Volatility Regime Correlations: AMD



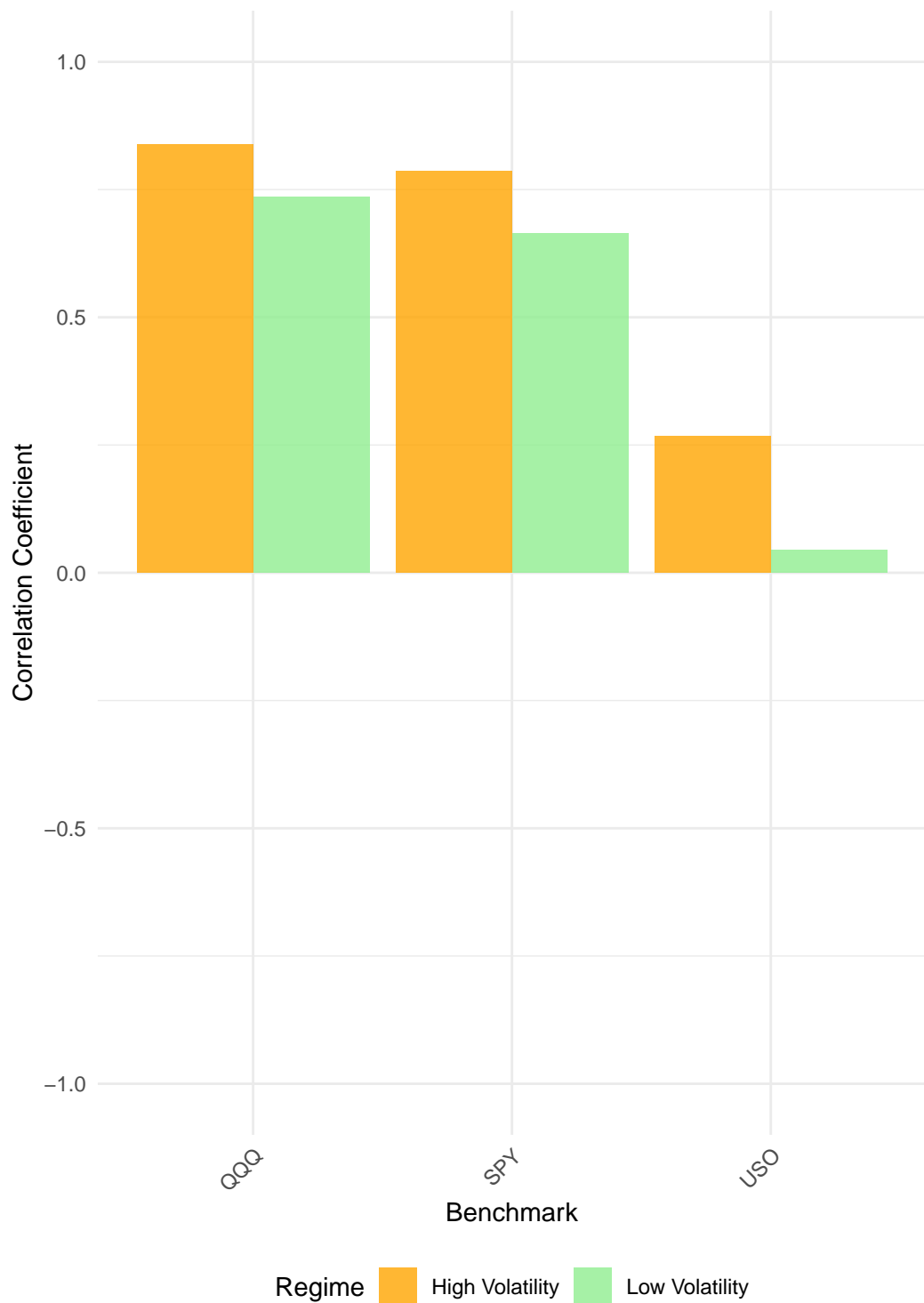
High volatility dependency with SPY (+0.23) | High volatility dependency with QQQ (+0.22)

Analysis: MSFT

Market Regime Correlations: MSFT



Volatility Regime Correlations: MSFT



High volatility dependency with USO (+0.22)

Analysis: AAPL

Market Regime Correlations: AAPL



Volatility Regime Correlations: AAPL



High volatility dependency with SPY (+0.33) | High volatility dependency with QQQ (+0.30)

