# Unlock the Power of Market Sentiment with **Nasdaq Options Pulse**

## Introduction

In the fast-paced world of financial markets, understanding market sentiment is crucial for making informed investment decisions. Nasdaq Options Pulse offers a powerful tool for gauging investor sentiment through the analysis of stock options transactions, specifically the put/call ratio derived from it. This data provides insights into market sentiment, helping investors anticipate market movements and optimize their investment strategies.

## Why Market Sentiment Matters

Market sentiment reflects the overall risk appetite of investors in the financial market and can significantly influence prevailing and future asset prices and market trends. By analyzing the put/call ratio, which measures the volume of traded put options relative to that of call options, investors can gain valuable insights into the "fear" and "greed" barometers of the market. A high put/call ratio often indicates excessive market fear, while a low ratio may signal market complacency.

## Key Benefits of Nasdaq Options Pulse

Nasdaq Option Pulse data stands out for its superior reliability and forecasting ability. Nasdaq Options Pulse has demonstrated greater accuracy in forecasting market dynamics compared to simple put/call ratios.

1. **Enhanced Predictive Power:** The put/call ratio derived from Nasdaq Options Pulse forecasts market uptrends and downturns, providing investors with a competitive edge. For instance, empirical results suggest that high put/call ratios have strong predictive power for market uptrend movements, particularly with a 2-day lag.

2. **Greater Statistical Significance:** Empirical studies have indicated that Nasdaq Options Pulse exhibits high causality coefficients and statistical significance, making it a reliable indicator of market sentiment. The Vector Autoregression (VAR) models built to explain the variability of market (S&P 500) returns also suggest that Nasdaq Options Pulse has better predictive power when compared to simple put/call ratios.

3. **Actionable Insights:** With Nasdaq's data, investors can identify opportune moments to enter or exit the market, enhancing portfolio performance and managing risk more effectively. Hypothetical portfolios built on the put/call ratio exhibit "alpha" (excess returns), with statistical significance across different market regimes.

## Visual Insights

To illustrate the power of Nasdaq Options Pulse, let's look at some key charts and graphs:

