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Historical Option Price Charts

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Historical Option Price Charts

Objective:

To explore how historical option price charts can help in understanding market behavior and forming strategies.

Key Takeaways:

Benefits of historical option price charts.
Analyzing option price behavior over time.
Using charts for different option strategies.

What are historical option price charts?

Unlike stock prices, which are determined by actual trades, option prices fluctuate based on the movements of the underlying stock even when there are no trades. To chart option prices over time, we use the mark-to-market prices or the midpoint of the best bid and ask prices, which we consider the fair value at each moment in time.

For single-leg option trades, we can overlay the trade prices and volumes on these charts to see how the trades have impacted the option prices.

What can we plot to help understand option price changes?

Since option prices are derivatives and influenced by various factors, plotting these elements can help us understand the changes in option prices.

Key factors to plot include:

- Implied volatility of the option
- Changes in the underlying stock price
- Events that can impact option premiums, such as earnings announcements

Implied Volatility and Option Prices

By plotting implied volatility alongside option prices, we can visualize how changes in implied volatility impact option premiums. This simultaneous plotting helps us understand the relationship between implied volatility fluctuations and option price movements.

Stock Prices and Option Prices

Option prices are highly sensitive to stock price movements due to their delta and gamma, which determine how the option price responds to changes in the underlying stock.

Additionally, options experience time decay. By plotting stock prices and option premiums over time, we can observe how option prices react to stock price fluctuations and time decay.

Option Prices and Binary Events

Option premiums account for potential gap moves or catalyst-driven events with high uncertainty that have potential for significant price swings.

By plotting charts around such events, like earnings announcements, we can observe how option prices behave before and after these events.

Option Bid - Ask Prices

Since option price charts typically reference the midpoint or mark-to-market prices derived from the bid-ask market, it's useful to also plot the bid and ask prices.

This allows us to see how wide the market is around the fair value, track changes in the spread over time, and observe the high, low, and average spreads.

Understanding these aspects helps assess the liquidity of the option and aids in order execution and placement.

Benefits of Option Price Charts

Understanding Market Dynamics: Gain insights into how options behave over time and in response to various factors.

Price Discovery: Assess the fair value of options based on historical data.

Liquidity Assessment: Evaluate option liquidity to enhance order placement and execution quality.

Strategy Testing: Test and validate trading strategies using historical data.

Risks of Option Price Charts

Historical Data Limitations: Historical data provides a retrospective view and does not guarantee future results.

Changing Conditions: Future market conditions and factors may differ significantly from the past.

Data Imperfections: Historical data may contain imperfections, omissions, errors, and outliers that can affect the accuracy of observations.

Incomplete Information: Charts do not capture all relevant factors, so they should not be relied upon exclusively for decision-making.

Using Option Price Charts with Different Strategies

You can plot multi-leg option spreads to observe how strategies such as call spreads, calendar spreads, butterflies, and straddles have evolved over time.

This approach adds a dimension to your analysis, allowing you to see how combining options into various strategies performed and to test multiple scenarios and hypotheses to determine which strategy was optimal in different situations.

Actual Examples of Option Price Charts

We will illustrate single-leg and multi-leg option strategies, examining the detailed chart data for each example.