Analysis: GOOG

Market Regime Correlations: GOOG



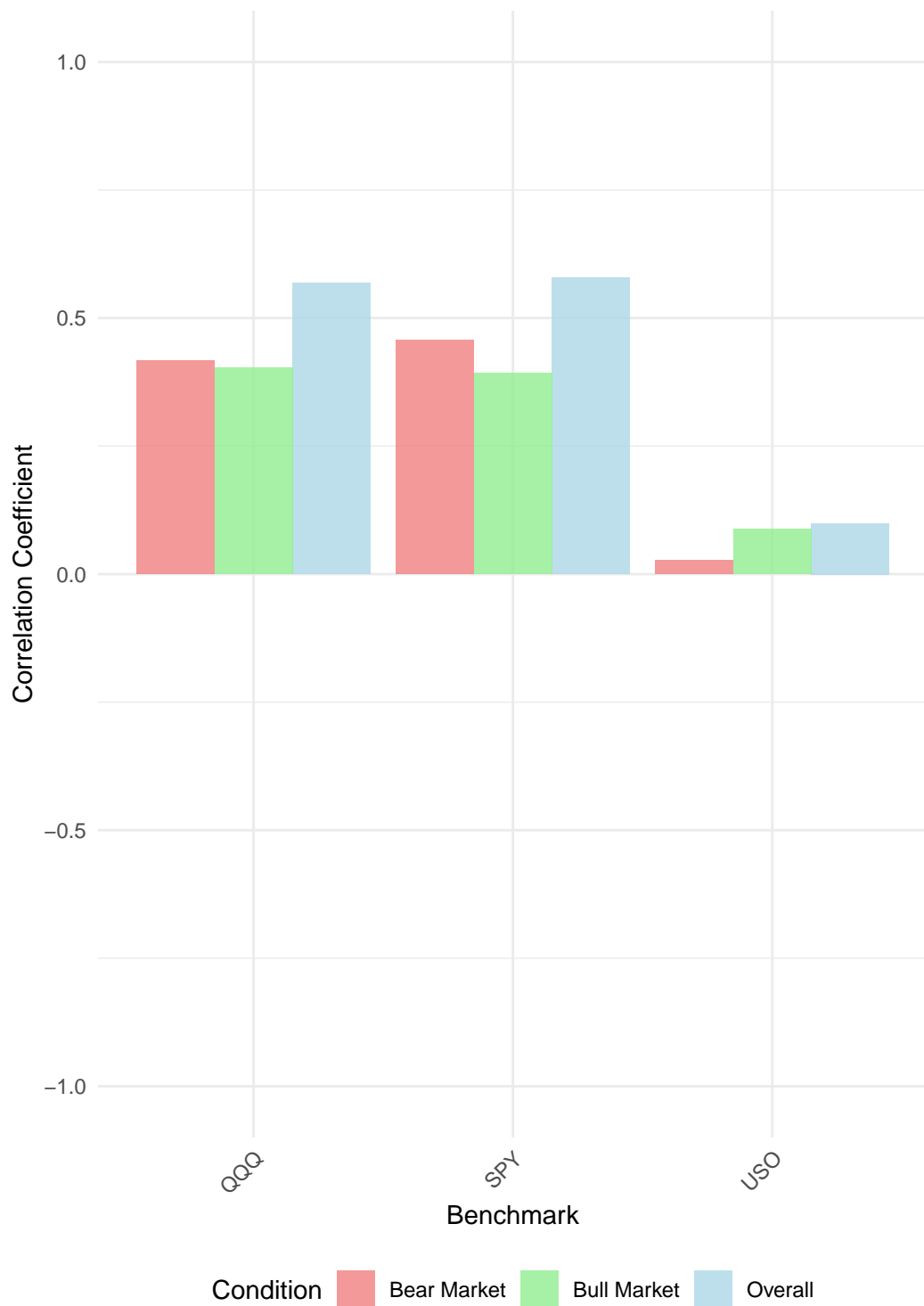
Volatility Regime Correlations: GOOG



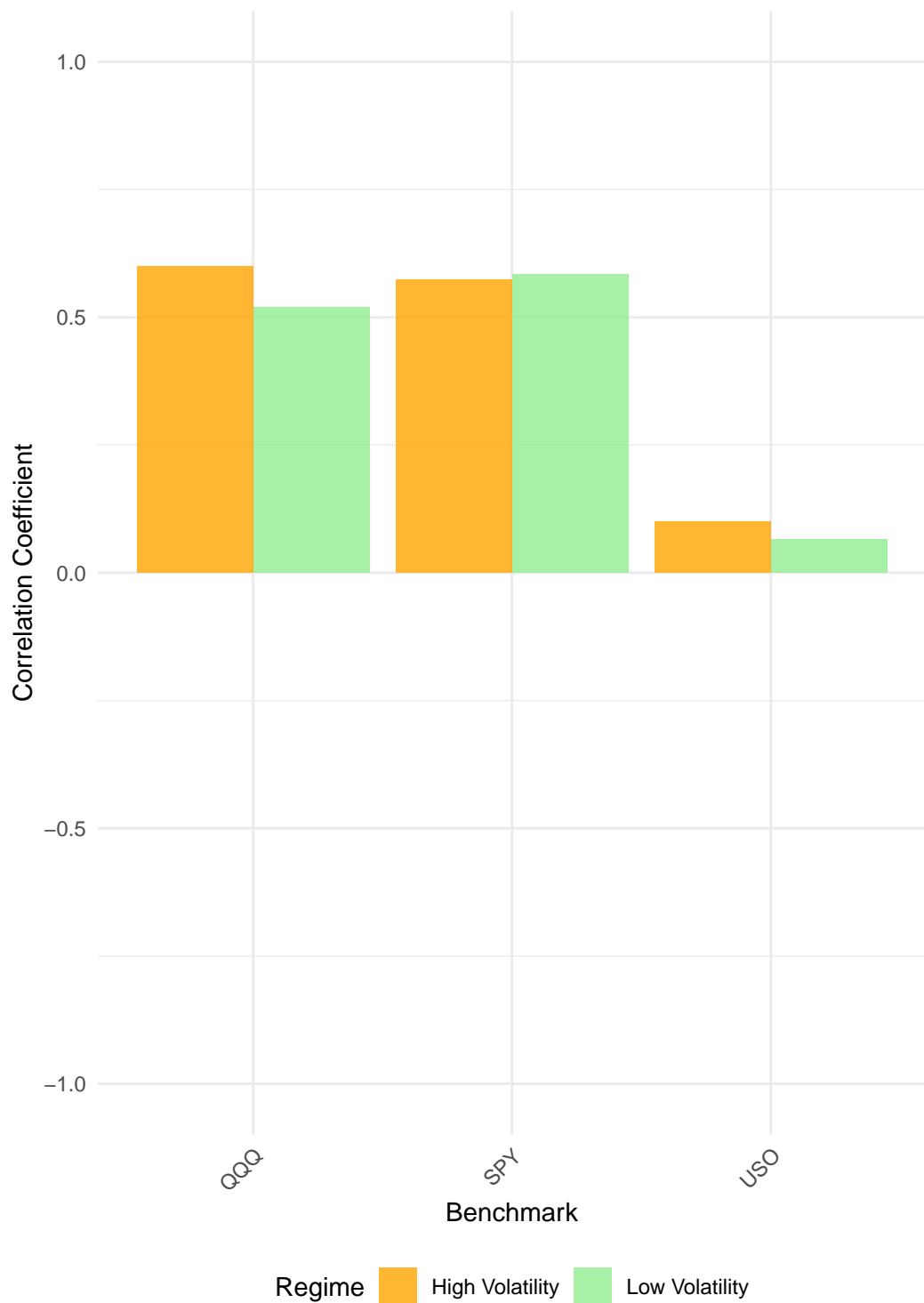
High volatility dependency with USO (+0.28)