### Put/Call Ratio vs S&P 500 Index

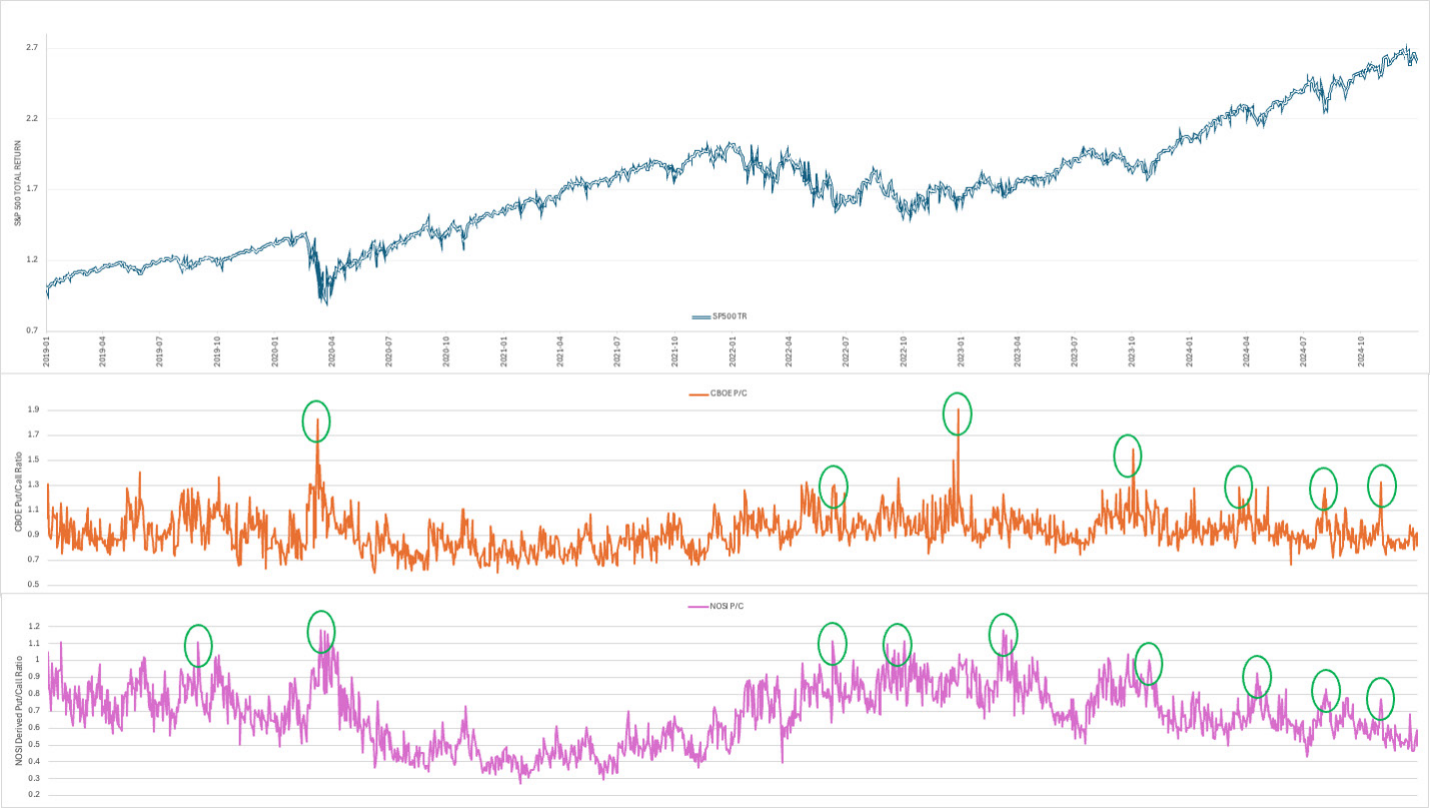


Figure 1

Figure 1 shows the relationship between the put/call ratio and the S&P 500 index. Spikes in the put/call ratio often coincide with market bottoms, indicating potential buying opportunities.

### Backtested Portfolio Performance

| Date | Portfolio | Average Daily Return | | | | |
|---|---|---|---|---|---|---|
| | | 5 Days | 10 Days | 15 Days | 30 Days | 60 Days |
| Jan 2019 - Feb 2025 | NOP PC | 9.51% | 6.95% | 7.33% | 7.83% | 7.85% |
| | CBOE Total PC | 7.54% | 6.37% | 5.51% | 5.59% | 7.88% |
| | S&P 500 | 7.22% | 7.12% | 7.10% | 7.03% | 6.86% |

Table 1

| Date | Portfolio | Average Daily Return | | | | |
|---|---|---|---|---|---|---|
| | | 5 Days | 10 Days | 15 Days | 30 Days | 60 Days |
| 2020 | NOP PC | 15.47% | 9.40% | 10.09% | 18.22% | 21.56% |
| | CBOE Total PC | 4.70% | 4.35% | 2.82% | 15.43% | 21.20% |
| | S&P 500 | 8.77% | 8.57% | 8.33% | 8.26% | 11.22% |
| 2021 | NOP PC | 10.03% | 10.44% | 10.53% | 14.06% | 10.52% |
| | CBOE Total PC | 7.78% | 10.26% | 10.66% | 11.99% | 10.15% |
| | S&P 500 | 10.75% | 10.06% | 9.96% | 9.90% | 10.15% |
| 2022 | NOP PC | 5.37% | 1.71% | -0.56% | -0.84% | 1.82% |
| | CBOE Total PC | -3.28% | -1.14% | -3.71% | -7.78% | -0.06% |
| | S&P 500 | -6.90% | -6.75% | -5.86% | -4.76% | -5.70% |
| 2023 | NOP PC | 8.85% | 4.96% | 5.36% | 7.62% | 9.84% |
| | CBOE Total PC | 1.27% | 7.33% | 7.98% | 7.08% | 10.30% |
| | S&P 500 | 9.80% | 9.24% | 8.90% | 7.64% | 6.89% |
| 2024 | NOP PC | 8.53% | 10.94% | 10.02% | 9.10% | 11.35% |
| | CBOE Total PC | 12.29% | 8.77% | 7.27% | 5.70% | 7.35% |
| | S&P 500 | 10.32% | 10.18% | 10.48% | 10.41% | 9.84% |

Table 2

Tables 1 and 2 display how backtested portfolios built using signals from Nasdaq Options Pulse perform compared to those using signals from CBOE (refer to appendix 1 for details on how these portfolios are constructed). Notably, in times of heightened market volatility—such as the COVID-19 market downturn in 2020—the portfolios based on Nasdaq Options Pulse signals showed even stronger and more consistent outperformance relative to both the overall market and those constructed from CBOE signals.

