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GLOBAL X ETFs RESEARCH

Options Collar Strategies as a Risk Management Tool

“Risk-off” remains a prevailing sentiment in 2023 following the notable declines in equity and fixed income markets in 2022. Through Q1 of 2023, flows into U.S.-listed fixed income ETFs doubled their equity ETF counterparts, perhaps a result of investors looking to lower equity betas and risk levels within their portfolios.¹ Within the ETF marketplace, another way investors can potentially modify systematic risk in their portfolio is to implement a defensive options strategy on an asset or index, such as an options collar. In this piece, we highlight the growth of this type of strategy in the U.S. ETF market and explore different styles of potential implementation.

Key Takeaways

- We expect growth in options collar strategies in ETFs to continue as investors prioritize risk management in these difficult market conditions.
- Options collar strategies for capital appreciation can be constructed differently, resulting in distinct risk and return trade-offs, both of which should be evaluated based on investor objectives.
- Premium costs for collar strategies can be adjusted based on preferences for the level of tail risk exposure and upside potential desired. In this post, we evaluate two common collar strategies, net debit collars and zero-cost put spread collars, to show the profiles of each.

Options Collar Strategies in ETFs Rise in Popularity

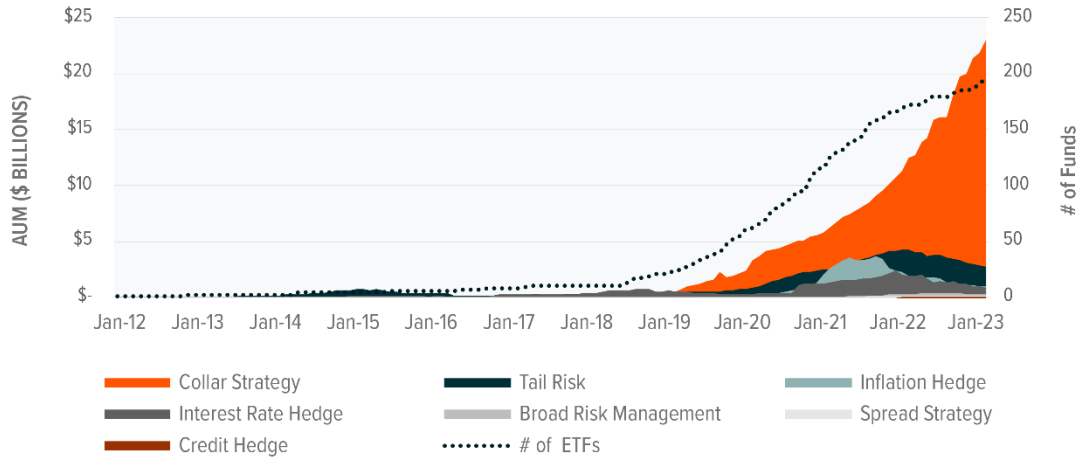
Collar strategies involve creating range bound return outcomes, often through combining a short call option position with a long put option position. Among derivative-based risk management strategies, collar strategies have had the most traction with investors. Assets under management (AUM) for options collar strategies in the ETF wrapper totaled \$23 billion as of the end of March 2023, followed by tail risk strategies, a derivative-based strategy that seeks to provide a hedge against significant downside losses on a chosen asset, at just \$2.7 billion.² Historically, collar strategies have been used to manage equity or fixed income betas more efficiently by sacrificing a level of upside participation on the reference asset or index with the goal of capital appreciation or income potential.

In this risk-off market environment, investors are starting to gravitate towards these strategies more than ever. The chart below shows that from January 2022 to January 2023 assets doubled in this segment of the ETF ecosystem. In our view, this growth suggests investors’ increasing comfort with accessing the options market in an effort to achieve a more defined level of risk and reward.



DERIVATIVE RISK MANAGEMENT ETF LANDSCAPE - TOTAL ASSETS UNDER MANAGEMENT

Sources: Global X ETFs with data from Morningstar Direct. Data as of 03/31/2023 and accessed on April 03, 2023 from Global X Morningstar Direct License. Category classifications are based on Global X's analysis of both surviving and non-surviving U.S.-listed ETFs.