Analysis: SOFI

Market Regime Correlations: SOFI



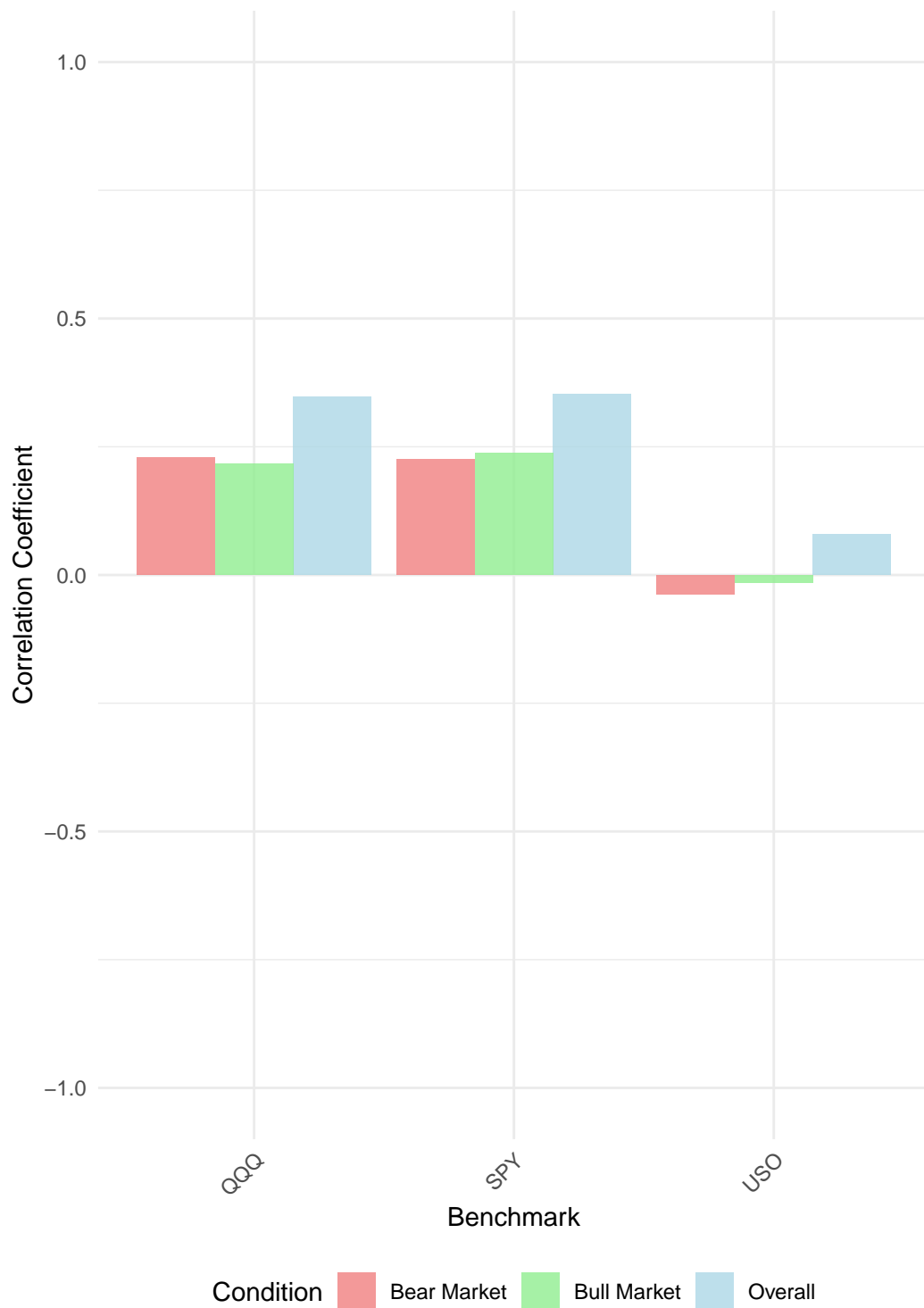
Volatility Regime Correlations: SOFI



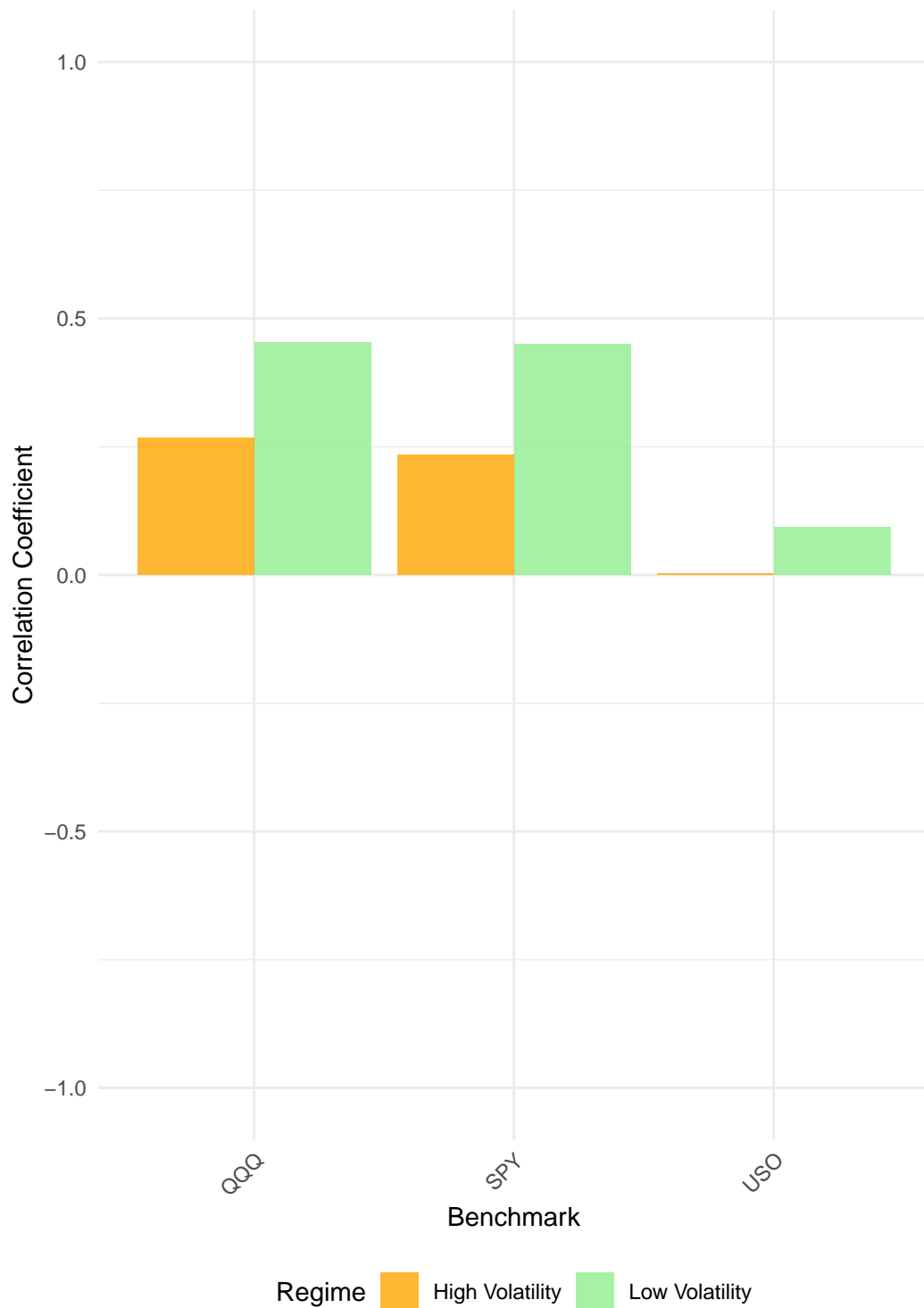
Relatively stable correlation patterns across market conditions

