

# Hedged Equity Options Strategies

*Benefits, Strengths, & Weaknesses*

"Prophesy as much as you like, but always hedge."  
– Oliver Wendell Homes 1861

# References

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- A. Options Basics: What you Need to Know  
Options Industry Council (OIC)
  
- B. Performance Analysis of Hedged Equity Option Strategies  
Zephyr Style Advisor  
Swan Global Investments  
August 2020

# Objectives

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This document describes and analyzes a variety of option based hedged equity strategies that are available to investors in a variety of formats (1940 act funds, ETFs, LPs, CITs, and SMAs). Analysis of these strategies will focus on comparing performance over an extended period of time through full market cycles as well as discussing strengths and weaknesses of each approach using shorter periods of time. Pros and Cons of active vs passive management of the strategies will also be discussed. Ultimately, this document is intended to be a reference to a variety of available hedged equity strategies along with their strengths and weaknesses.

These strategies include

- Monthly Covered Call (e.g. Buy-Write) - Passive
- Monthly Zero Cost Collar – Passive
- Quarterly Zero Cost Put Spread Collar – Passive
- Annual Structured/Buffered Outcome – Passive
- LEAPS Hedge + Option Income – Active

Hopefully this information proves useful to advisors and investors in choosing an appropriate strategy to best matches their clients' investment objectives.

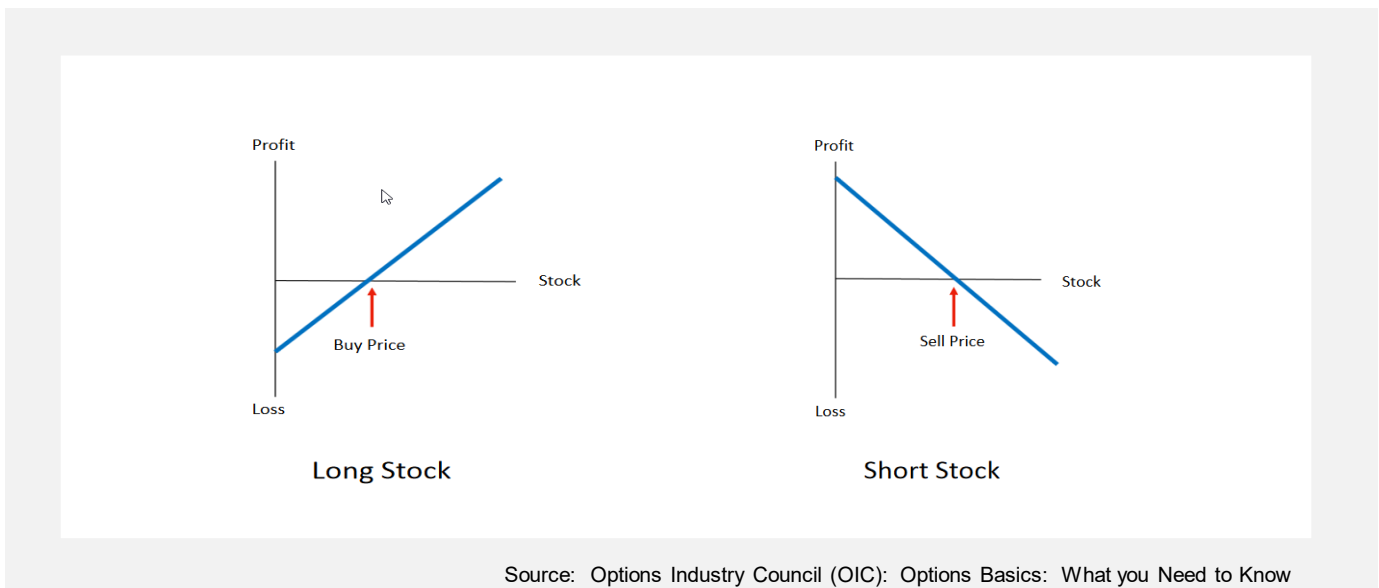
# Introduction

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The nature of options with their price, volatility, and time components provide users with incredible flexibility and power to design nearly any desired risk/reward profile and investment objectives including stock acquisition, income, or risk reduction. Technology has provided accessibility and opportunity for investors to take advantage of this powerful security type for sophisticated investment strategies previously only available to institutions, insurance companies, and hedge funds.

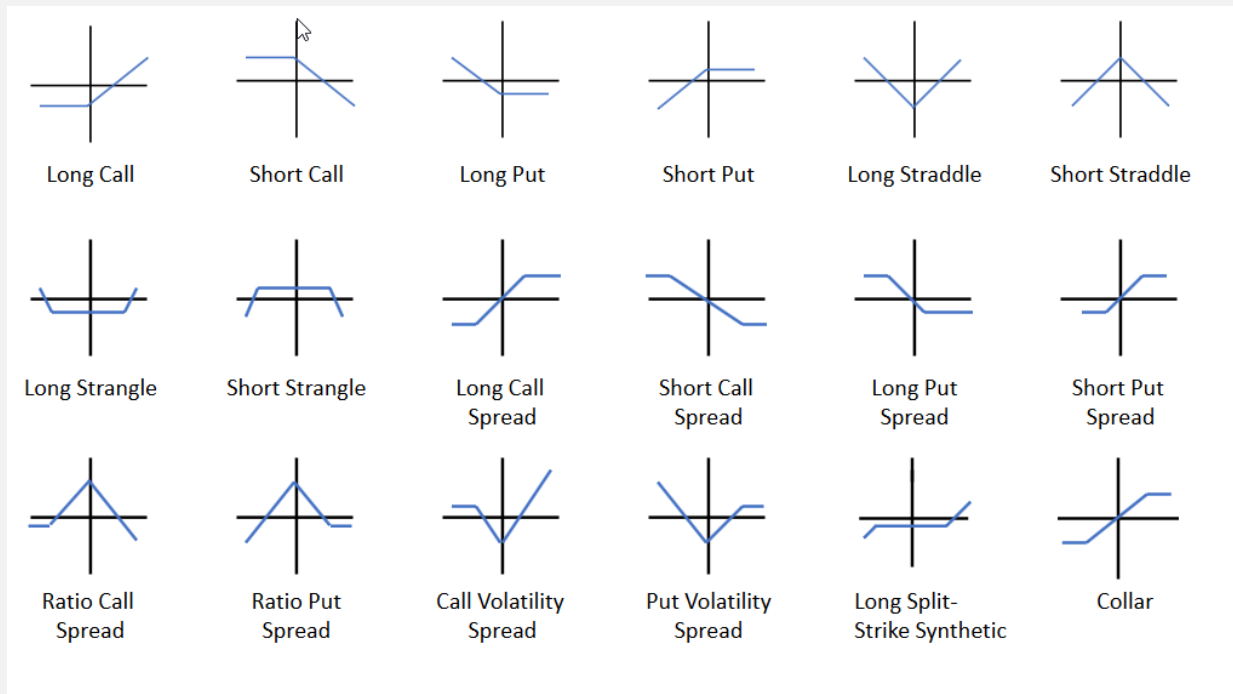
While some option strategies have been available to retail investors for quite some time (e.g. Gateway's GATEX, Swan's Defined Risk Strategy), many managers launched strategies following severe losses experienced by investors during the Global Financial Crisis (2008-2009). Notable managers in the hedged equity space include Gateway, JPM, Parametric, Rampart, Calamos, & Swan. In the last few years we have seen significant growth of passively managed structured/buffered outcome strategies. Managers in this space include First Trust, Allianz, and Innovator with monthly additions. Platform enhancements, along with significant reductions in trading costs, have contributed to a dramatic increase in the use of options by managers and investors. Trading of options have increased from approximately 300M in 1998 to over 4.5B in 2018 (Source: Options Industry Council).