Derivative-based funds and products have historically been implemented in investment vehicles that are not ETFs. Mutual funds in addition to buffered notes, a type of structured product issued by a large bank, have a longer history within this segment of the asset management industry. ETF issuers have recently launched similar strategies, largely within the past 5 years, to provide investors another avenue of options market access.

Potential Access Vehicles for an Options Collar Strategy			
Investment Type	Exchange-Traded Product	Mutual Fund	Buffered Notes
Maturity Date	None	None	Yes; Time until expiration depends on the issuing counterparty
Structure	1. ETF or ETN regulated under the Investment Company Act of 1940 2. ETNs are Unsecured Debt Obligations and subject to the credit risk of the Issuing Counterparty	Open-Ended Fund regulated under the Investments Company Act of 1940	Unsecured Debt Obligation and subject to the credit risk of the Issuing Counterparty
Liquidity	Can be bought and sold on an exchange at market price	Can be bought and sold at NAV at the end of each trading day	No secondary market; intended to be held until maturity
Entry/Exit Costs*	1. Trading commissions 2. Implicit trading costs such as bid/ask spreads and premiums/discounts	1. Potentially has front-load fees upon entry ¹ 2. Potentially has back-end fees upon exit ²	1. Commissions paid to the access broker 2. Trading costs to hedge for counterparty hedging purposes
Fees	Total Expense Ratio ³	Total Expense Ratio ³	Structuring and development costs in addition to offering expenses

¹ Front-End Load – a fee that is charged upon initial entry into a mutual fund. Front-end load fees will be dependent on the share class and varies per issuer.

² Back-End Load – also known as a contingent deferred sales charge, this is the fee that is charged upon mutual fund redemption. Back-end load fees will be dependent on the share class and varies per issuer.

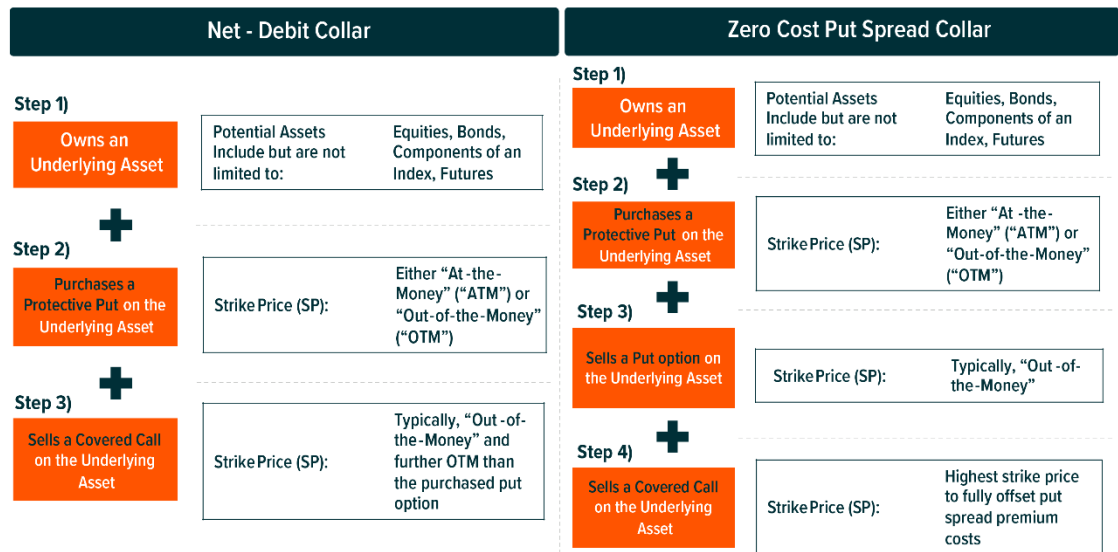
³ Reflects the total annual expense associated with ownership of the fund, including buy not limited to management fees, 12b-1 fees, and acquired fund fees and expenses.



Not All Collar Strategies for Capital Appreciation Are Structured the Same

Collar strategies can be created with different combinations of call options and put options to provide a specific exposure. Key considerations when implementing or investing in an investment vehicle with such a strategy include the strike price, the time until expiration, and the reference asset of the options used.