Analysis: CELH

Market Regime Correlations: CELH



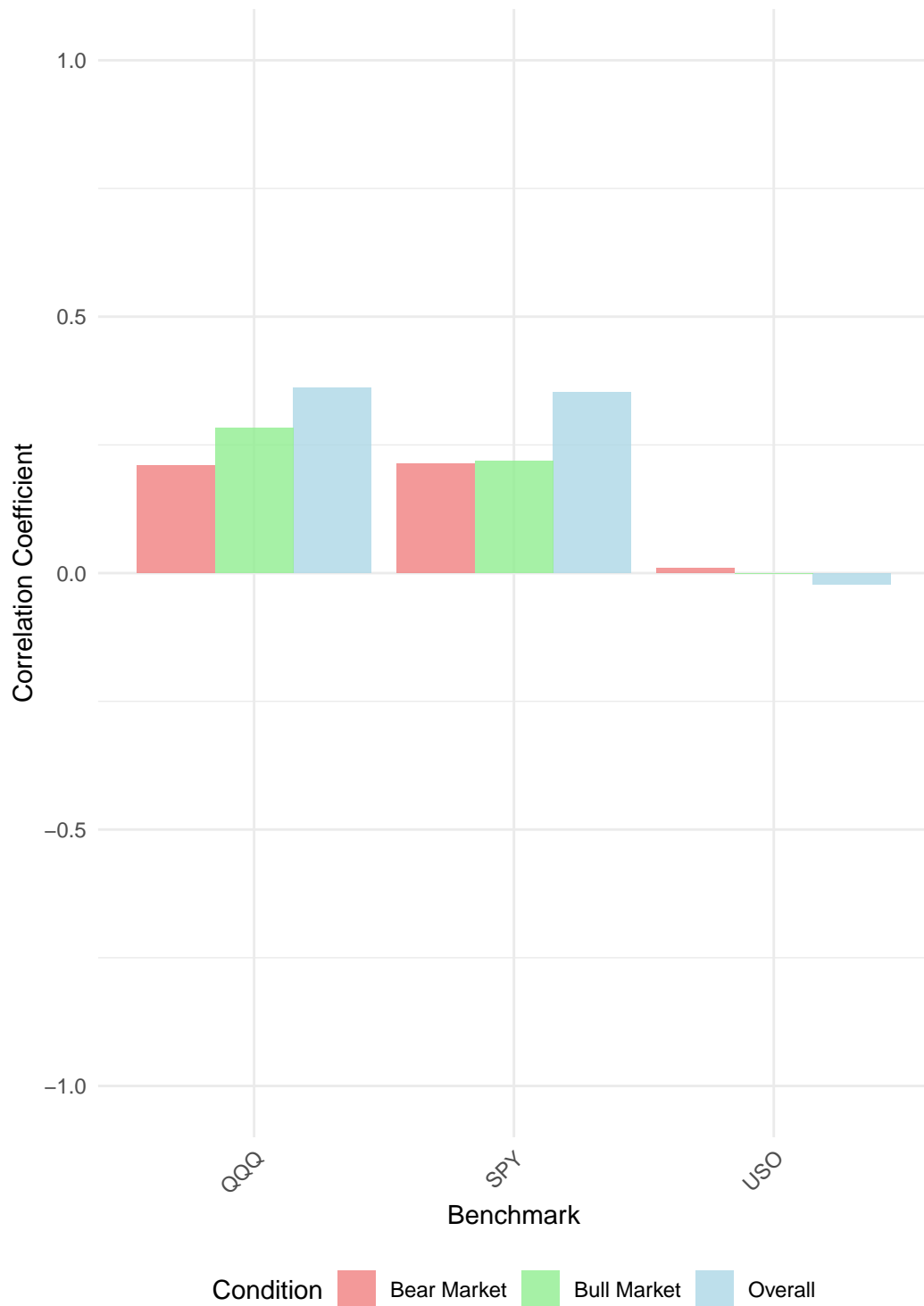
Volatility Regime Correlations: CELH



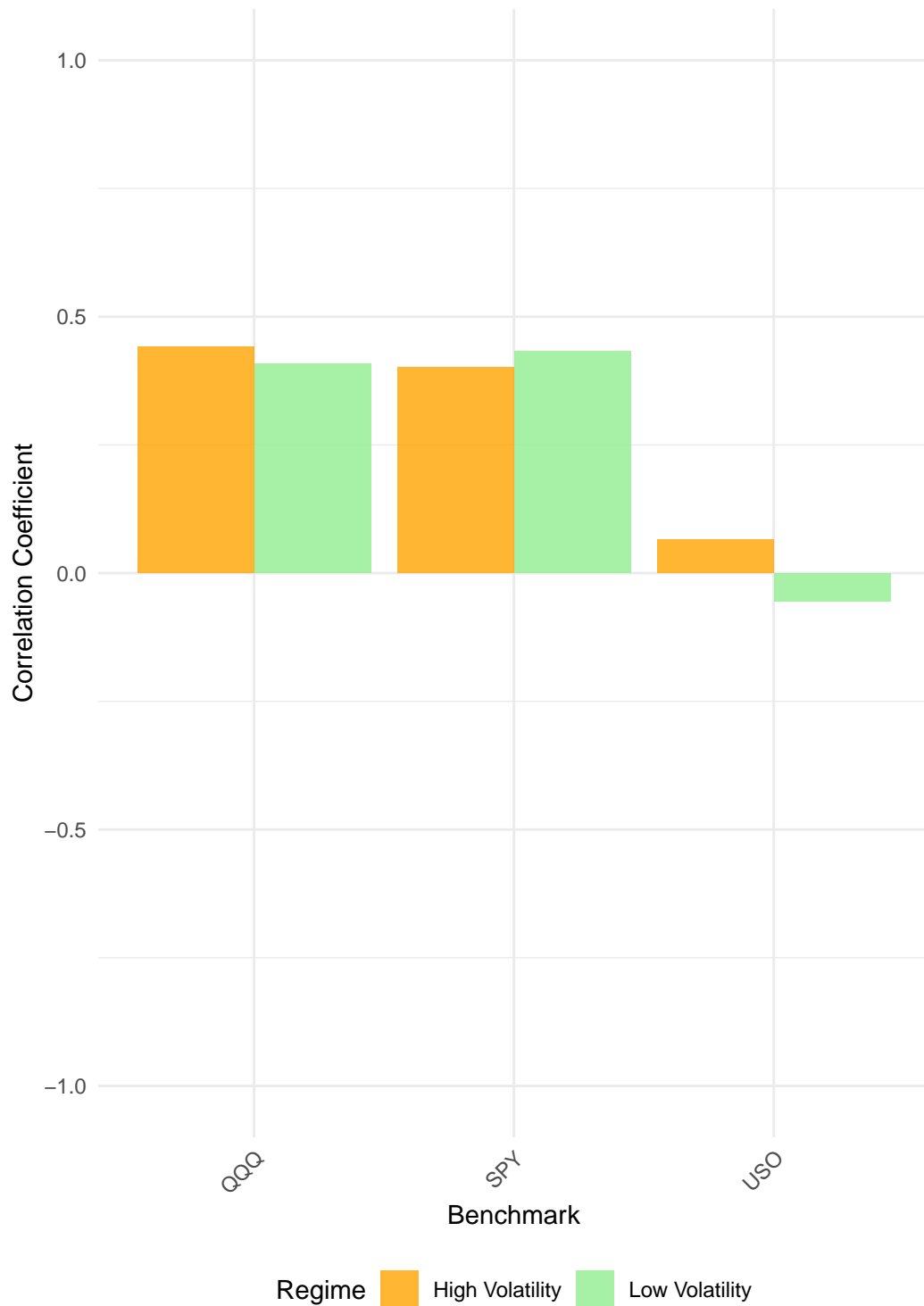
Relatively stable correlation patterns across market conditions