The multi-dimensional characteristics of options provides managers/users with incredible flexibility to design strategies that fit any risk/reward profile and investment objective. Without options, investors are left with limited choices.



With options, investors have many more choices to design their desired risk/reward profile. As is shown in the following illustrations, the combinations are endless.

These strategies include buying and selling single legs to gain leveraged returns or to hedge a market move (either direction) or can be combined for more advanced profit/loss profiles in strategies such as Put/Call spreads, Iron Butterflies, Iron Condors, and Calendar Spreads. These positions can then be managed passively to expiration or actively adjusting and rolling into new positions prior to expiration.



Source: Options Industry Council (OIC): Options Basics: What you Need to Know

# Hedged Equity Option Overlays

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The power and flexibility of options can be combined with equity to provide protection in a hedged equity asset class of strategies.

Hedged equity can include simple purchase of a put option to hedge against a market decline, but it more often involves a combination of buying and selling both puts and calls to cover a particular range and/or to minimize hedging costs. These strategies may be passively managed for simplicity in marketing and execution or actively managed with the goal to capitalize on market conditions.

Hedged equity can be used as a long-term investment strategy for total portfolio construction using diversified equity, to protect concentrated or low-cost basis stock, as part of a tax-managed transition from one position to another, as a short-term solution to lock in gains in the market or protect against a specific upcoming event (e.g. U.S. presidential election), or maybe more important as a surrogate for anemic fixed income in a diversified portfolio.

Each hedged equity strategy and approach has its strengths and weaknesses. This document will speak to these topics and use specific market conditions since 2007 to illustrate these characteristics through a hypothetical back test analysis of each strategy. These strategies include:

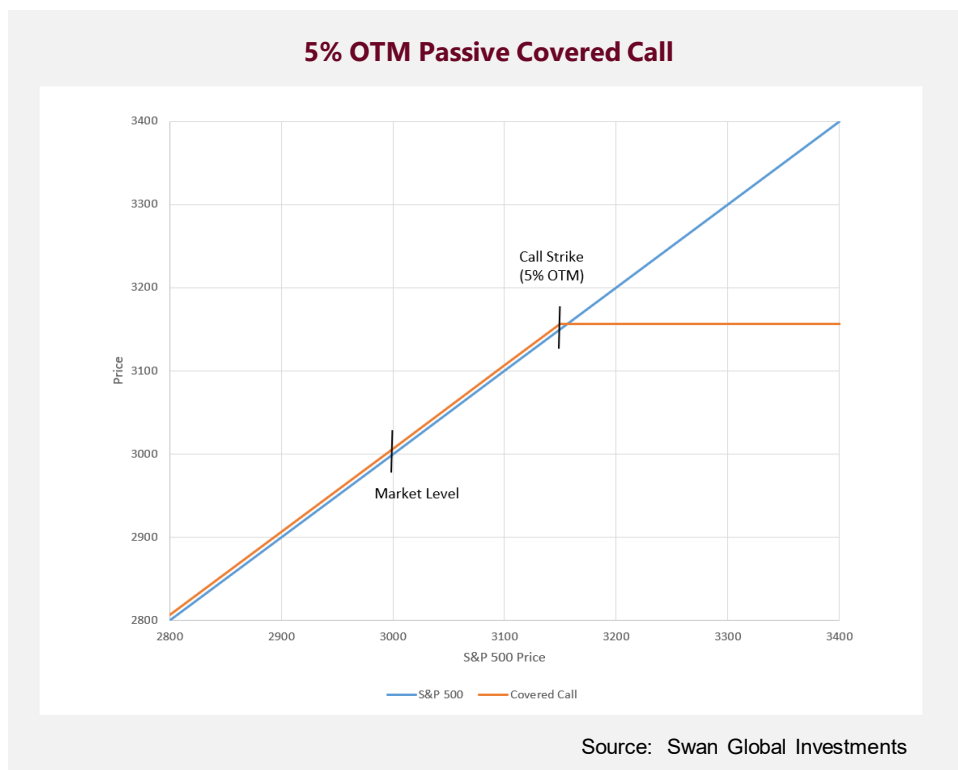
- Monthly Covered Call (e.g. Buy-Write) - Passive
- Monthly Zero Cost Collar – Passive
- Quarterly Zero Cost Put Spread Collar – Passive
- Annual Structured/Buffered Outcome – Passive
- LEAPS Hedge + Option Income – Active

The rules for each strategy are defined in separate sections with discussions on their strengths and weaknesses. No single strategy is perfect for all market conditions. This information provides can help investors choose the best approach to meet client investment objectives through either short or long periods of time.

## Covered Call (Passive)

A passive covered call strategy, also referred to as a buy-write strategy is a simple strategy that involves buying and holding an equity position and then selling call options against this position at a 1:1 ratio or 1 option contract per 100 shares of equity (i.e. “covered”). The call option is then held to expiration and then reset for the next term (e.g. weekly, monthly, quarterly, etc.). Typically, the call will be sold at a fixed relative position above the current equity market price (e.g. 5% OTM) to maintain a consistent cap and therefore predictable performance.

The following chart illustrates the profit/loss of a covered call strategy on the S&P 500 where a 1 month to expiration call sold is 5% OTM and generates 0.2% of the underlying price in premium. Note that the level of premium will vary with current market volatility.



The premium collected for the calls becomes the hedge during market declines and enhances returns for market gains up to the premium collected plus the call strike.

Strengths of a covered call strategy are that it is simple to implement and explain, has very predictable performance, is readily available on many platforms, provides full upside of the market below the call strike, and requires the lowest level of option approval.

Weaknesses of a covered call strategy are it caps upside—often significantly—above the call strike for each period and provides only minimal protection during declines (i.e. limited to premium collected from call sale).

CBOE’s Buy-Write Index (BXM) provides a great benchmark example of a Covered Call strategy.