While there are numerous ways to implement collar strategies, we will discuss two. One type of options collar is a net-debit collar strategy, which seeks to provide a floor, or max loss, on a specified reference asset. Another iteration of an options collar is a zero-cost put spread collar, an options strategy that seeks to provide a buffer – but not a floor – on the reference asset’s downside, in which the investor is protected for a specified level of reference asset downside. Both are constructed by combining calls and puts in a different manner. A key difference between a net-debit collar and zero-cost put spread collar is that as the name would imply, net debit collars involve a net premium cost outlay to investors to implement whereas zero-cost collars are designed to not have a net premium cost outlay.



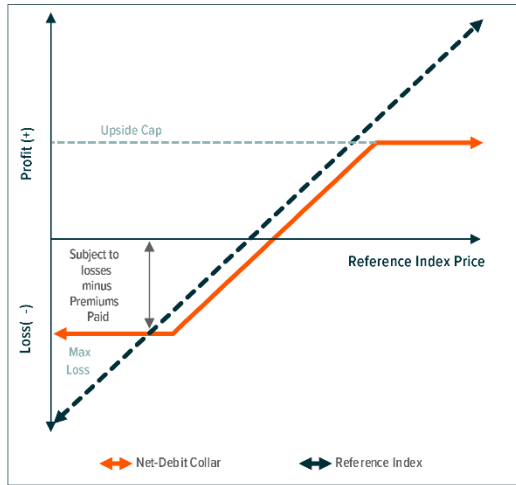
For Illustrative Purposes Only.

For net-debit collars, the premium cost each time new options positions are initiated stems from the fact that the premiums received from the sale of the call option do not fully offset the costs of the purchased put option. However, by implementing this type of collar, if the options overlay is held until the options expire, there is a max loss on the reference asset minus any premiums paid for strategy construction. This floor can help alleviate some tail risk in a portfolio.

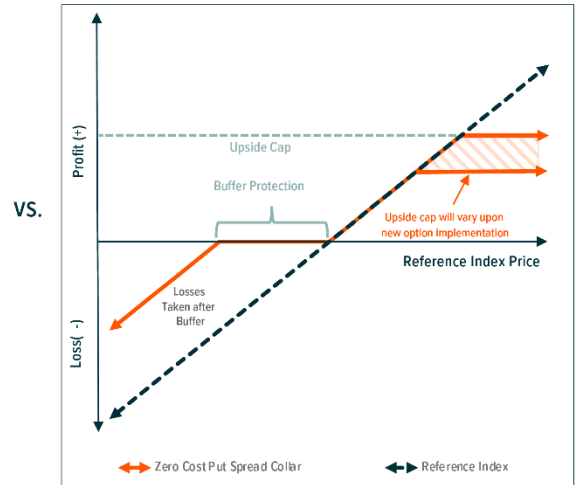
Zero-cost put spread collar investors receive buffer protection relative to the reference asset and take any losses beyond the strike price of the sold put option. However, as the strategy is designed to enter contracts resulting in zero net premiums, the strike price of the call – and therefore the upside cap – will vary upon each option reset.



Net-Debit Collar Strategy Payoff



Zero Cost Put Spread Collar Strategy Payoff



VS.

Key Characteristics

Strategy	Net-Debit Collar	Zero-Cost Put Spread Collar
Premium Cost	Net premium costs are incurred. Covered call option premiums received are expected to be worth less than the put premiums paid.	Net premium cost is expected to be \$0. The covered call option premium received offsets the put spread costs.
Tail Risk Exposure	Investors are subject to losses up to the strike price of the long put	Investors incur all losses beyond the level of buffer protection offered by the long-put spread.

Collar Strategy Example Demonstrates Risk and Reward Trade-Offs

To demonstrate the key characteristics of each aforementioned options collar strategies, we show a hypothetical scenario analysis with an example of each. The hypothetical net-debit collar owns the components of the S&P 500 (SPX) while purchasing a 5% “out-of-the-money” (“OTM”) put and selling a 10% OTM covered call. The other type also owns the components of the SPX while selling a covered call at the highest strike price possible to offset the costs of the established 5% put spread. The final results demonstrate how terminology such as “buffer” and “floor” do not mean the same thing and differentiated investment outcomes are likely.