Analysis: ELF

Market Regime Correlations: ELF



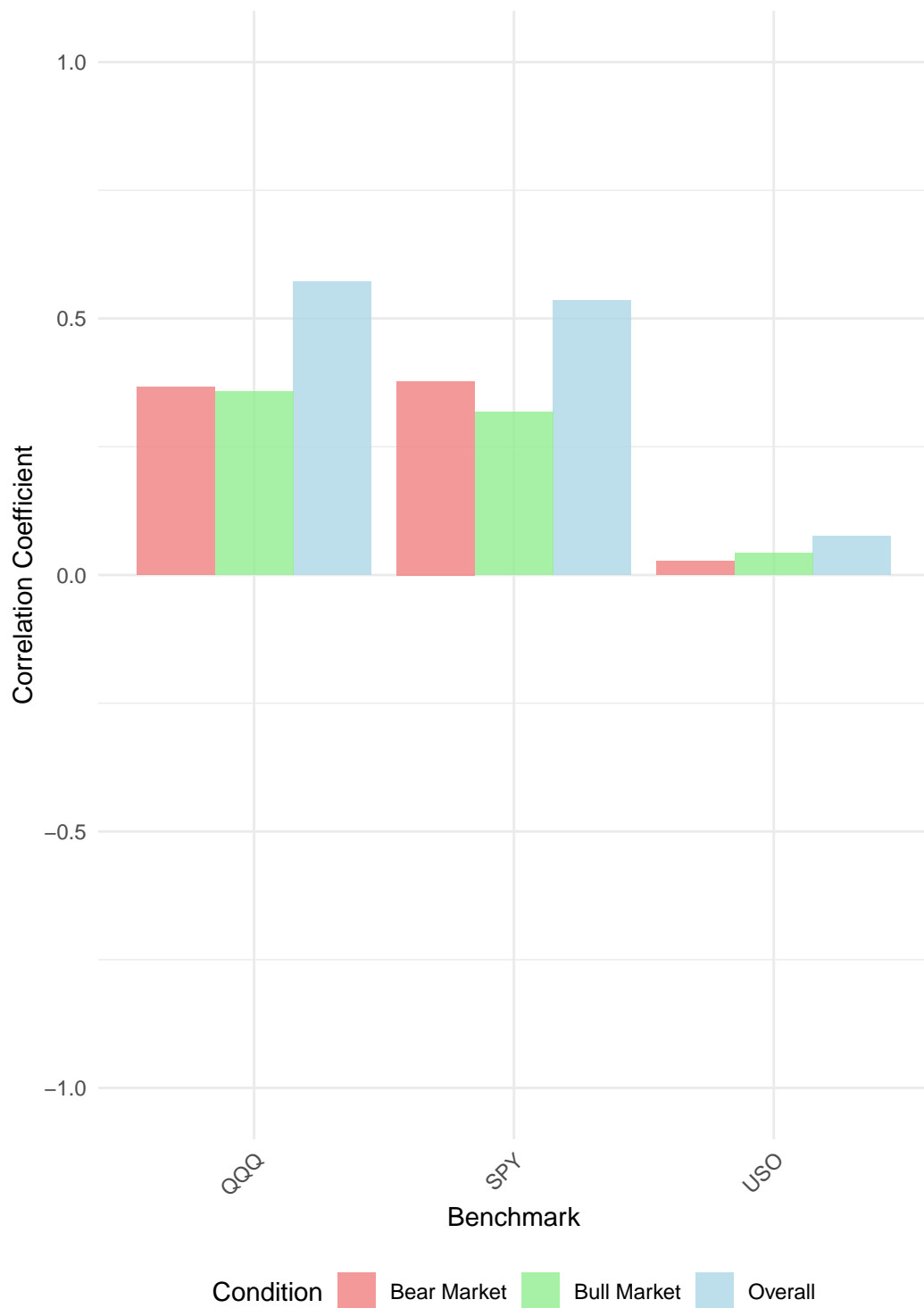
Volatility Regime Correlations: ELF



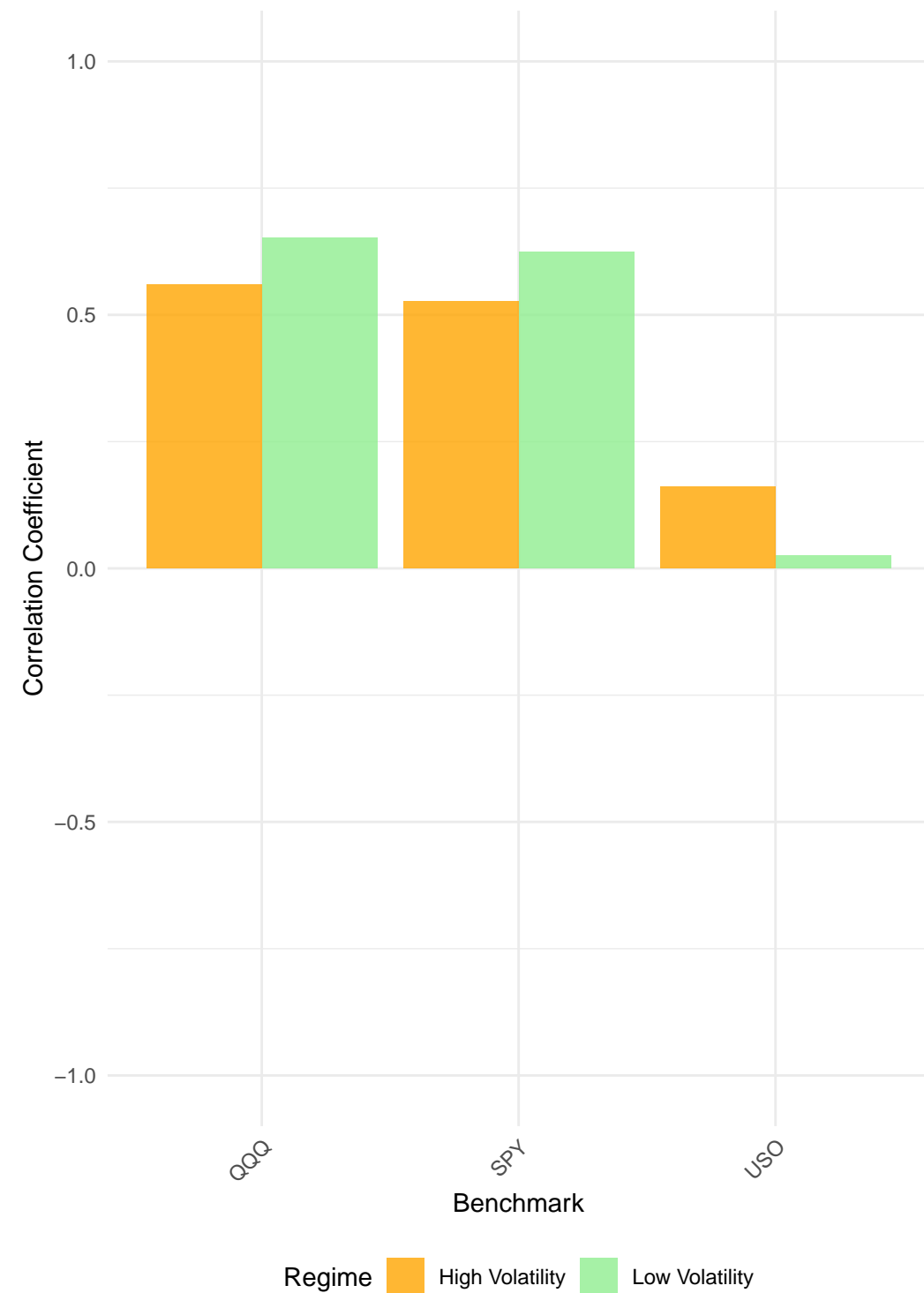
Relatively stable correlation patterns across market conditions