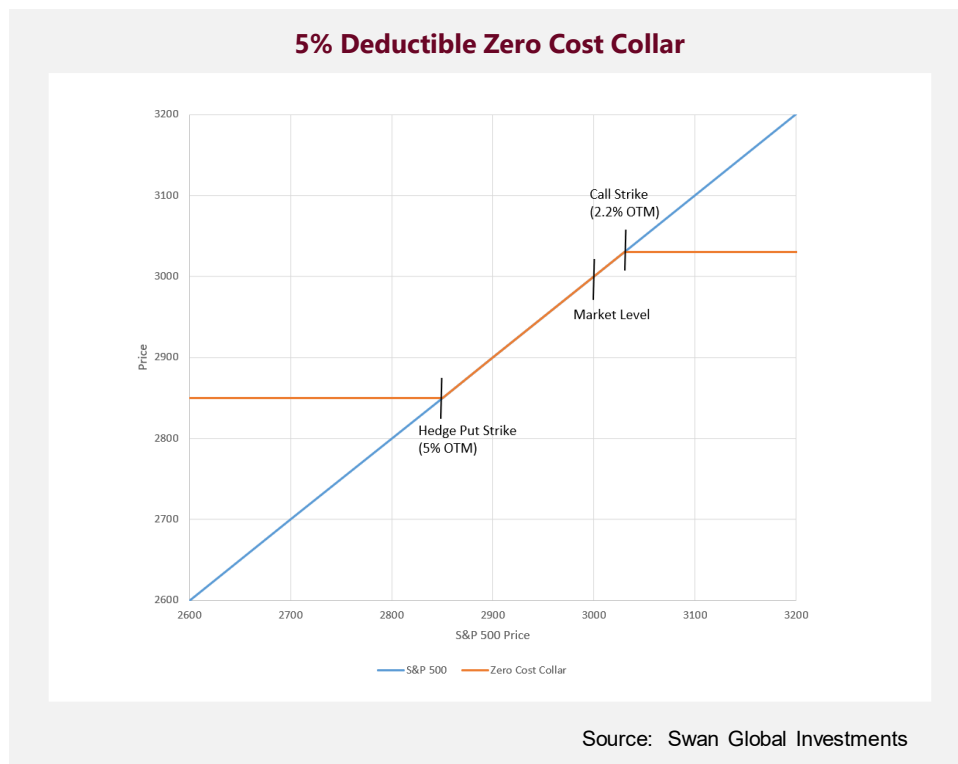
## Zero Cost Collar Passive

A passive zero cost collar strategy involves purchasing equity, purchasing a hedge using put options and then selling a call option at a strike price that generates enough premium to cover the cost of the hedge.

While managers have many options to customize the basic collar, we will assume a common simple and passive implementation where both the put and the call options have the same expiration term (e.g. 1 month), are sized consistent with the underlying equity (e.g. 1 SPY contract per 100 SPY shares), and held to expiration with no adjustments.

Given that at-the-money put options generally cost more than call options (options skew), paying for the put option (hedge) solely from premium from selling the call option requires that the hedge be placed some distance below the current market level (i.e. out-of-the-money). Option skew will then require selling a call that is closer to the current market level than the hedge. For example, protecting market declines greater than 5% may require selling a 2% out of the money call thereby capping any upside above the call strike. The underlying equity is “collared” between the put and call strike providing full market exposure within this range, full protection below the put strike, and capped upside above the call strike.

While the collar was implemented for zero out-of-pocket cost (i.e. hedge paid for by call option premium), the real cost for this strategy is opportunity cost for gains above the call strike during the term of the collar as depicted in the following profit/loss illustration vs underlying equity moves. In this 5% hedge collar illustration, the blue line is the underlying equity (e.g. SPY) while the orange line is the collar strategy performance. For reference purposes the 5% OTM hedge was purchased with a 2.3% OTM call sale (relative to S&P 500 = 3200). The asymmetric positioning of the call and put options relative to the current market position are due to option skew (puts are more expensive than calls at the same distance from market).





One benefit of a collar is in its simplicity to communicate and understand. What you see at the end of the term is what you get. As long as the market stays within the collar range between the short call strike and long put strike, the investor matches the market.

Another benefit is that the collar is very simple for managers to implement given that it requires no adjustments. The positions are set and then taken to expiration (e.g. monthly, quarterly, yearly, etc.). At the end of the term, the manager can reset to extend the same strategy in perpetuity.

The traditional collar also has a variety of performance strengths beyond its simplicity to understand and manage.

First, it can provide very strong upside market capture for small market gains up to the short call strike. For example, if the market were to move up 2% per quarter for the entire year, a quarterly put-spread collar with a 2% cap could match the market's annual gain.

Second, the hedge caps losses below the long-put strike price and therefore behaves more like traditional health insurance where losses are covered once you reach your deductible.

Third, a traditional collar will, by definition of capping upside and downside, have lower standard deviation than the collar's underlying equity.

While the collar has a variety of strengths, there are several weaknesses that investors should understand.

First, gains are capped above the short call strike. Paying for the hedge solely with short calls generally requires severe upside caps (e.g. 1%-2%) and high deductibles (e.g. 10%). The tight caps (i.e. call strike) can severely limit portfolio gains in strong rallies. For example, should the market rally 30% in a year (e.g. 2019), the cap may severely limit upside (e.g. +8%). Opportunity costs in a strong bull markets may be very high. The manager can raise the cap and therefore widen the collar, by moving the hedge down to a lower strike price to increase upside capture ratio. There is no free lunch, however, since a wider collar with more upside means less protection.

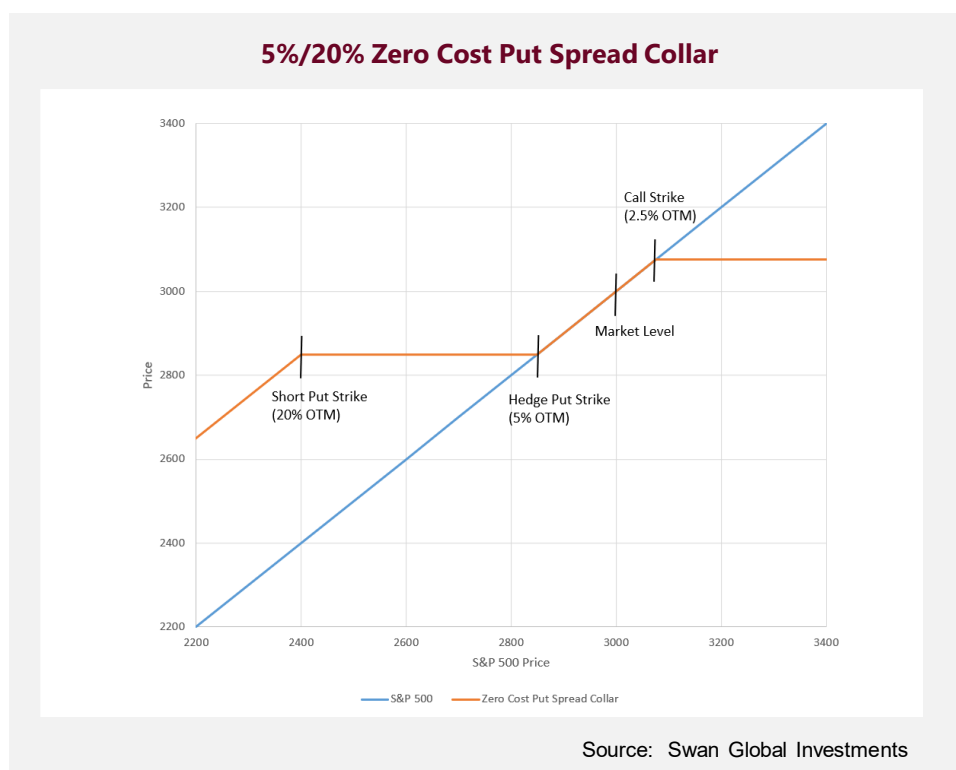
A second weakness to a traditional collar using an OTM hedge with shorter term structures is that the investor can be subject to multiple deductibles per year. For example, if the market lost 5% per month 12 consecutive months, a monthly collar with a 5% OTM put hedge (deductible) would match the market's 60% loss. While this may be rare, investors might not appreciate the protection from their hedged equity strategy under this scenario.

## Zero Cost Put Spread Collar (Passive)

A slight variation to the traditional collar's long equity + long put hedge + short call premium is to sell put options at a strike price some distance below the long hedge put option to generate additional monies to combine with the short call premium to cover the hedge costs.