Option Strategy Components		
Strategy Type	Collar 95-110 (Net-Debit Collar)	5% Buffer (Zero-Cost Put Spread Collar)
Underlying Asset	S&P 500 (SPX) Constituents	S&P 500 (SPX) Constituents
Long SPX Put	Strike Price 5% “Out-of-the-Money”	Strike Price “At-of-the-Money”
Short SPX Put	--	Strike Price 5% “Out-of-the-Money”
Short SPX Call	Strike Price 10% “Out-of-the-Money”	Strike Price Highest strike price to offset put costs

We show the results below and detail the impacts of each strategy’s options components. The assumptions, in which some are calculated, are as follows:

- For collar 95-110, the calculated average net premium cost is 1.69%.³ Therefore, we account for these premium costs when calculating maximum upside and downside. Premiums will vary with market conditions.
- In a 5% Buffer strategy, the calculated average upside cap is 3.13%.⁴ Upside cap will vary with market conditions.
- We assume both strategies utilize S&P 500 (SPX) index options with a time until expiration of three months, rolling their options portfolios on the third Friday of every third month.
- S&P 500 returns are over the same three-month period as the options’ terms.
- No dividends were received from the S&P 500 constituents.

Very Positive (SPX +20%) and Positive (SPX +10%) Scenarios: In an S&P 500 bull market, based on these positive scenarios, the collar 95-110 strategy may provide a higher level of upside, relative to the 5% buffer strategy, due to having a higher upside cap from contract initiation minus any premiums paid. Implied volatility is likely falling during equity bull markets, potentially lowering put premium costs for both collar strategies. However, with a history of smaller average upside caps, the 5% buffer strategy may be unable to provide the same level of upside participation.

Flat Scenario (SPX 0%): When the S&P 500 index is flat, the 5% buffer strategy, in addition to the reference index, are expected to outperform collar 95-110 due to the premium cost difference. Typically, the closer the strike price of the contract sold is to the price level of the asset upon contract initiation, the higher the potential is for a higher premium. Since collar 95-110 sells a call further OTM than the purchased put, it’s always expected to incur a premium cost, which decreases the returns.

Negative Scenario (SPX -10%): The 5% buffer strategy is expected to outperform a collar 95-110 strategy if the reference index modestly declines due to the premium cost difference. In this scenario, the S&P 500 fell -10%. This was enough for collar 95-110 to outperform the S&P 500, however, the strategy underperformed the 5% buffer strategy by the premium costs.

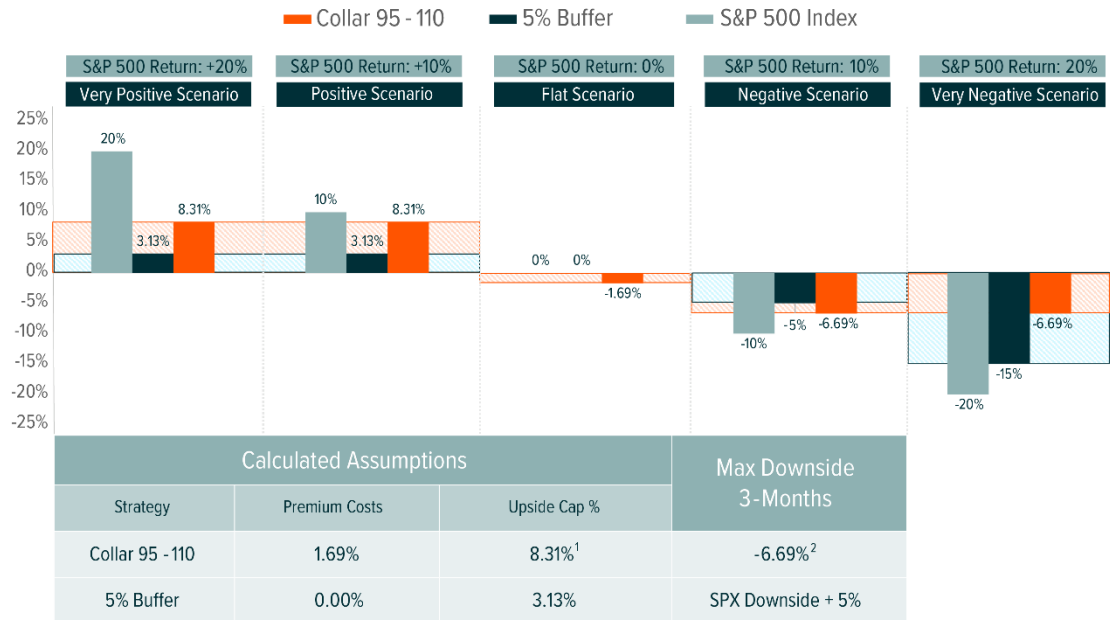
Very Negative Scenario (SPX -20%): However, during severe market declines, when the S&P 500 moves substantially beyond the buffer protection offered by the 5% buffer strategy, the collar 95-110 strategy is expected to outperform due to the floor provided by its long-put option position. This demonstrates the higher level of tail risk associated with a zero-cost put spread collar strategy. Implied volatility is also expected to rise. If this also coincides with rising put option demand relative to calls, higher