Analysis: PLTR

Market Regime Correlations: PLTR



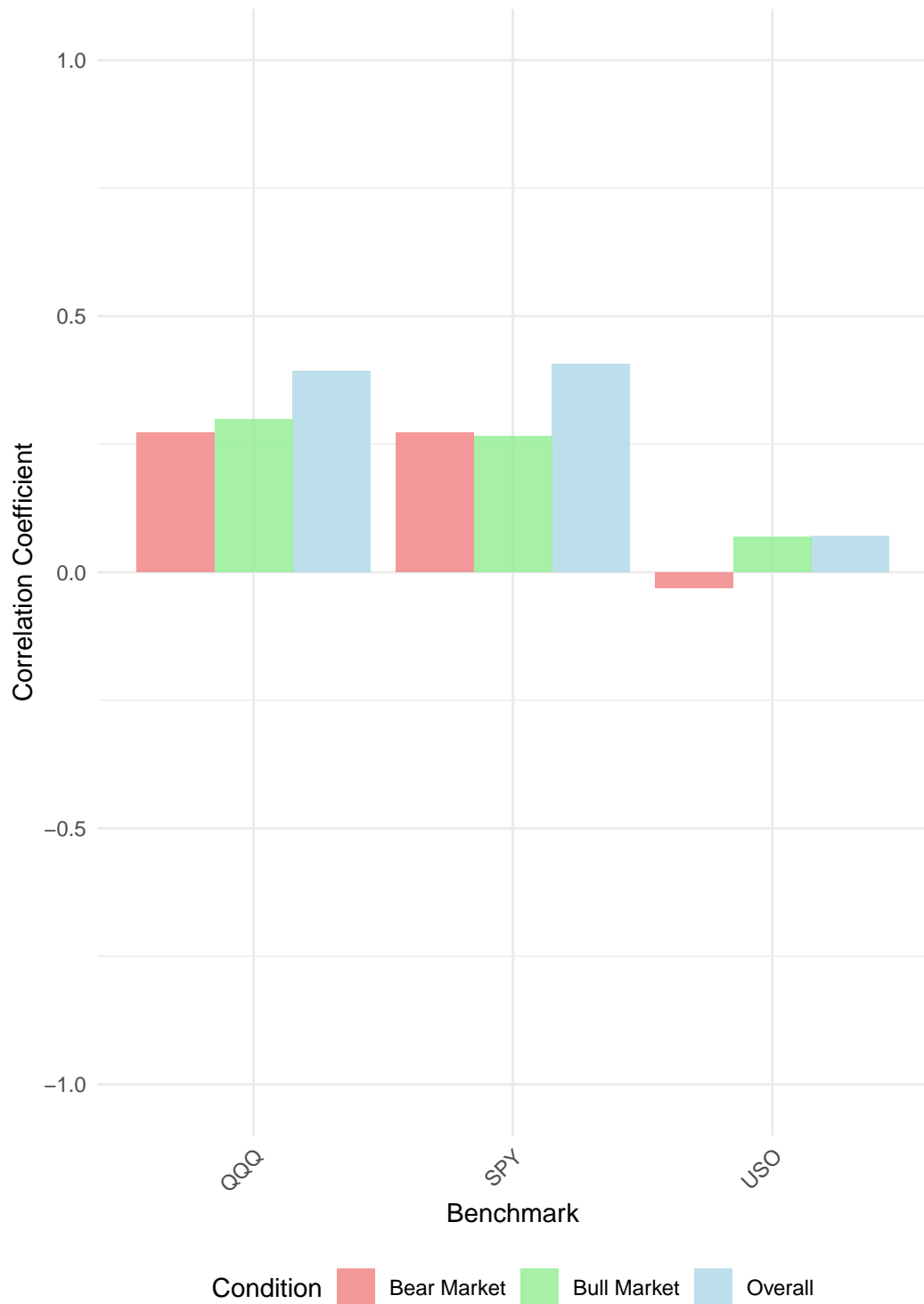
Volatility Regime Correlations: PLTR



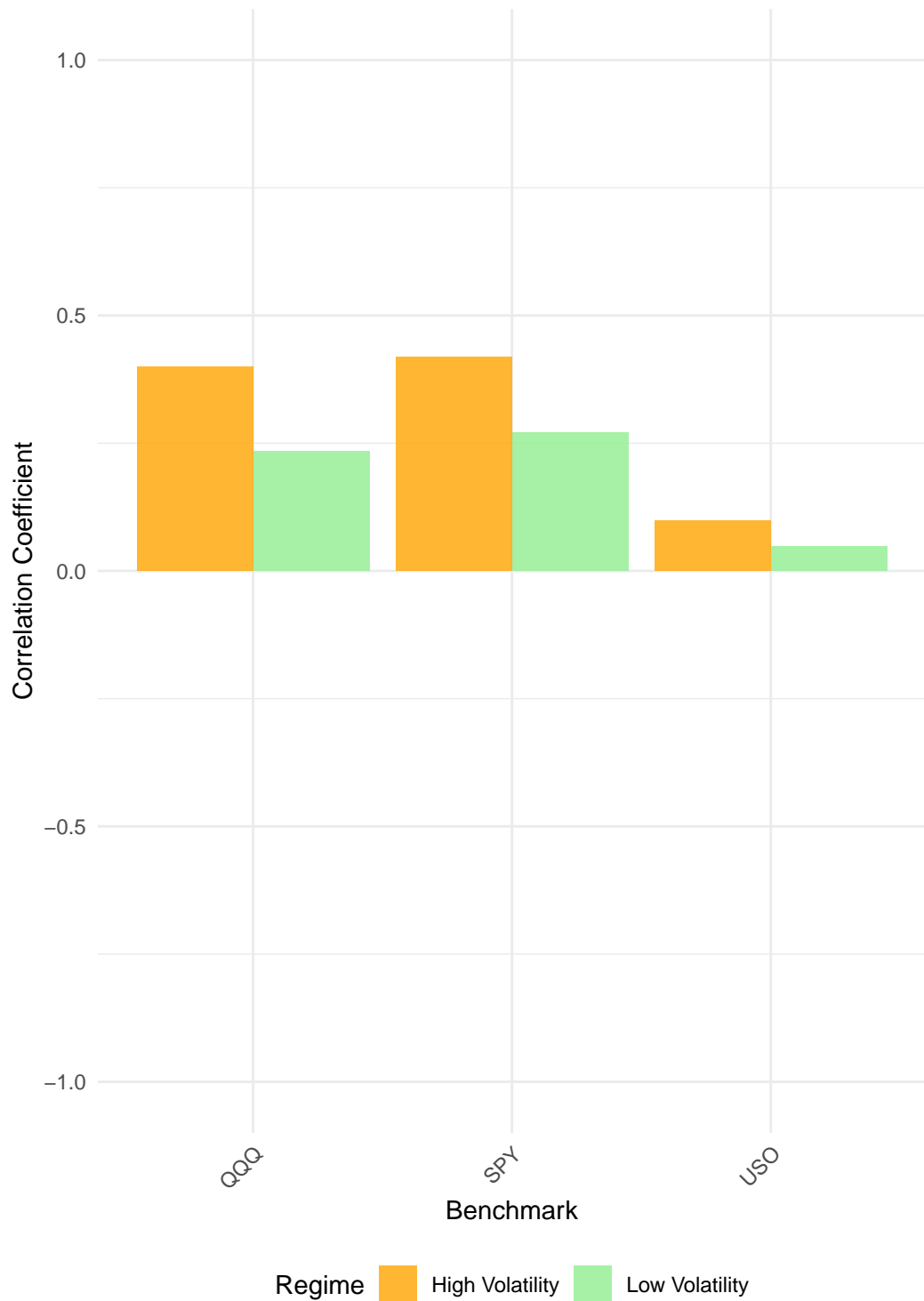
Relatively stable correlation patterns across market conditions