The primary benefit to this approach versus a traditional collar is that the additional premium from the put option sale allows the manager to raise the strike price on the call and therefore raise the cap. The cost for the increased cap, however, is that the investor accept protection limited to the range between the long put (hedge) and the short put strikes during the collar term. The protection range is usually communicated as 2 numbers such as 5/20 where the first number indicates the amount that the investor will lose in a market decline up to that number (i.e. deductible). The second number indicates the end of the protection zone where the investor will match further market losses.

Profit and loss versus the market (S&P 500) is depicted in the following illustration. Notice that the hedge and short call strikes are more symmetric in their position relative to the current market level than the traditional collar's positioning of these securities. Specifically, more upside is possible (2.5% in this case) due to the premium received from selling the put option (i.e. 20% OTM).



Performance can be illustrated using several examples. If the market were to lose 5, the 5/20 collar would lose 5. If the market loses 15, the 5/20 collar would lose 5 since the market is in the protection zone where losses are capped at the deductible. If, however, the market loses 40 in the collar term period, the investor would lose the 5% deductible + 20% (market losses beyond the protection zone cap) = 25%.

While the traditional collar is like health insurance with a maximum out-of-pocket cost once you satisfy a deductible, the zero cost put spread collar strategy is like dental insurance which has a deductible + maximum coverage during a specified period. The investor takes more risk for more upside (i.e. higher upside cap). Assuming the manager can place the downside cap (i.e. short put) below normal market declines during the design term (e.g. 1 month, quarterly, yearly, etc.), the investor can profit with higher upside which over extended periods of time can combine for significant return.

As with a traditional collar, the put spread collar has various strengths. First, it can provide very strong upside market performance up to the short call strike. For example, if the market were to move up 4% per quarter, a quarterly put-spread collar with a 4% cap could match the market's annual gain of 16%.

A second strength is during short duration moderate or severe corrections where the market declines beyond the deductible (i.e. long put strike) but stays within the protection zone (e.g. >-20%). In this case, losses are capped to the deductible. As long as the market decline exceeds the collar deductible, the investor should outperform the market.

A third strength of a passive put spread collar occurs if the market experiences a short duration decline but then rallies within the collar term. Specifically, the temporary losses during the term are never realized. The passive approach pays dividends and avoids realizing those losses by not trading the event. A good example of this scenario can be seen with the 2010 May Flash Crash where the market lost nearly 10% and then recovered and finished near even on the day. Active management may cover and realize losses while the passive strategy rides through. This same strength, however, may be a weakness in cases where the market does not recover.

A fourth strength of the put-spread collar is that it will likely deliver lower standard deviation over a wide range of market conditions. Extended steady upward movements of the market with occasional moderate corrections are the sweet spot of the zero cost put spread collar and where its strengths shine.

While the put-spread collar has many strengths, there are several weaknesses that investors should understand. First, gains are capped above the short call strike. This limitation can severely limit upside in strong rallies. For example, should the market rally 30% in a year (e.g. 2019), the cap may limit upside to 15% or more (~50% capture ratio).

Second, as with the traditional collar, the put-spread collar shares the same risk to multiple deductibles in a given year. For example, a quarterly zero-cost put-spread collar strategy with a 5% deductible will match the market's losses of -20% should the market experience successive losses of 5% per quarter ( $-5\% \times 4 = -20\%$ ). This may be uncommon in an extended bull market run (e.g. 2009-2019) but not so uncommon during an average bear market.

A larger risk, even if less common, is that the market decline below the short put strike during the collar design term. In this case protection from the hedge for losses below this level are 100% negated by the short put.

An extreme scenario combining large declines with capped upside could occur if the market loses 40% during a period followed by a strong rally in the next period (v-shaped recovery). A 5/20 collar would lose 25% in the first period as illustrated above. Resetting the hedge for the next collar term would then cap upside somewhere in the +5% to +7% range. The market might then be flat for the year with the zero-cost put spread collar down 18% ( $-25\% + 7\%$ ). Should volatility continue and the market repeat the pattern, losses continue to grow with little ability to recover (due to capped upside). While this event may be rare, the investor should be aware of the strengths and weaknesses of put spread collars.

## Structured/Buffered Outcome Zero Cost Put Spread Collar – Synthetic Equity (Passive)

A fairly recent addition to the hedged equity option space which have been gaining quite a bit of popularity are structured/buffered outcome strategies meant to compete against structured products. While they are being marketed differently, they are in fact zero cost put spread collars with a longer term (typically 1 year) and therefore share the same profit/loss profile (see prior section).

Unlike other zero cost put spread collars, these strategies have no equity but instead synthetically gain equity exposure using deep ITM call options.

Also unlike traditional put spread collar strategies, these strategies use CBOE FLEX® options to deliver more accurate returns and therefore more structured performance. FLEX® Options are custom options which deliver the accurate or structured like returns by allowing the manager to create an option with a specific expiration date and specific strike instead of relying on currently listed options. Because of the complexity and cost in creating FLEX® Options, they are typically only available in pooled products (e.g. ETFs) and limited platforms where investors are aggregated to reach sufficient investment amounts, which warrant the custom creation of these options by the manager.

Managers of these strategies, just like those of traditional zero cost put spread collars can design the protection zone as desired (e.g. 5/20, 0/10, 0/20 etc.) where the first number is the deductible and the second is the maximum coverage/protection defined by the short put strike. The cap, or upside limit, is then a function of paying for the hedge with combined proceeds from the short put exactly as with the zero cost put spread collar.

The primary benefit of the structured/buffered outcome strategy to investors is that they know exactly how much risk and reward they have within the term (e.g. 1 year). However, the specific returns advertised by these products are almost never realized given that those returns rely on investment on a specific date and holding the investment through expiration (e.g. 1 year) and cannot completely compensate for investment and redemptions between those periods in a pooled product (e.g. ETF, Mutual Fund).

Managers of these strategies attempt to deliver close to the structured returns by grouping investors into series which correspond to a particular period (e.g. July). Investors who invest in the July series on launch and then stay for the full term will receive closest to the advertised structured return.

The primary benefit of the structured/buffered outcome strategy to managers is that it requires very little management (once per year per series). While simple to communicate and simple to manage, the structured/buffered outcome put spread FLEX® Option collars have a variety of weaknesses.

First, investors who join before the launch or leave the series before the end of the period may receive far different returns. The structured returns are only there for investors who invest on a particular date and then stay the entire time.

Second, the cost of a zero cost collar, as with other collars, is upside opportunity. For example, a zero cost put spread collar on the S&P 500 with a one year cap at 7% will only deliver 7% at the end of the period if the market is up 31% as it was in 2019.

Third, as with traditional put spread collars, the protection provided by these strategies covers a zone instead of providing a maximum loss as with a traditional collar. If the S&P 500 loses 37% as it did in 2008, the 0/10 structured outcome FLEX® option put spread collar would lose 27%.

Fourth, as a passive strategy, there is no recourse for the manager to adjust positions in these strategies to minimize losses or take advantage of market conditions without violating the implicit contract represented by the structured/buffered outcome value proposition. As with other strategies, passive management may provide better or worse returns as dictated solely by the market.

Managers offering the structured/buffered outcome strategy includes Allianz, First Trust, and Innovator, where each offer slight variations of protection and caps and frequency of series launches.

## Swan DRS LEAPS Hedge + Options Income (Active Hedge, Active Options Income)

Swan Global Investments designed and actively manages a set of proprietary hedged equity option strategies built with similar components used in other hedged equity strategies, but it is designed for full market cycles and actively managed using proprietary rules to address some of the weaknesses of traditional hedged equity option strategies.