net-debit premium costs for a collar 95-110 strategy are expected, however, the extra cost may be worth it relative to the zero-cost put spread collar implemented by the 5% buffer strategy.

HYPOTHETICAL THREE-MONTH RETURN ANALYSIS

Source: Global X ETFs with information derived from: Bloomberg, L.P. (n.d.) Premium and maximum upside cap are calculated using the Black-Scholes options pricing model with data from 12/21/2012 to 12/16/2022 using hypothetical S&P 500 options by following the standard expiration date calendar published by the Chicago Board Options Exchange (Cboe) for equity index options which typically occurs on the third Friday of every month. Premiums and upside caps are hypothetical measurements; actual values varied. For illustrative purposes only. Not meant to represent actual performance.



¹ Assumes that the average premium cost of 1.69% is subtracted from the 10% upside cap every 3 months.

² Assumes that the average premium cost of 1.69% is subtracted from the -5% downside floor every 3 months.

Conclusion: ETF Industry Offers Compelling Risk Management Capabilities

U.S.-listed ETFs have \$6.93 trillion in total AUM, and as this market expands, it continues to offer investors new ways to help them manage risk, pursue a level of capital appreciation, or both.⁵ Derivative-based strategies are a part of this growth, with the rise of collar strategies playing a major role. That investors can implement options strategies with ETFs indicates the industry’s growth. However, with these strategies more prevalent, it is important that investors understand both the potential benefits and the risks of options strategies tailored for capital appreciation and rangebound return profiles.

Footnotes

1. Morningstar. [Data set]. Data as of 03/31/2023 and accessed on April 03, 2023 from Global X Morningstar Direct License.
2. Global X ETFs with data from Morningstar Direct. Data as of 03/31/2023 and accessed on April 03, 2023 from Global X Morningstar Direct License. Category classifications are based on Global X’s analysis of both surviving and non-surviving U.S.-listed ETFs.
3. Source: Global X ETFs with information derived from: Bloomberg, L.P. (n.d.) Figure used is the average options premiums calculated using the Black-Scholes options pricing model with data from 12/21/2012 to 12/16/2022 using hypothetical options on the S&P 500 using hypothetical S&P 500 options by following the standard expiration date calendar published by the Chicago Board Options Exchange (Cboe) for equity index options which typically occurs on from the third Friday of every month. Actual average premium may have varied. Premiums are hypothetical measurements because it is an index.



4. Source: Global X ETFs with information derived from: Bloomberg, L.P. (n.d.) Upside cap is derived from the Black-Scholes options pricing model with data from 12/21/2012 to 12/16/2022 using hypothetical S&P 500 options by following the standard expiration date calendar published by the Chicago Board Options Exchange (Cboe) for equity index options which typically occurs on the third Friday of every month. Actual average upside cap may have varied.
5. Morningstar. [Data set]. Data as of 03/31/2023 and accessed on April 03, 2023 from Global X Morningstar Direct License.

