Improper Risk Controls in Options-Based Strategies

Evaluating Options Strategies & Risks, Part 3

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In the previous two blog posts, we explored the role that excessive leverage and poor liquidity played in the "blow-ups" of some options-based strategies. In this third and final piece, we will examine the role risk controls play in preventing catastrophic losses.

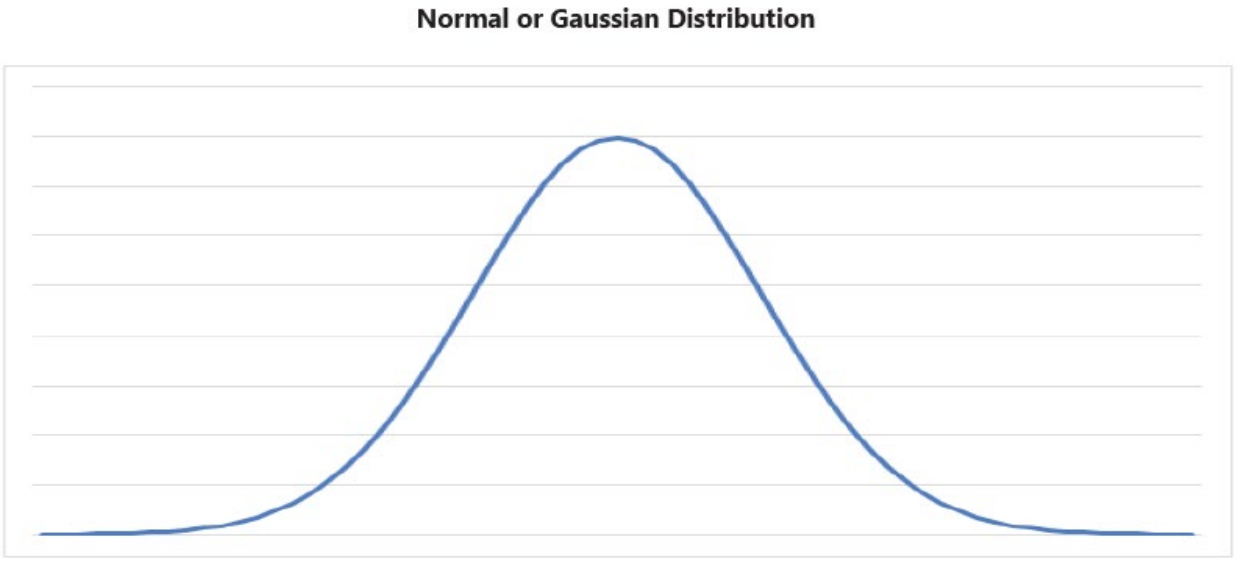
Inaccurate Assumptions Can Wreck Risk Controls

Virtually every option trader will tell you they have risk controls in place. Whether or not they're useful depends primarily on two factors:

1) Do the risk control accurately capture the risks of option positions

2) Are the risk controls faithfully followed or occasionally overridden?

A major contributor to poor risk management decisions lies with not understanding the distributional choices when dealing with financial instruments. Many assume that a security's distribution is Gaussian, or normally distributed, like the graph below illustrates:



Source: Cboe

The problem with assuming this kind of distribution is many option-based strategies will not fit into this neat structure. Options are often described as having "asymmetric" payoffs, which do not match the above image at all. If the data does not fit, assumptions about "worst case" scenarios made off the above curve might be wildly inaccurate.

Even before a proper distribution can be estimated, a series of questions must be addressed when vetting the data:

- Is it discrete or continuous? In other words, are the values the data can take limited/pre-defined or can the data take any value?
- Can a reasonable estimate of the outcomes based on probability be determined?
- How do outliers impact the results? Do they skew the distribution one way or another?
- When outliers do occur, how far do those tails extend? What happens "beyond the horizon"?

- What data set do we have available to analyze? If there are no “bad” occurrences contained within the data set, does that mean the model will assume bad outcomes are impossible?

This is just a small sample of the many questions that must be answered before any trade or position is placed, especially when using options which have asymmetric payoffs. Most blow-ups occur simply by an underestimation of the convexity, or non-linear behavior, that options bring into a portfolio.

These are points to bring up when considering an options strategies as it can give advisors a better handle on how the risk controls are developed.

Failing to Adhere to Risk Controls

That said, simply having risk controls is not enough. One must actually stick to the risk controls when the going gets tough. Failing to implement risk controls can have catastrophic consequences. Although risk controls exist to protect against major losses, investors can let emotions overcome logic, and let their well-designed risk controls fall by the wayside. The best risk controls in the world are useless if they are ignored or overridden.

In some of the historic blow-ups, there was a tendency to “let it ride” or even worse, “double down” on a losing position. After the fact it is difficult for outside observers to determine what decisions were made by a doomed manager in the heat of the moment. However, it is sometimes possible to identify when a desperate strategy hangs on to a losing trade far too long in hopes of a reversal. In extreme cases, a desperate strategy might increase their exposure in hopes that a big win in a trade will recover any previous losses. Like a Blackjack player using a “Martingale” strategy, this is a risky approach that can bankrupt a player.

When evaluating an options strategy, gain insight into the manager’s risk controls and methods for following them. Some questions you might ask are:

- How does the strategy define risk?
- How does the strategy manage risk?
- How integral are the risk controls in the overall process?
- Is there a dedicated person or people focused upon managing risk?
- How close is that risk officer to portfolio management process?
- What kind of stress tests or scenario analysis are run on the strategy?
- How frequently are those tests run?
- Are there possible scenarios that could happen that fall outside of what you typically test?
- What is the “worst case” scenario?

Learning from Others’ Mistakes

While the names change and the circumstances are different, a few “common threads” or themes emerge when examining options strategies that have blown up.

Excessive leverage, lack of liquidity, and insufficient risk controls can often be primary drivers of blow-ups. While each are major stand-alone risks, a multiplier effect can occur when all three are in play. Problems can snowball

and get out of hand quickly resulting in a nightmare for advisors and clients. For a case study, read the white paper "Learning from Others' Mistakes: Three Common Missteps of Failed Options Strategies."

Armed with a better understanding of options-based strategies, what they can do for you and your clients, and how to best evaluate them for your portfolio construction, these strategies can play a pivotal role in helping you achieve client objectives.

About the Author

Marc Odo, CFA®, CAIA®, CIPM®, CFP®, Client Portfolio Manager, is responsible for helping clients and prospects gain a detailed understanding of Swan's Defined Risk Strategy, including how it fits into an overall investment strategy. Formerly, Marc was the Director of Research at Zephyr Associates for 11 years.

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