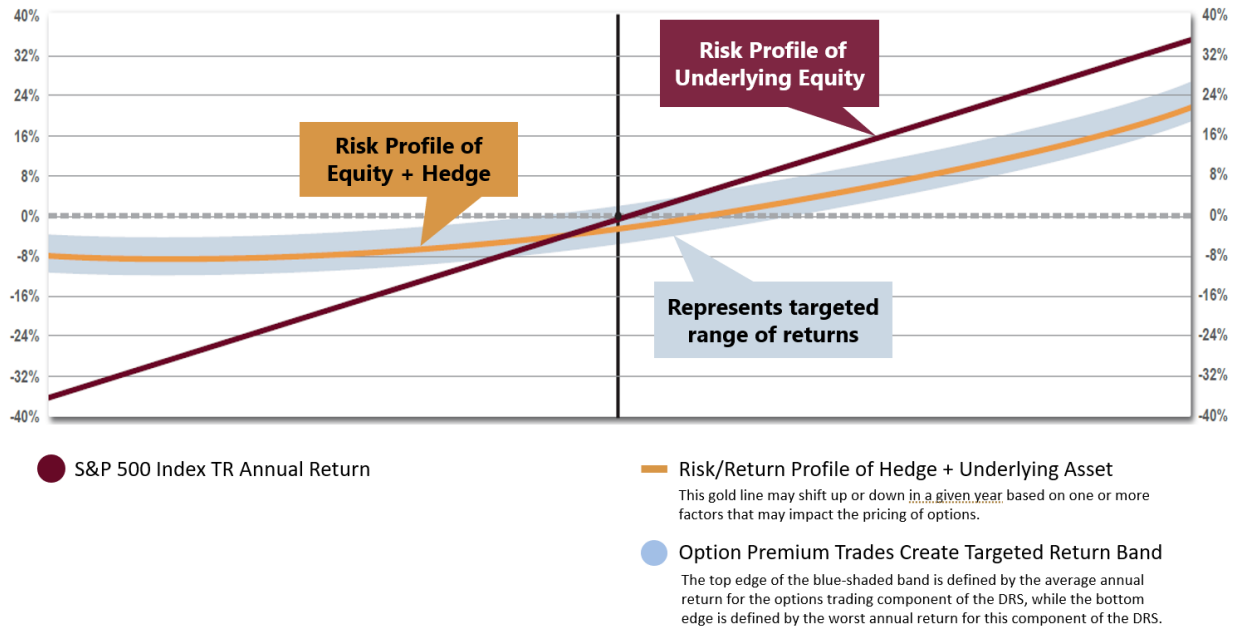
Swan's S&P variations of the DRS gain exposure to the S&P 500 through buy and hold of either SPY or Select Sector SPDR ETF shares.

Unlike the shorter duration protection used in most other strategies, hedge protection is provided for each DRS variation by purchasing LEAPS put options (2 year expiration) either ~ATM (DRS U.S. Large Cap Sector Select and DRS Prime) or ~5% OTM (DRS U.S. Large Cap Growth) at a size consistent with underlying equity shares (1:1) and rolled annually in up markets. Actively managed rules-based intra-year hedge adjustments (re-hedges) are performed in bear market declines to monetize the hedge and acquire additional equity shares at reduced prices (i.e. sell high, buy low). The re-hedge process differentiates Swan's DRS from other strategies and is critical to long-term full market cycle performance in the DRS.

Shorter duration put and call options are then bought and sold in the Select and Growth variations of the DRS according to current market conditions. These positions are then actively managed to supplement returns to offset the cost of the hedge in flat or up markets and reduce losses in down markets. Unlike zero cost passive collars or put spread collar strategies, the DRS does not sell calls to 100% pay for the hedge. Instead Swan manages this component separately according to current market conditions for optimum returns. As such, this component does not impose strict caps on upside performance and therefore may provide more upside, especially during strong rallies.

The DRS profit/loss profile looks somewhat different than other strategies which are passively managed to expiration. Specifically, the 2-year LEAPS hedge holds value throughout the entire hold period (e.g. 1 year). As a result, the profit/loss profile does not have sharp break points at option strike prices. Further, since shorter term options (calls and puts) are actively managed, profit and loss are not delivered in a structured manner and so is better depicted as a band of possible performance above and below the hedge + equity profit and loss curve shown below.

## Targeted Band of Returns for the Defined Risk Strategy



The Prime DRS variation does not sell put options but instead relies on long calls and call spread structures to enhance performance in up markets. Prime occasionally sells call options to supplement returns in shorter duration market declines.

## Performance Analysis - Hypothetical

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Swan performed a hypothetical performance analysis on the following hedged equity option overlay strategies from January 2007 through June 2020 to establish possible long-term performance for each strategy through both bull and bear markets while including numerous short periods of time with both corrections and strong rallies to demonstrate the strengths and weaknesses of each approach.

- Monthly Covered Call (e.g. Buy-Write) - Passive
- 5% Monthly Zero Cost Collar – Passive
- 5/20 Quarterly Zero Cost Put Spread Collar – Passive
- 0/10 Annual Zero Cost Put Spread Collar (Structured/Buffered Outcome) – Passive
- 0/20 Annual Zero Cost Put Spread Collar (Structured/Buffered Outcome) - Passive
- ATM LEAPS Hedge + Option Income (Swan DRS U.S. Sector Select Model) – Active
- ATM LEAPS Hedge + Call Options (Swan DRS U.S. Large Cap Prime Model) – Active
- OTM LEAPS Hedge + Option Income (Swan DRS U.S. Large Cap Growth Model) - Active

The following rules were used for each strategy in this analysis.

### Covered Call – Monthly (Passive)

The CBOE Buy-Write Index (BXM) was used in this performance analysis as a representative Covered Call strategy. BXM buys and holds the S&P 500 and then writes covered calls slightly out-of-the-money (OTM) against this position on the 3rd Thursday of each month and then rolls this position into a new short call each month. The strike price of the new call is chosen to be the closest available strike above the current index level. For example if the S&P 500 index was at 901.10, the 905 call would be sold at a size equal to the notional number of shares in the index (e.g. 1:1 or “covered”).

Source: CBOE (<https://www.cboe.com/micro/bxm/BXMDescription-Methodology.pdf>)

### Collar – 5% Deductible Monthly Zero Cost (Passive)

Swan Global Investments performed a back test to demonstrate a hypothetical traditional zero cost collar strategy from January 2007 through June 2020 (2 bear markets and 1 bull market). The collar strategy used monthly term options and SPY ETF shares as the core equity. The hedge put option was set 5% OTM to cover market losses >5% in a single month. Calls were sold at a strike price to pay for the hedge. Both the hedge and call were sized consistent with the underlying equity shares (e.g. 1:1 ratio). Positions were passively managed where option trades were executed and then rolled to new positions at expiration with no intra-period adjustments.



## Put Spread Collar – 5/20 Quarterly Zero Cost (Passive)

Swan Global Investments performed a back test to demonstrate a hypothetical zero cost put spread collar on the S&P 500 from January 2007 through June 2020 using monthly options and SPY ETF shares as the core equity. The hedge was set 5% OTM. Puts were sold 20% OTM to establish the protection range of  $-5\% < \text{S\&P 500} < -20\%$ . Calls were sold at the nearest strike price to pay for the hedge less premium from selling the put option. All options were sized consistent with the underlying equity shares (e.g. 1:1 ratio). Positions were passively managed with no intra-period adjustments after execution and then rolled to new positions at expiration.