Analysis: BYND

Market Regime Correlations: BYND



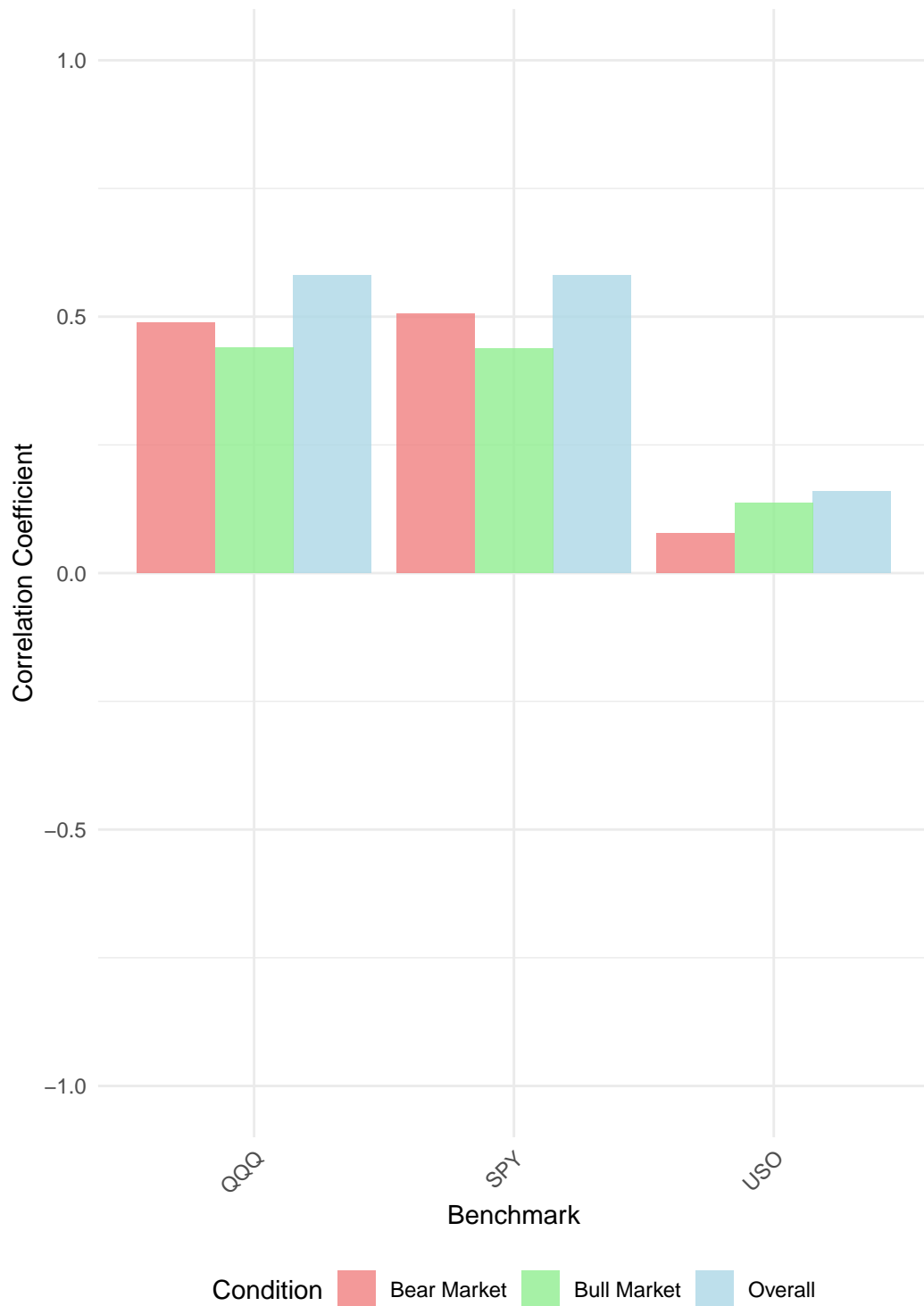
Volatility Regime Correlations: BYND



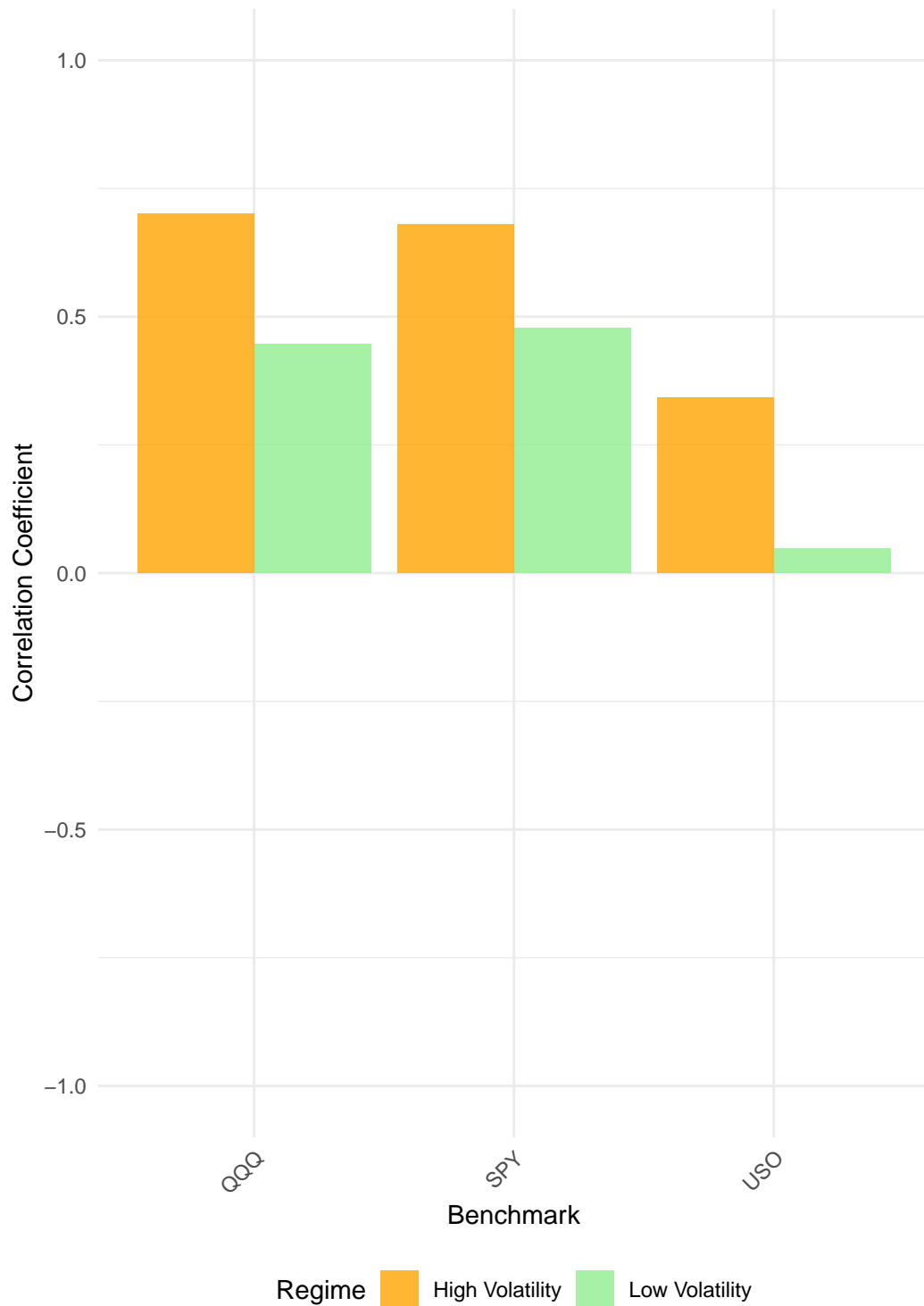
Relatively stable correlation patterns across market conditions

