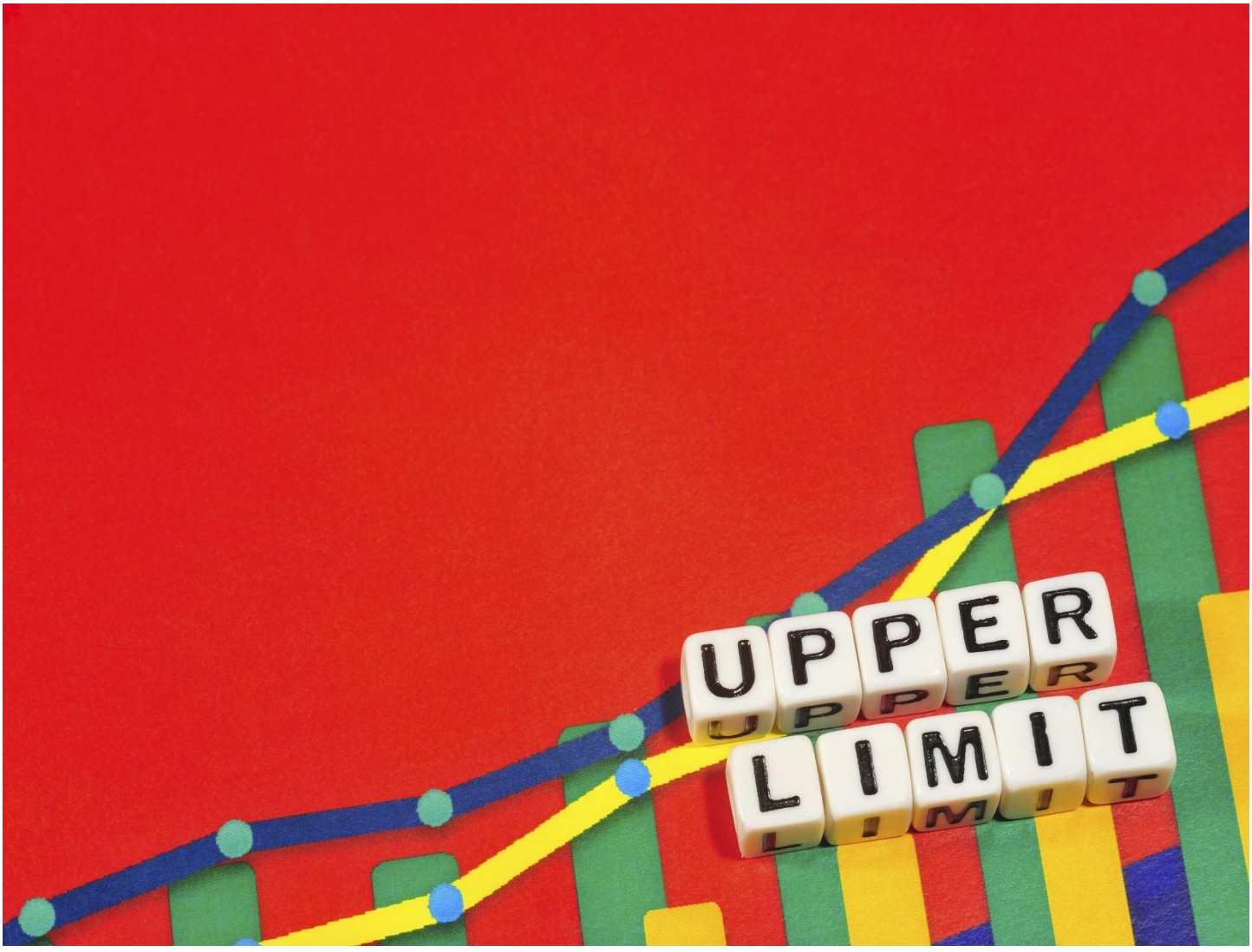
SWAN GLOBAL INVESTMENTS

What's My Cap?