## Put Spread Collars – 0/10 and 0/20 Annual Zero Cost Structured/Buffered Outcome (Passive)

Swan Global Investments performed back tests to demonstrate hypothetical performance for two variations of a structured/buffered outcome zero cost put spread collar strategies on the S&P 500 from January 2007 through June 2020 using 1-year FLEX® Options for both equity and collar positions. Equity exposure to the S&P 500 was provided by deep ITM call options. The protection or shield ranges for the collars were set by purchasing an ATM hedge and then selling put options 10% and 20% OTM for the 0/10 and 0/20 variations, respectively. Calls were sold at a strike price to pay for the hedge less premium from selling the put options. All options were sized consistent with the underlying equity shares (e.g. 1:1 ratio). Positions were passively managed where option trades were executed and then rolled to new positions at expiration with no intra-period adjustments.

## LEAPS Hedge + Option Income – Active

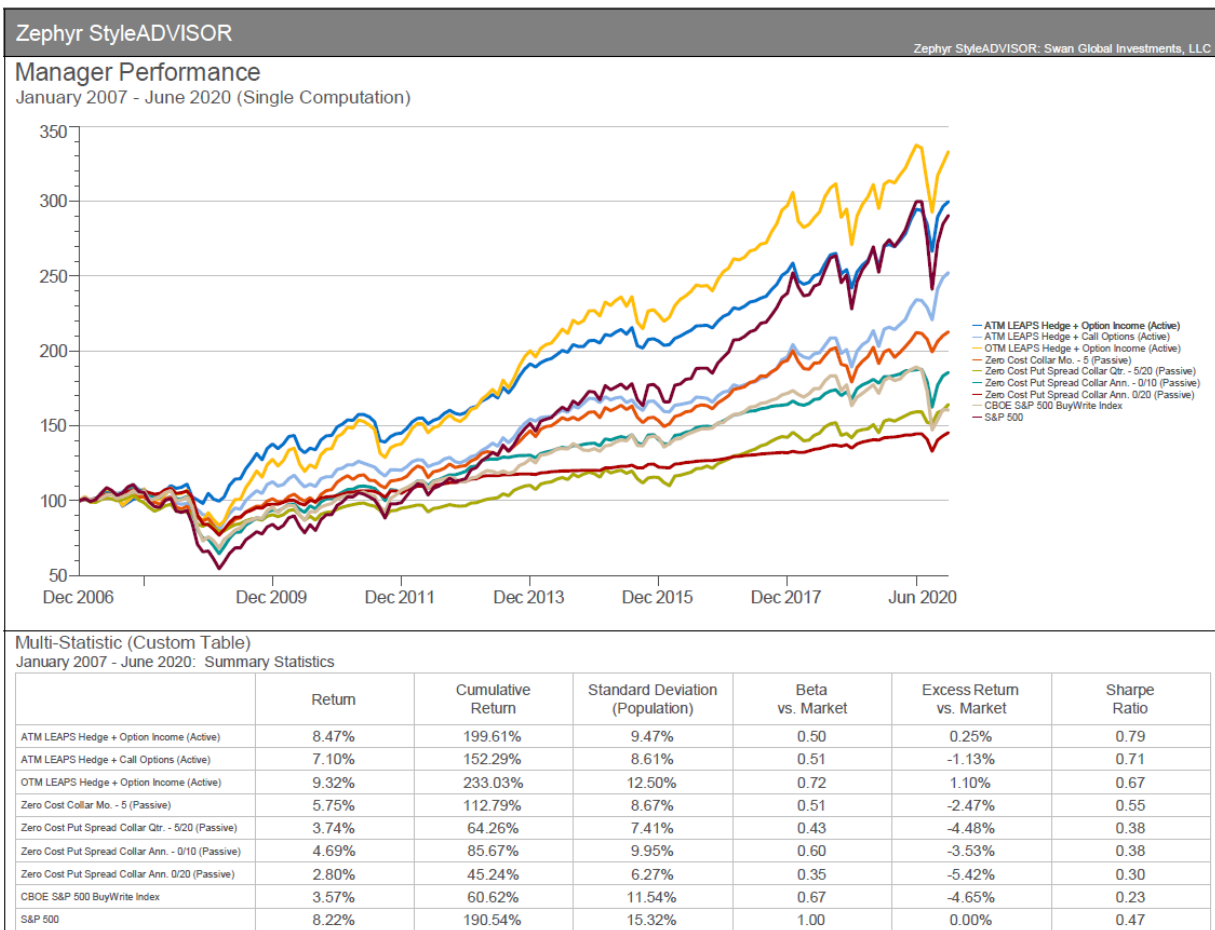
Three S&P 500 variations of Swan Global Investment's DRS strategy outlined in a previous section were back tested according to Swan's proprietary active managed rules. These variations implement the foundational rules used for Swan's DRS Select (ATM LEAPS Hedge + Option Income) DRS Prime (ATM LEAPS Hedge + Call Options), and DRS Growth (OTM LEAPS Hedge + Option Income) strategies using 2 year LEAPS for the hedge, rolled annually in up markets and as rules dictate in major declines. Calls and puts were sold and bought according to each strategy's rules to provide supplemental returns to offset the cost of the hedge in flat and up markets & reduce losses in bear markets. Calls and call spreads were also purchased in the Prime and Growth strategies to enhance upside market capture.

## Results / Discussion

Actual performance of these strategies implemented in whole or part by any manager may be better or worse than illustrated in this performance analysis due to differences in the manager's implementation of the strict rule set either by design or by portfolio manager action. This analysis is, therefore, not intended to be directly applied to specific manager offerings. Instead, this analysis is intended to provide better understanding of a specific hedged equity option overlay's foundation strengths and weaknesses as an aid in selecting an appropriate strategy for investment.

The Zephyr StyleADVISOR chart and table below summarize performance for each strategy from this analysis from January 2007 through June 2020 using the rules for each strategy outlined in the previous sections.

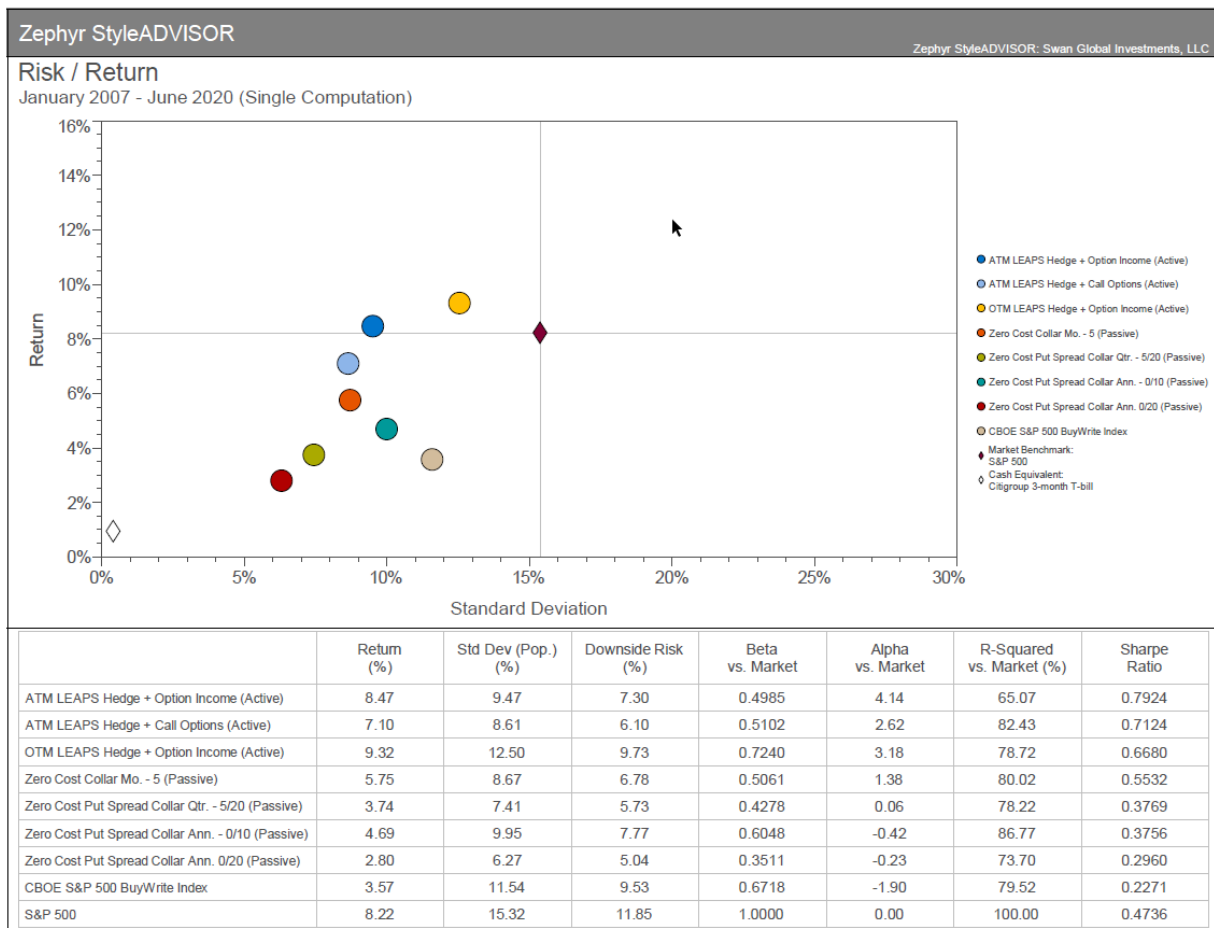
The mountain chart performance comparison of each strategy from Jan 2007 through June 2020 provides valuable information on long-term behavior through full market cycles (at least one bear and one bull market). This period begins with the end of the 2003-2007 bull market, extends into the Global Financial Crisis in 2008-2009, through one of the longest and strongest bull market periods in history, and through a massive short-term sell-off and equally large recovery during the 2020 Covid-19 Pandemic.



This period is especially interesting since it includes two very different bear markets and subsequent recovery periods along with many periods of short-term volatility including the 2010 Flash Crash, 2011 US Credit Downgrade, 2015 Chinese Currency Devaluation, 2018 Volmageddon, and 2020 COVID-19 Pandemic.

It should be noted that while the longer period favors the active LEAPS hedge DRS strategy variations over the passive covered calls and collar strategies, much of this performance is the result of higher protection during the Global Financial Crisis and stronger subsequent recovery due to less restrictive caps. Specifically, the 2008-2009 bear market and recovery highlights the strengths of the DRS process and in particular, the benefits of an actively managed hedging process through an extended bear market.

Risk/Return for each strategy variation can be seen in the following chart.



Created with Zephyr StyleADVISOR

Looking at shorter sub-periods of time between Jan 2007 and June 2020 reveals various strengths and weaknesses for each strategy. The following tables summarize some of those periods by showing two bear markets, several years of significant market gains, and several months of extreme volatility driven by various events.

Returns and capture ratios are shown for each strategy color coded from desirable green to undesirable red performance organized by specific periods highlighting strengths and weaknesses.

These results generally validate the previously discussed expectations for each strategy and demonstrate tradeoffs in protection and capture ratio. These results also demonstrate that protecting against bear markets can be quite different than correction protection during local events. For example, the best strategy for 1-year protection may not be the best strategy for long-term full market cycle investing (i.e. bull and bear market). Additionally, bear markets may be quite different and take years or weeks to unfold (e.g. 2008-2009 Global Financial Crisis vs. 2020 Covid-19 Pandemic).

### Returns %

	Period	SP500	Mnthly Covered Call	Mnthly 5% Deductible Collar	Qtrly 5/20 Put Spread Collar	Ann 0/10 Put Spread Collar	Ann 0/20 Put Spread Collar	ATM LEAPS Hedge + Option Income	ATM LEAPS Hedge + Call Options	OTM LEAPS Hedge + Option Income
Extended Bear	2008	-37.00	-28.65	-14.19	-14.07	-30.44	-21.15	-2.77	-15.06	-14.90
	Feb-20	-8.23	-7.56	-1.83	-4.44	-4.20	-2.56	-3.09	-1.94	-7.07
	Mar-20	-12.35	-14.90	-4.11	-0.59	-9.68	-5.72	-6.38	-3.60	-6.20
Restrictive Cap	2009	26.46	25.91	14.98	7.08	26.11	16.47	31.52	24.85	38.75
	2012	16.00	5.21	7.86	1.45	13.63	7.53	9.40	5.45	12.95
	2013	32.39	13.26	18.84	14.30	9.03	4.47	20.59	21.89	28.37
	2014	13.69	5.64	8.47	7.05	6.22	2.17	8.25	8.86	13.50
	2019	31.49	15.68	18.39	12.30	11.78	6.95	21.76	23.75	24.59
	2020 Q2	20.54	9.14	6.77	8.54	14.38	9.28	12.41	14.28	13.90
Choppy Markets	2011	2.11	5.72	2.06	0.99	1.38	1.61	-2.82	-0.47	-3.31
	2015	1.38	5.24	-3.68	-2.28	1.67	1.72	-0.28	-2.79	-1.29
	2018	-4.38	-4.77	-7.50	-0.17	2.15	2.33	-4.41	-3.43	-8.85
	May-10	-7.99	-6.15	-2.91	-4.06	-3.44	-1.88	-6.10	-3.68	-7.75
	Aug-11	-5.43	-7.12	-2.68	-2.84	-3.19	-1.44	-8.31	-3.03	-10.66
	Sep-11	-7.03	-3.20	-1.68	-4.52	-4.44	-2.20	-0.54	-1.91	-2.19
	Feb-18	-3.69	-1.42	-3.63	-1.80	-1.21	-0.57	-4.50	-2.88	-6.32

Source: Swan Global Investments

### Capture Ratios (% Relative to S&P 500)

	Period	SP500	Mnthly Covered Call	Mnthly 5% Collar	Qtrly 5/20 Put Spread Collar	Ann 0/10 Put Spread Collar	Ann 0/20 Put Spread Collar	ATM LEAPS Hedge + Option Income	ATM LEAPS Hedge + Call Options	OTM LEAPS Hedge + Option Income
Extended Bear (Downside Capture)	2008	-37.00%	77	38	38	82	57	7	41	40
Bear Correction (Downside Capture)	Feb-20	-8.23%	92	22	54	51	31	38	24	86
	Mar-20	-12.35%	121	33	5	78	46	52	29	50
Restrictive Cap (Upside Capture)	2009	26.50%	98	57	27	99	62	119	94	146
	2012	16.00%	33	49	9	85	47	59	34	81
	2013	32.40%	41	58	44	28	14	64	68	88
	2014	15.70%	36	54	45	40	14	53	56	86
	2019	31.50%	50	58	39	37	22	69	75	78
	2020 Q2	20.54%	45	33	42	70	45	60	70	68
Choppy Markets (Downside Capture)	May-10	-7.99%	77	36	51	43	24	76	46	97
	Aug-11	-5.43%	131	49	52	59	27	153	56	196
	Sep-11	-7.03%	46	24	64	63	31	8	27	31
	Feb-18	-3.69%	38	98	49	33	15	122	78	171

Source: Swan Global Investments

# Summary

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In summary, all hedged equity strategies cap upside in trade for protection.

Covered calls provide little or no protection in moderate or severe declines given that they have no actual hedge. Protection is limited to accumulated premium from selling calls. In markets which generally trend higher, these calls can come at a high cost to upside capture.

Zero cost traditional collars have a hedge to cap downside exposure during the term but generally truncate the most upside since they pay for the hedge entirely using call premium. With that being said, however, higher deductibles or shorter durations (e.g. monthly) may limit the impact during periods with larger gains. Zero cost put spread collars can provide more upside (i.e. higher strike calls) vs traditional collars but at the expense of no protection below the short put strike.

Shorter duration hedges require less capital allocation but may cost more in the long run. Shorter duration hedges may also provide better protection from short sharp declines but at the expense of forced resets (e.g. monthly, quarterly, yearly) when the hedge expires. This reset can be quite expensive if it occurs in the middle of a major decline and can subject investors to multiple deductibles within a calendar year thereby significantly reducing or eliminating protection.

Longer duration hedges may have lower daily carry costs but are generally less sensitive to local market conditions and therefore may not be as effective at protecting against short term corrections.

If the strategy involves selling puts (e.g. put spread collars, option income strategies), losses often occur during market declines and therefore may reduce the effectiveness of the hedge and even negate the hedge below the short put strike price.

Passive implementation (option positions) is easier for the manager (i.e. less trades) and delivers more predictable returns but potentially at the expense of less protection and more restrictive caps. Alternatively, however, active management may cost the investor when a rule requires covering and therefore realizing losses that would have evaporated a few days later.

Strengths and weaknesses for each strategy are summarized in the following table.

Hedged Equity Option Overlay Strategy	Strengths	Weaknesses
<b>Covered Call (Passive)</b>	<ul style="list-style-type: none"> <li>• Simple to understand &amp; to execute</li> <li>• Available on wide range of platforms/custodians</li> <li>• Predictable performance</li> <li>• Requires lowest option approval level</li> <li>• Tax efficient since equity is buy-hold</li> <li>• No exposure to put writing losses</li> <li>• Reduced volatility</li> </ul>	<ul style="list-style-type: none"> <li>• Minimal protection limited to premium earned from call writing</li> <li>• Capped upside</li> <li>• Passive implementation leaves no room for manager to optimize real-time</li> </ul>
<b>Zero Cost Collar (Passive)</b>	<ul style="list-style-type: none"> <li>• Simple to understand &amp; to execute</li> <li>• Availability</li> <li>• Predictable performance</li> <li>• Capped downside risk</li> <li>• Requires lowest option approval level</li> <li>• Tax efficient since equity is buy-hold and hedge provides capital losses while locking in prior period gains</li> <li>• Reduced volatility</li> </ul>	<ul style="list-style-type: none"> <li>• Capped upside</li> <li>• High deductible</li> <li>• Subject to multiple deductibles per year</li> <li>• Short term hedges must be reset during unfavorable market conditions</li> <li>• Passive implementation leaves no room for manager to optimize real-time</li> </ul>
<b>Zero Cost Put Spread Collar (Passive)</b>	<ul style="list-style-type: none"> <li>• Simple to understand &amp; to execute</li> <li>• Predictable performance</li> <li>• Higher upside cap than traditional collar</li> <li>• Tax efficient since equity is buy-hold and hedge can provide capital losses during rising markets while locking in prior period gains</li> <li>• Reduced volatility</li> </ul>	<ul style="list-style-type: none"> <li>• Capped upside</li> <li>• Lower deductible than traditional collar</li> <li>• Hedge expires and must be reset at unfavorable times</li> <li>• Short put exposes investor to full market risk below put strike</li> <li>• Passive implementation leaves no room for manager to optimize real-time</li> <li>• Requires higher option approval level</li> </ul>
<b>Swan Global Investments DRS Leaps Hedge + Option Income (Active)</b>	<ul style="list-style-type: none"> <li>• Use of longer-term options for hedge (i.e. 2 year LEAPS) and rolling each year minimizes hedge depreciation and locks in prior year gains. Never under duress to re-hedge during severe declines</li> <li>• LEAPS hedge less sensitive to local volatility (fairly priced for purchase)</li> <li>• Actively managed hedge provides cash in bear market declines to purchase additional shares and increase upside capture (i.e. sell high / buy low)</li> <li>• Actively managed option income component can supplement returns in wide range of markets.</li> <li>• Reduced volatility</li> </ul>	<ul style="list-style-type: none"> <li>• Hedge requires larger allocation of total portfolio (e.g. 7-10%)</li> <li>• LEAPS hedge less sensitive to local market corrections (i.e. engineered for larger declines and bear markets)</li> <li>• Income component can deliver losses which may offset some of the hedge effectiveness</li> <li>• Active management of hedge and income may be harder to explain and may increase variability of local performance</li> <li>• Separation of shorter term Option Income and longer term Hedge components allow each to be managed independently to optimize returns</li> </ul>

Investors should understand that there is no perfect hedged equity option overlay strategy for all market conditions and all investment objectives. Investors need to understand the strength and weaknesses of each strategy and carefully consider the term and placement of each hedged equity option component to best understand how each strategy will perform in each market condition. Investors can then choose the best strategy which meets their investment timeline, risk tolerance and objectives. A strategy designed for maximum protection may not deliver the best long-term returns. A strategy designed for high upside capture may not provide sufficient protection.

In conclusion, hedged equity option overlays provide incredible power to more accurately deliver desired returns without relying on timing or prediction. These strategies may provide alternatives to safely increase equity allocations when trying to construct portfolios with little or no fixed income (due to Fed monetary and fiscal policy destroying fixed income yield). Similar to insurance policies, hedged equity counterparts have costs, terms, deductibles, and maximum coverage. These strategies are truly the new weapons in investment warfare that should be explored by all investors. Investors who take time to explore and apply these powerful strategies can reap the benefits and quite possibly better achieve their goals.

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Further information is available upon request by contacting the company directly at 970-382-8901 or [swanglobalinvestments.com](http://swanglobalinvestments.com). 381-SGI-091020



# About Swan Global Investments

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Investing Redefined® - Since 1997, our distinct investment approach has been redefining investing by directly addressing the biggest threat long-term investors face: market risk.

Market risk is too big a threat to investors to be dealt with passively. So we hedge it.

Swan Global Investments is a leader in hedged and options strategies, providing goals-based investment solutions built on an “Always Invested, Always Hedged” philosophy that seek capital appreciation, while mitigating market risk.

Our simple, yet innovative Defined Risk Strategy is a time-tested, goals-based investment approach that seeks consistent long-term returns by combining the benefits of passive investing with active risk management to mitigate risks to irreplaceable capital.



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