Strategy Ideas User Guide

Feature Summary
The Strategy Ideas feature allows a user to quickly "backtest" how well various covered call strategies have performed over the last 2 years. By comparing covered call strategies versus straight long stock, it is possible to demonstrate that consistently applied conservative call writing strategies often provide significant additional returns while not adding to position risk.

Fidelity provides 2 year historical return results for nine different pre-generated backtests for all optionable stocks. These results are calculated for covered call strategies using 3 "Rollover Frequency Periods" for each of three different "Delta Ranges". Terms are described here:

"Rollover Frequency Period" – The number of calendar days (XX) from the call sell date until the expiration of that call. In practice, the chosen expiration cycle is the regular (non-weekly) expiry that is closest to XX days from the sell date.

"Delta Ranges" – Delta is defined as the approximate percentage chance that an option will finish in the money. For the purposes of covered call strategies, different chosen deltas of the written calls will affect strategy performance. An option with a higher delta will carry a higher premium, but it will also carry a greater probability of getting called away from the option writer. The Strategy Ideas tool provides pre-generated results for three delta ranges to appeal to clients with different risk tolerances and investment goals. "At the Money" calls are defined as those nearest to 50 deltas, and thus have a greater premium and greater probability of being called away. "Near the Money" calls are defined as those nearest to 35 deltas, and "Out of the Money" calls are defined as those nearest to 20 deltas. Following the above logic, an out of the money call will have the least amount of premium but will also have the lowest probability of getting called away.

General Methodology and Assumptions
A series of consistent rules and assumptions are used to ensure fair comparisons between all strategies.

For the purposes of this example, a 30 day Out of the Money (20 delta) strategy on company XXX is assumed, and all entry and exit prices are based on midpoint pricing.

1) The start of the backtest interval is defined as 2 years prior to today's date. At the start of the initial backtest interval, a long position of 100 shares of XXX is taken on the day's closing price. A short call position is taken simultaneously on the option with a regular (non-weekly) expiry that is closest to 30 days from the start date and with a delta closest to 20.
2) The short call position is only entered if the selected call has a bid/ask spread that is smaller than twice the legal market width as of the day's closing price. The rationale is that customers would be highly unlikely to take option positions if the markets are too wide.
3) Because of the double legal width condition, it is possible to have a position that begins with a stock component only. An offsetting short call position will eventually be entered into in subsequent roll periods when the bid/ask markets have narrowed to less than double legal width.

4) Entry/Exit Logic – Once the first option is sold, it will always be closed (purchased) on the following standard expiration Friday. Midpoint pricing is used whenever the bid/ask spread is less than legal width. In cases where the markets are wider than legal width, intrinsic value is used as the repurchase price.
5) At the same time as the closing call purchase, another short call will be entered for the following month's expiration where the delta is nearest to 20. This call will only be "sold" if the bid/ask market is less than double legal width; if the markets are too wide, no covered call will be initiated for that backtest period and a straight long stock position will be held.
6) The above process is repeated until the final day of the backtest, when both the stock and option positions are closed. At this point, all strategy statistics are calculated.
7) It is assumed that there will be no early exercises during the covered call strategy.

Note again that the above example was written for 30 day Out of the Money covered call strategies. In examples with different Rollover Frequency Periods and Delta Ranges, the same methodology applies. For example, a 90 day At the Money Strategy would simply begin by looking for the call with a delta closest to 50 and where the time to expiration is closest to 90 days.

A person that owns a simple long stock only position or a covered call position (Long Stock + Short Call) is entitled to the dividend on the stock. For this reason, dividends are accumulated in the stock portion of the strategy profit and loss.

Pre-Generated Backtest Fields

After choosing a timeframe (30,60, or 180 day rolls) and the number of contracts, several fields are displayed which help the investor to make the appropriate decision for his/her own portfolio. The appropriate strikes corresponding to the timeframe and delta range are displayed in a column format. "At the Money" strikes are defined as those nearest to 50 deltas, "Near the Money" are defined as nearest to 35 deltas, and "Out of the Money" are defined as the nearest to 20 deltas. The following fields are added to help in the investment decision:

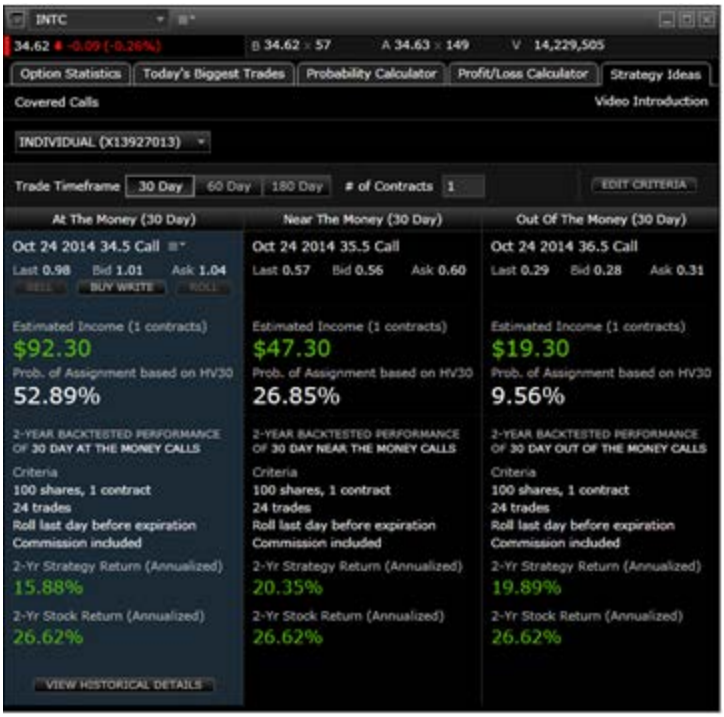
The "Selected Strike" is chosen as the strike in the current market which most closely matches the chosen criteria above.

"Estimated Income" is the initial amount that the client will collect for selling the calls, and it is also the total amount that the client will net on the calls if they do not get called away. Note that the estimated income field includes commissions.

"Probability of Assignment" is the percent chance that the option finishes in the money and gets called away. By definition, the probability of assignment will always be higher for At the Money options than for Near the Money and Out of the Money options. More on the Probability of Assignment can be found in "Probability of Assignment Calculation"

"2 Yr Strategy Return" is the annualized return for the combined long stock and short call position from 2 years ago until now.

"2 Yr Stock Return" is the annualized return for the stock position alone from 2 years ago until now.



Screenshot is for illustrative purposes.

Pre-Generated Backtest Fields Summary

Historical Performance Drilldowns for Pre-Generated Backtests

Modeling trades further allows the user to dive down more into the historical details of the chosen strategy. The picture below illustrates the drilldown criteria:

Screenshot is for illustrative purposes.

Historical Performance Drilldowns

"Average Income/Trade" is the average amount that has been collected at trade initiation over the previous two year interval.

"Average Profit/Trade" is the average amount that the short calls contributed positively to the Strategy P/L per trade interval. A positive "Average Profit/Trade" number indicates that the user was able on average to purchase the call back for less than he sold it. A negative number indicates that the user paid in excess of the opening price to close the position.

“Finished ITM” and “Finished OTM” total how many times the calls were in or out of the money on the days they needed to be rolled.

Clicking within the chart allows the user to view the “Sale Price” and “Cover Price” for every option in the time series.

Probability of Assignment Calculation

With the end goal of achieving a high level of agreement between the values of the probability of assignment calculation and the currently used probability cone on the Fidelity platforms, Livevol implemented a similar approach to the calculation that is already in place.

The calculation projects a normal distribution of stock prices over the life of the option based on calendar time until expiration and uses a historical volatility input that is closest in duration to the user selected roll period. The normal distribution assumes no drift. Building off the last trade price and taking into account the amount of time remaining in the trading day, a range of possible expiration values for the underlying are generated. The percentage of expiration values that are above the strike price reflects the probability percentage that the option finishes in the money and the probability the call seller is assigned.

Assumptions

- Stock price movements are normally distributed
- Percentage changes in the stock price are normally distributed
- No drift in the stock price over time
- Time to expiration calculations over the weekend are based on time from the Friday close
- Intraday time bleed is based on a 6.5 hour trading day (Monday through Friday)

Formula

Probability of stock being above the strike price at expiration
NORMDIST(X,mean,stdev,cumulative)
X = Strike
Standard Deviation = Mean * sqrt(volatility/(365/(calendar days + percent of trading day remaining)))

Important Notes

- Underlyings with high implied volatilities may show results where the “At the Money” option is substantially offset from the current stock price. This is due to the “At the Money” being defined as the nearest to 50 delta option, which works very well in normal volatility environments but results in deviation in high volatility environments. The 50 delta option for a high volatility underlying is typically substantially higher than the current stock price.
- Certain underlyings with very few option strikes may generate a result set where the “At the Money” option is identical to the “Near the Money” option. This would happen in a case where only a 55 delta option and 10 delta option exist for the underlying.
- “Double legal width” exit logic assures that an option trade will not be opened if the bid/ask market is especially wide. In these cases, a long stock position is held until the next cycle where the bid/ask market meets the “less than double legal width” condition.

Fidelity Active Trader Pro Platforms[SM] are available to customers trading 36 times or more in a rolling twelve-month period; 120 times or more receive advanced charting with Recognia anticipated pattern and events and Elliott Wave analysis.

Options trading entails significant risk and is not appropriate for all investors. Prior to trading options, you must receive a copy of Characteristics and Risks of Standardized Options, which is available from Fidelity Investments, and be approved for options trading. Supporting documentation for any claims, if applicable, will be furnished upon request.

Greeks are mathematical calculations used to determine the effect of various factors on options.