How Upside Caps in Buffered ETFs are Determined



March 2025 | Swan Insights

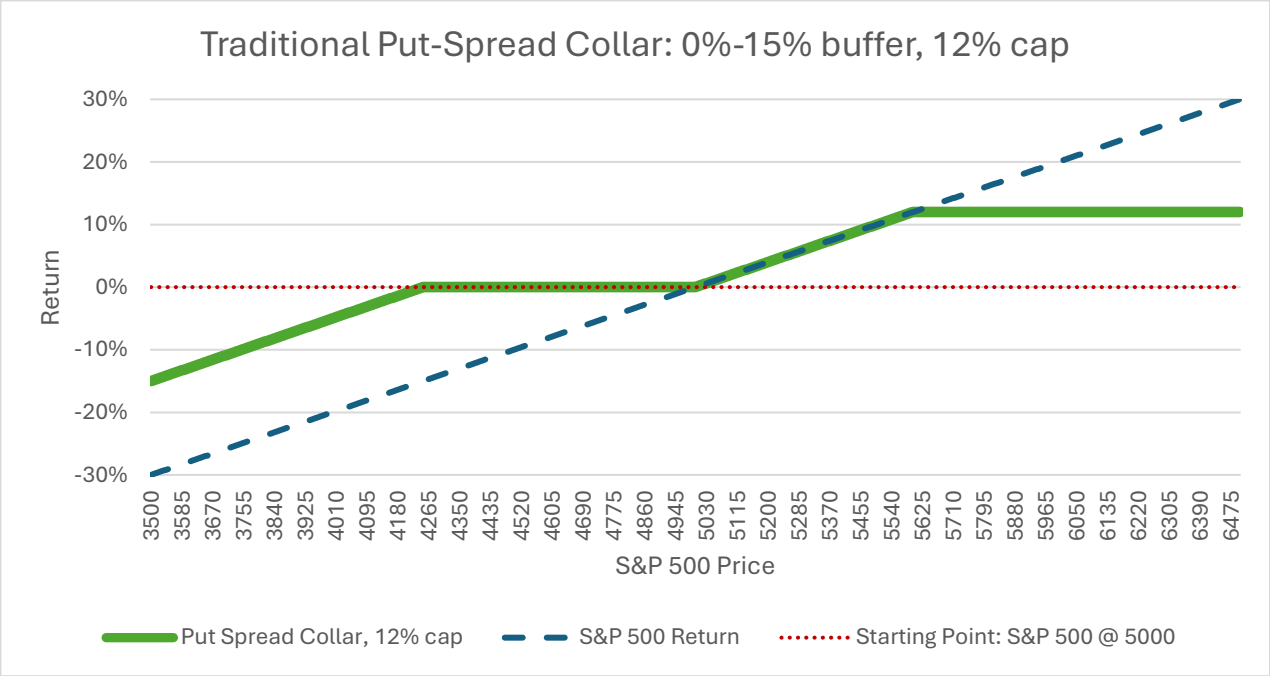
How Are the Caps Set on a Buffered ETF?

The popularity of Buffered ETFs, also referred to as Defined outcome ETFs, has exploded over the last five years. Historically there has been a wide deviation in caps over the years.

A natural question for investors is "*how are the caps set in the buffered ETFs?*"

The answer has to do with the basic structure of most buffered funds. Many buffered ETFs utilize a "zero-cost put-spread collar" trade, which combines put and call options to create the "defined outcome."

Those investing in buffered ETFs and defined outcome funds are probably familiar with the "hockey stick" graph below, which details what an investor can reasonably expect under different market scenarios. The graph shows a hypothetical buffer ETF with a one-year term, based upon the S&P 500. It has a buffer zone of 0% to -15% and a cap of 12%, meaning that S&P 500 gains beyond 12% are forgone by the investor.



Source: Swan Global Investments For illustrative purposes only. This chart should not be the sole factor used in investment decisions.

Upside Caps Are Based on the Trades Inside Buffered ETFs

So how does this structure actually work?