Glossary

S&P 500 Index: S&P 500 Index tracks the performance of 500 leading U.S. stocks and captures approximately 80% coverage of available U.S. market capitalization. It is widely regarded as the best single gauge of large-cap U.S. equities.

Strike Price: The fixed price at which an option holder can buy or sell the underlying asset. Also called exercise price.

Net-Debit Collar: an options strategy in which the investor purchases a protective put while selling a call option on the same reference asset where the purchased put option has a higher premium relative to the written call.

Zero Cost Put Spread Collar: an options strategy in which the investor purchases a protective put while selling a put, where the strike price of the purchased put is higher than that of the sold put position. Finally, a covered call is sold with a premium equal to that of the bear put spread cost.

Bear Put Spread: an options strategy in which the investor purchases a protective put while selling a put, where the strike price of the purchased put is higher than that of the sold put position. This position is a bearish position on the underlying reference asset.

Black-Scholes: A flagship model to calculate the fair price for an option contract using current stock price, expected dividends, strike price of an option, expected interest rates, time to expiration and expected volatility. The model assumes that dividends are not paid, the option can only be exercised at expiration, risk-free rate and volatility of the underlying are known and constant, no transaction costs are involved in buying the option, markets are efficient, and the returns are log-normally distributed.

At-the-Money: An option in which the underlying asset's price equals the strike price.

Out-of-the-Money: Options that, if exercised, would require the payment of more money than the value received and therefore would not be currently exercised.

Beta: Measures the volatility of the price of an asset or index relative to another benchmark index. This can also be defined as the percent change in the price of an asset or index given a 1% change in a benchmark index. A beta below one suggests that the asset or index was less volatile than the benchmark index.

Collar 95-110: a net-debit collar strategy in which the investor purchases a 5% "out-of-the-money" protective put while selling a 10% "out-of-the-money" call option on the same reference asset where the purchased put option has a higher premium relative to the written call.

Tail Risk Strategy: a strategy that has a goal of capital appreciation with potential to provide a level of protection against severe downside movements on a particular asset or index.

Interest Rate Hedge Strategy: a strategy with a goal of offsetting adverse movements in interest rates within a particular fixed income sector.

Inflation Hedge Strategy: a strategy with a goal of offsetting or benefitting from the movements of a particular measurement of inflation.

Spread Strategy: a strategy that implements an option spread overlay to provide a level of risk management on a particular asset or index.

Credit Hedge Strategy: a strategy with a goal of offsetting or benefitting from adverse movements in the credit quality of a particular company or group of companies.

Broad Risk Management Strategy: a strategy with a goal of mitigating multiple types of risks on an asset or index by implementing differing styles of risk management.



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Investing involves risk, including the possible loss of principal. Concentration in a particular industry or sector will subject the QCLR and XCLR to loss due to adverse occurrences that may affect that industry or sector. Investors in the Funds should be willing to accept a high degree of volatility in the price of the fund's shares and the possibility of significant losses.

The Funds engage in options trading. An option is a contract sold by one party to another that gives the buyer the right, but not the obligation, to buy (call) or sell (put) a stock at an agreed upon price within a certain period or on a specific date. A collar strategy involves holding shares of the underlying stock while simultaneously buying put options and selling call options against that holding. By selling covered call options, the funds limit their opportunity to profit from an increase in the price of the underlying indices above the exercise price. By purchasing put options, in return for the payment of premiums, the Funds may be protected from a significant decline in the price of the underlying indices if the put options become in the money (the index closes below the strike price as of the expiration date); but during periods where the underlying indices appreciate, the Funds will underperform due to the cost of the premiums paid. A liquid market may not exist for options held by the Funds. While the fund receives premiums for writing the call options, the price it realizes from the exercise of an option could be substantially below the index's current market price. QCLR is non-diversified.

Shares of ETFs are bought and sold at market price (not NAV) and are not individually redeemed from the Fund. Brokerage commissions will reduce returns.

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