## Real-World Applications

Some of the direct applications of Nasdaq Options Pulse data for investment and financial professionals include

- **Portfolio Management:** Enhance portfolio performance by incorporating signals derived from Nasdaq Options Pulse into investment strategies. For example, portfolios formed by analyzing the 5-, 10-, 15-, 30- and 60-day average return (table 1 and 2) after the sentiment indicator signals a “fear” in the market have shown to outperform a buy-and-hold strategy.
- **Risk Management:** Identify periods of heightened market fear to manage risk and protect investments. The put/call ratio also serves as a contrarian indicator, particularly effective in gauging market “fear” and predicting market rallies following downturn.
- **Market Timing:** Use sentiment data to time market entries and exits more effectively. The Granger Causality test results indicate that the signals derived from Nasdaq Options Pulse act as a leading indicator of market returns, highlighting its forecasting ability.

## Conclusion

Nasdaq Options Pulse offers a powerful mechanism for understanding market sentiment and applying it for various investment needs. With its superior forecasting ability and actionable insights, this data can help investors make more informed investment decisions and optimize their investment strategies to achieve better financial outcomes.

Unlock the potential of market sentiment with Nasdaq Options Pulse and stay ahead of the market!

## Appendix 1

The backtested portfolios are formed by:

1. Calculating the moving average of put-call ratios by looking back x number of days (x=5, 10, 15, 30, 60).
2. When on a particular day the put-call ratio exceeds the moving average, we enter the market the next day.
3. Holding the S&P 500 index and exiting the strategy at the end of day x+1.

## Appendix 2

### Vector Autoregression (VAR) Model Results:

| VAR Model Summary | |
|---|---|
| **No. of Equations** | 2 |
| **No. of Observations** | 1548 |

**Results for equation S&P 500 (Total Return), with CBOE Put/Call Ratio, lagging 1- and 2-day**

| | coefficient | std. error | t-stat | prob |
|---|---|---|---|---|
| const | 0.074659 | 0.237346 | 0.315 | 0.753 |
| L1. S&P 500 (TR) | -0.178169 | 0.026891 | -6.625 | 0.000 |
| L1. CBOE P/C | -0.596291 | 0.290165 | -2.055 | 0.040 |
| L2. S&P 500 (TR) | 0.086258 | 0.026454 | 3.261 | 0.001 |
| L2. CBOE P/C | 0.599123 | 0.279631 | 2.143 | 0.032 |

**Results for equation S&P 500 (Total Return), with Nasdaq Put/Call Ratio, lagging 1- and 2-day**

| | coefficient | std. error | t-stat | prob |
|---|---|---|---|---|
| const | -0.077586 | 0.128222 | -0.605 | 0.545 |
| L1. S&P 500 (TR) | -0.170188 | 0.025332 | -6.718 | 0.000 |
| L1. Nasdaq P/C | -1.317770 | 0.362551 | -3.635 | 0.000 |
| L2. S&P 500 (TR) | 0.068200 | 0.025847 | 2.639 | 0.008 |
| L2. Nasdaq P/C | 1.547703 | 0.358449 | 4.318 | 0.000 |

Table 3

Table 3 compares the signals derived from Nasdaq Options Pulse to that of CBOE in their ability to explain the variability of S&P 500 returns. The greater statistical significance of Nasdaq Options Pulse signal points to its explanatory power.

## Appendix 3

### Granger Causality Test Results:

| Nasdaq Options Pulse put/call ratio | | | |
|---|---|---|---|
| **Null Hypothesis** | **Observations** | **F-Statistics** | **P-Value** |
| Put/call ratio does not Granger cause S&P 500 total return in 1 day | 1546 | 0.1193 | 0.7299 |
| Put/call ratio does not Granger cause S&P 500 total return in 2 day | 1543 | 9.3526 | 0.0001 |
| Put/call ratio does not Granger cause S&P 500 total return in 3 day | 1540 | 6.5001 | 0.0003 |

Table 4

Table 4 shows the Granger causality test results for the Nasdaq put/call ratios. The data (p-value) clearly indicates that Nasdaq put/call ratio acts as a Granger cause for the S&P 500 yields when lagging by 2-and 3-day, affirming its forecasting ability.