

Excessive Leverage in Options-Based Strategies

Evaluating Options Strategies, Part 1



There is a familiar story that pops up every so often in the pages of the financial press: “Option Strategy Blows Up, Loses Nearly All of Investors’ Money.” Readers shake their heads and wonder how anyone could be so foolish to lose 50%, 75% or 100% so quickly. This leads investors to conclude options are dangerous instruments that should be avoided altogether.

But this line of reasoning is far too simplistic.

There is nothing fundamentally dangerous or risky about options. Used correctly, options can create just about any risk/return profile desirable. Options are simply a tool. Like a power drill or an automobile, they can be used safely and be very helpful—unless the user is reckless or ignorant about their characteristics.

It is not the options themselves that are risky; it is how they are used that matters.

It is an unfortunate truth that the investment landscape is littered with strategies that blew up spectacularly over the last few decades. But there are lessons we can learn from them.

Upon examining the blow-ups that have occurred, there appear to be three primary areas where option strategies can get into trouble. Typically, it is not just one factor that sinks a ship, but a combination of two or all three of these factors. These factors are: excessive leverage, lack of liquidity, and inadequate risk controls.

This series begins with the problem of excessive leverage.

Leverage and Options

It is important to acknowledge that options are levered instruments. A typical option contract covers 100 shares of an underlying asset. The calculation for notional value is:

$$\text{Contract size X Underlying price} = \text{Notional Value}$$

If the standard contract size is 100 and the price on the S&P 500 is, say, \$2,500, an option contract on the S&P 500 has a notional value of \$250,000. Certainly, one of the first factors one should understand when dealing with options is just how much notional value is covered by a standard contract on a given asset.

That said, when option strategies tend to get in trouble with leverage, it tends to be related to the coverage ratios between the number of options shorted or written against the amount of collateral owned. Option writers are often described as having a high probability of a small gain, coupled with a low probability of a large loss. If the low-probability/high-loss scenario comes to pass, the obligation to cover the losses can overwhelm the ability of the collateral to offset losses.

Example: Writing “Naked” Options

The simplest example of this situation is writing “naked” options. Writing a naked option means the writer does not already own the underlying stock. They are writing the call option hoping the underlying will go down in value.

The chart to the right shows a standard “hockey stick” diagram that illustrates the profit and losses associated with writing a call on a given asset. The writer collects the premium, which is the compensation for assuming the risk of an option. If the asset stays flat or goes down, the option expires out-of-the-money. The writer keeps the premium and is free from any further obligation. However, if the asset value goes above the strike price, the losses are theoretically uncapped.



If the position is “covered”, meaning the writer also owns the underlying asset, the losses from the written call are offset by the gains in the long position. The owner of this trade is disappointed that the gains in his asset have been sold off to someone else but should be relieved that he was not on the hook for losses.

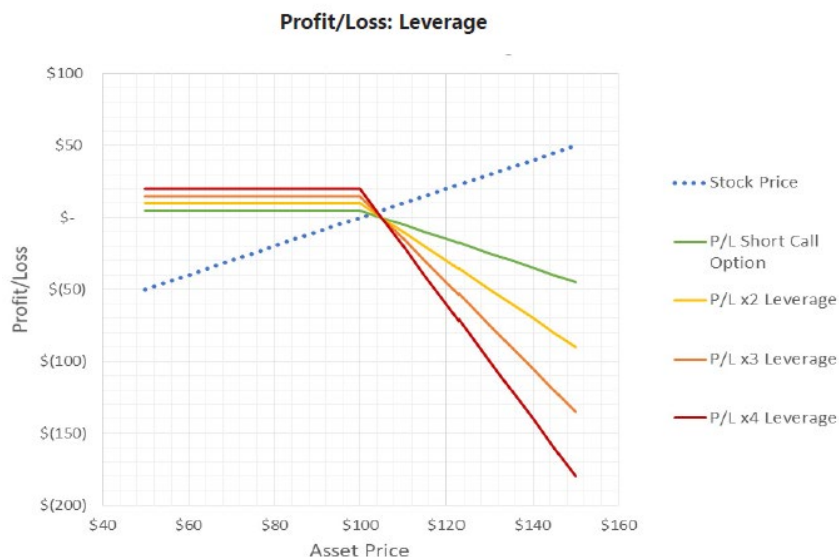
A “naked” position, however, lacks the offsetting position of the underlying asset. If the asset goes past the strike price the writer of the option is responsible for covering the losses. Those losses can rack up and without sufficient collateral the writer can find it difficult to cover losses.

How Leverage can Exacerbate Losses

This scenario can be dramatically exacerbated if the manager chooses to write multiple options on a given asset. In the profit/loss diagram below, we see a situation where someone chooses to write multiple call options on an asset thus leveraging the position.

It is frightening to see how quickly losses can get out of control when a position is leveraged.

Below is a simple illustration of the impact leverage can have in an adverse market move.



The more you bet, the more you can lose.

Evaluating Options Strategies' Use of Leverage

When analyzing the graveyard of historical blow-ups, a common theme was the excessive use of leverage when writing options.

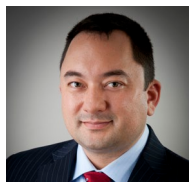
So when considering an options strategy to include in a portfolio, it is important to inquire about leverage so you can make the best decision to fit your clients' needs.

Some questions to consider during your due diligence meetings are:

- Is the use of leverage a core part of the option strategy?
- If leverage is used, is it perpetual or occasional?
- If options are written, are they naked or covered?
- Are multiple options written on the same position?
- What is the worst-case scenario?

While leverage can intensify losses, it may be even worse when liquidity also poses a problem. That will be the focus of the next post in this series.

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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