Analysis: HOOD

Market Regime Correlations: HOOD



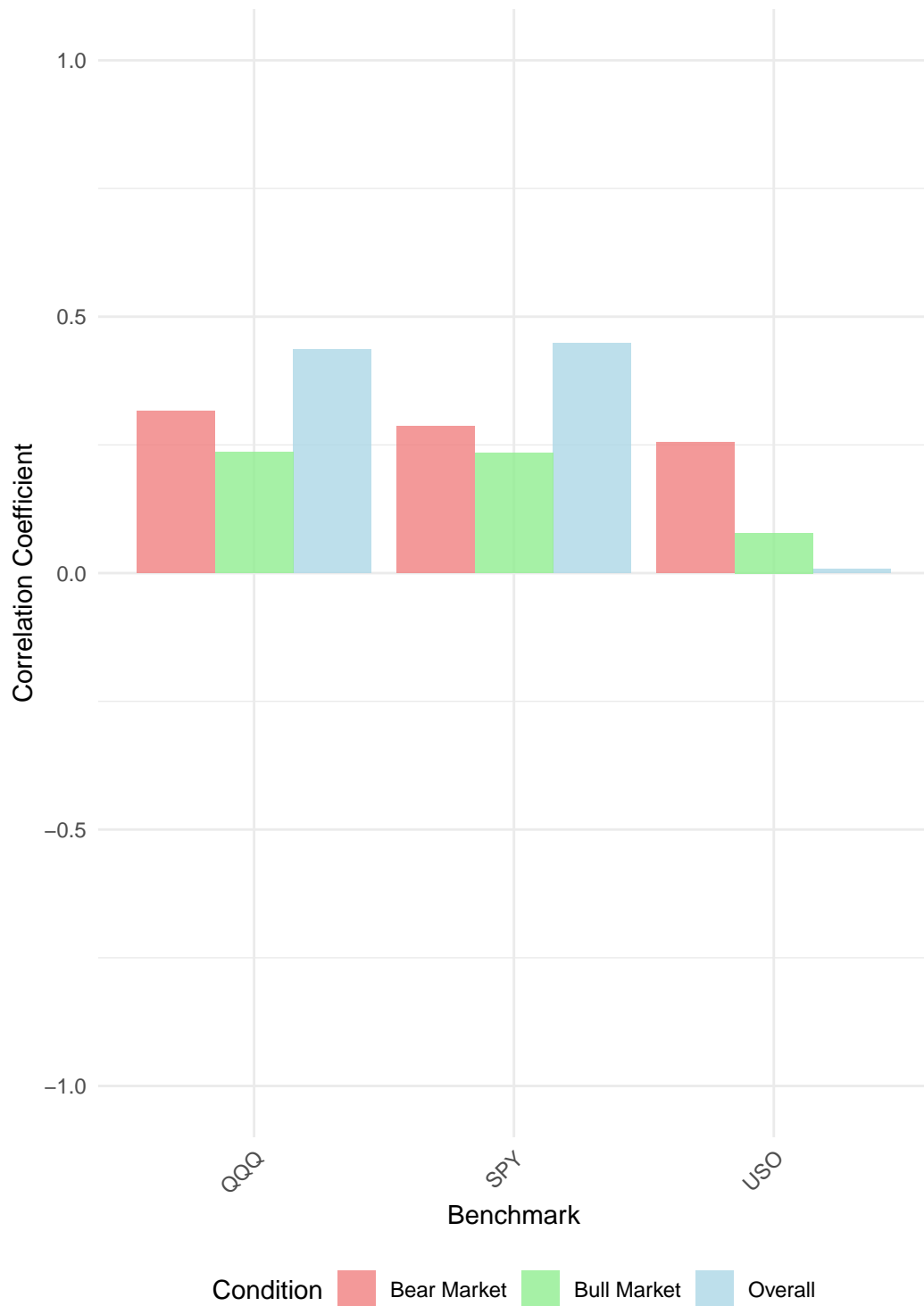
Volatility Regime Correlations: HOOD



High volatility dependency with SPY (+0.20) | High volatility dependency with QQQ (+0.25)

Analysis: TEM

Market Regime Correlations: TEM



Volatility Regime Correlations: TEM



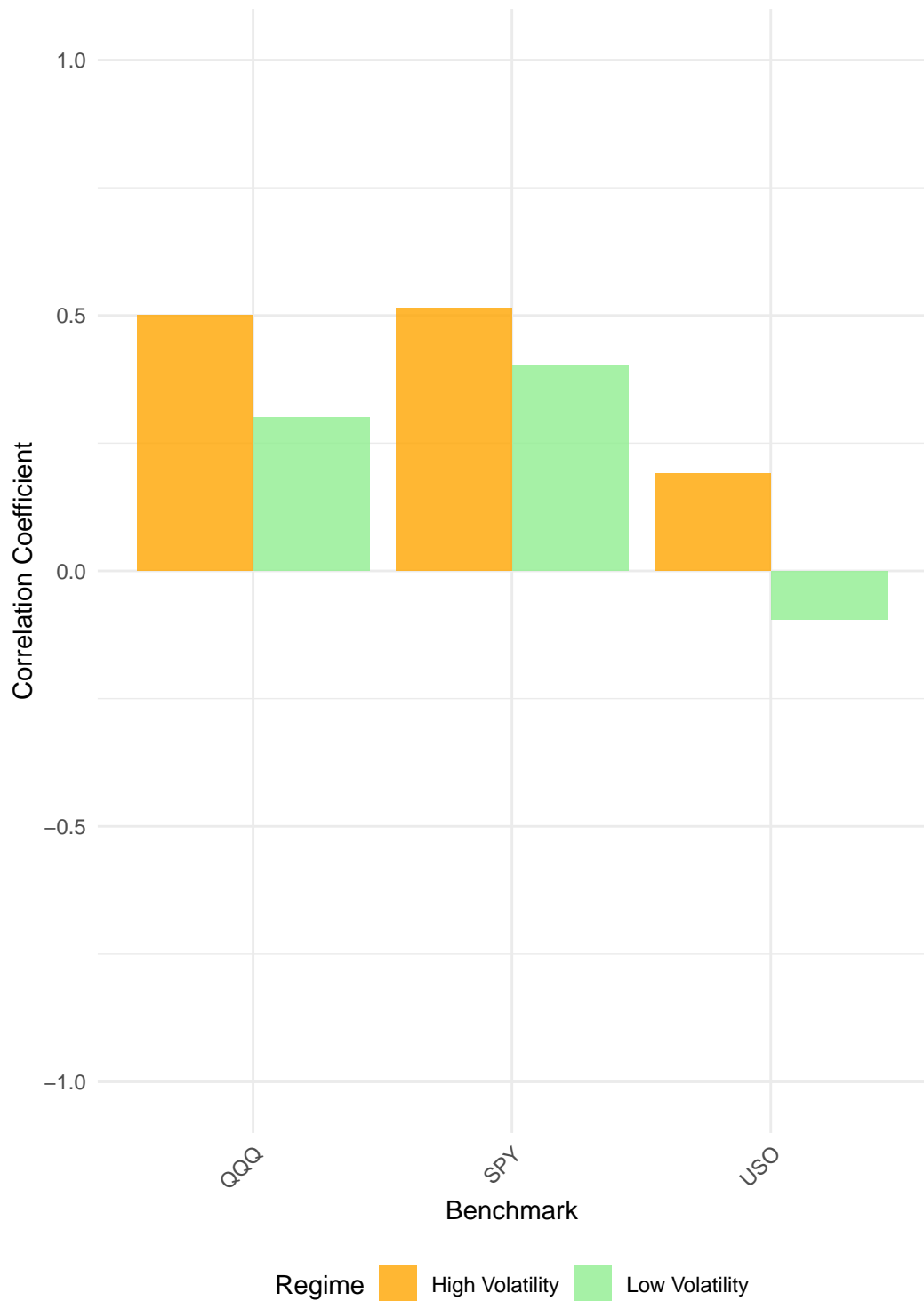
Relatively stable correlation patterns across market conditions

Analysis: CMPR

Market Regime Correlations: CMPR



Volatility Regime Correlations: CMPR



High volatility dependency with QQQ (+0.20) | High volatility dependency with USO (+0.28)

Portfolio Recommendations

Risk Management :

- . Monitor correlations during high volatility periods
- . Consider reducing position sizes in high-risk stocks during market stress
- . Implement dynamic hedging strategies for tail risk protection

Diversification :

- . Consider adding assets with low or negative correlations
- . Monitor regime-dependent correlations for portfolio rebalancing
- . Add defensive assets that maintain low correlation during bear markets

Portfolio Construction :

- . Weight portfolio away from stocks with high regime dependency
- . Consider volatility-based position sizing
- . Monitor tail dependence for extreme risk scenarios