1) Setting the Structure

   There are hints in the name "zero-cost put-spread collar." The first hint is in the term "zero-cost." The portfolio manager structures the trade so that the cost of purchasing a put option is offset by "selling" something else. We will discuss what is sold in a moment.

2) Pricing the Downside Risk Mitigation

   After the portfolio manager establishes the fund's S&P 500 exposure, a put option is purchased to hedge against downside risk. Defined outcome ETFs have a wide range of potential "buffer" zones, but in the

above illustration the put option is bought "at the money" (ATM), meaning that if the S&P 500 ends the year below where it started the fund is shielded from losses.

The price of this put option will vary greatly depending on market conditions. If investors are bearish, the put option will be expensive. Conversely, if investors are bullish, the put option's price will be relatively cheap. But regardless of investor sentiment, one thing is certain – the put option is not free.

3) Offsetting the Cost of Downside Risk Mitigation

In this theoretical example, let's suppose the put option costs $10 to hedge the market exposure. To make the trade "zero cost" the portfolio manager must generate $10 of revenue to offset the $10 expenditure. In a put-spread collar, the first step is to sell or write a put option that will offset some, but not all the $10 cost.

As the 'buffer' level is predetermined for the strategy, the portfolio manager knows which put option must be written. In this theoretical case it is an S&P 500 put option with a one-year expiration date that is 15% out-of-the-money (OTM). The combination of the long position in an ATM put and a short position in a 15% OTM creates the buffer zone and is the "put spread" portion of the trade. Effectively the fund's investors are insulated for the first 15% tranche of S&P 500 losses, but should the S&P 500 decline further than 15% the investors are exposed to those losses on a one-to-one basis.

By writing a 15% OTM put option the portfolio manager will collect the option's premium for taking on the downside risk. In this theoretical case, assume the put option has a premium of $7. This $7 can be used to offset some, but not all, of the original put option's purchase price of $10.

4) Covering the Cost Gap

The final step in the process is to close the gap and generate another $3 to fully offset the $10 purchase price of the long put. The portfolio manager will sell or write an out-of-the-money call with a value of $3 to balance the books. This last step creates the "collar."

The process of selecting the call to write is slightly different from the process of selecting the put to write. In this example the portfolio manager knows the short put must be written 15% out-of-the-money; that is how the 0%-15% buffer is created. The premium collected for writing that put is a variable determined by the market; in our example, it is $7.

When it comes to writing the call, the variables are reversed. The portfolio manager knows that he must balance the books and generate an additional $3 of premium to have the trade be "zero cost," but he doesn't get to choose how far out of the money that option will be. That is determined by the market prices for call options. It could be that a $3 call option is 9%, 12%, 15%, or more OTM. Whichever call option is selling for $3 is the one the portfolio manager must buy, and that dictates the cap for the trade.

To recap, here are the option trades that created the 0% to -15% zero-cost, put-spread collar with a 12% upside cap in our example:

Position	Exposure	Cost (red) or Premium Gain (black)
S&P 500 exposure	Long	
ATM put option	Long	($10)
15% OTM put option	Short	$7
12% OTM call option	Short	$3

The example above assumed a certain set of prices for the options purchased and written. However, option prices are extremely dynamic and will vary depending on volatility and market conditions. To maintain its 0%/15% structure, the portfolio manager must always purchase an ATM put option and write a 15% OTM put option,

regardless of what the market price might be. The only variable in the equation is the short, OTM call option. The call will be written, and thus the caps set, at whatever point it takes to "balance the books" and maintain the zero-cost structure.

The multiple parts and the variability in the pricing of these parts explain why the upside caps in buffered ETFs have fluctuated over the years.

Summary

Buffered ETFs, or Defined outcome funds, have proved immensely popular. Both advisor and investors may like the degree of certainty that comes with these structures. However, investors should realize that buffer funds must be ***price-takers*** in order to maintain their structures. Most defined outcome funds are passively managed. With zero-cost put-spread collars, the caps are set by the market, so there is little the portfolio manager can do under the strict limits of a buffered outcome to gain an edge.

About the Author:

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

Important Notes and Disclosures: