PASSAIC | PARTNERS™

Protect your gains and stay in the game

Q2 2022

- Buying outright puts to hedge equity downside can be costly and a constant drain on portfolio returns.
- The Put-Spread Collar is the popular form of portfolio protection.
- Passaic's Hedged Equity strategy is a low-risk equity strategy that seeks to provide capital appreciation through equity market participation while limiting the downside.
- Passaic's approach to implementing a put-spread collar is driven by an informed understanding of option market dynamics which includes a proprietary view of implied volatility, term structure, and skew dynamics.

In this piece, we will briefly explain how various defensive options strategies and passive option indices work and why Passaic Partners' tactical dynamic approach produces better risk-adjusted returns with transparency and liquidity.

Demand for Protection

The start of 2022 has been very difficult for client portfolios. First, bonds have not been a good diversifier, suffering losses in lockstep with equities. Second, the technology sector, once again, has shown that the 'easy go' is much quicker and more painful than the 'easy come'. Third, while illiquid investments are successfully masking mark-to-market volatility, they are also tying up dollars that could otherwise be used for 'buying low', a key source of alpha in this environment.

Two catalysts have driven the markets down and exposed these issues: one, the Russian invasion of Ukraine; and two, the accelerated pace of interest rate hikes in the US. In order to preserve pre-2022 equity gains, investors are anxiously turning to hedged strategies.

Defensive Option Strategies

There are three types of option hedging strategies that episodically add value: puts, equity index collar, and put spread collar.

1. Buying out-of-the-money *puts* against long market exposure is the simplest but most costly form of option-based portfolio insurance. As illustrated in the figure below, this strategy will simply protect against a material market sell off.

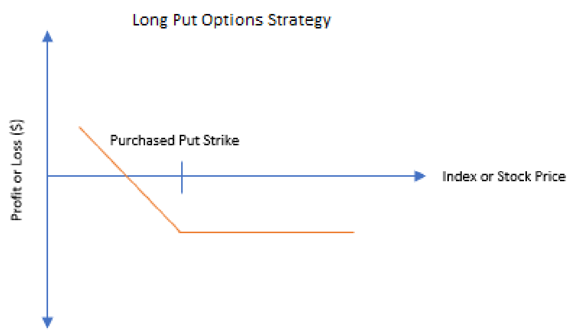

Figure 1: Long Put Options Payoff Diagram

ADVANTAGES

- Reduce the impact of price decrease
- Unlimited downside profit potential

CONSIDERATIONS

- Akin to buying an insurance policy; risk of losing premium paid
- Drag on the portfolio return

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2. Building on the outright put, an *equity index collar* involves selling a call against the long market exposure and the outright put. The purpose of selling the call is to defray the cost of the put. As with the outright put strategy, it will protect against a significant sell off, but it will also eliminate a portion of the gains if the market moves substantially higher, as illustrated below.

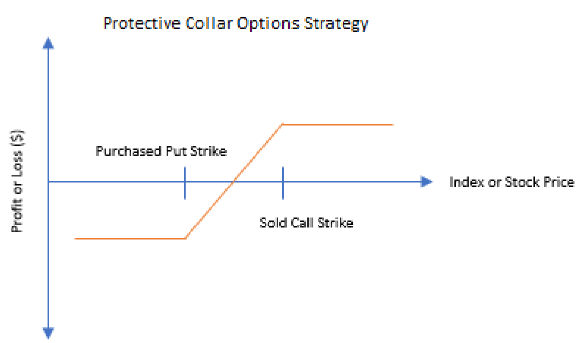

Figure 2: Protective Collar Options Payoff Diagram

ADVANTAGES

- Limit losses from falling stock/index price
- Allows for some upside exposure
- Cheaper than outright put buying
- Maintain ownership of stock/index

CONSIDERATIONS

- Limits gains from stock/index price
- Creates upside risk of loss

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3. Once again, building on the equity index collar, *the put-spread collar* adds a fourth position to the trade, a short put below the strike of the long put. Adding the short put further defrays the cost of the outright put and enables the investor to increase the strike level of the call providing the ability to capture more of·the upside. As illustrated below, investors use this strategy to profit from a trading range, rather than a significant move up or down in the market.

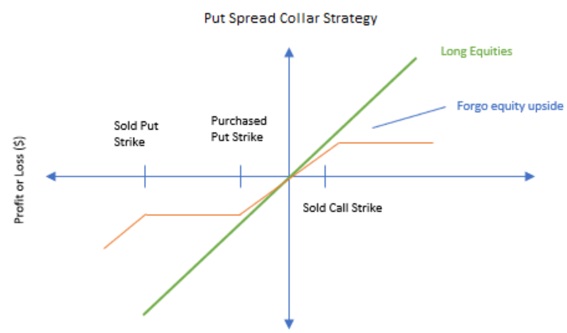

Figure 3: Put-Spread Collar Options Payoff Diagram

ADVANTAGES

- Limits losses from a falling stock/index price up to the sold put strike
- Premium collected from sale of the put option allows the trader to raise the strike prices on the sold call allowing for more upside
- Cheaper to implement than a traditional collar
- Maintain ownership of the stock/index

CONSIDERATIONS

- Limit gains from rising stock/index price
- Downside protection limited to range between long put (hedge) and short put strike

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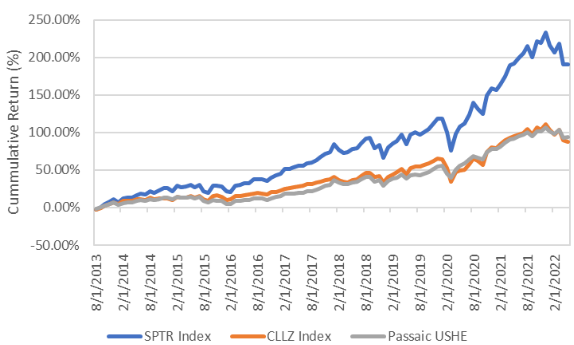
Passive Option Indices

In this section, we address the passive index option strategy benchmarks created by the CBOE.

The CBOE S&P 500 Zero-cost Put Spread Collar Index (**CLLZ**) is a benchmark index designed to track the performance of a hypothetical low volatility strategy that (1) holds a long position to the S&P 500 Index, (2) buys a monthly 2.5% Out-of-the-Money (OTM) SPX Put option to reduce the risk and sells a monthly 5% OTM SPX Put option (SPX Put Spread), and (3) sells a OTM monthly SPX call option to cover the cost of the Put Spread. The CLLZ portfolio is rebalanced monthly after the expiration of SPX options.

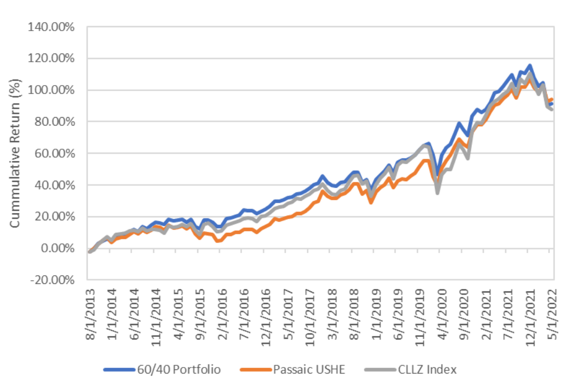
The issues with passive index strategies include:

- one size fits all strategy for all market conditions;
- no tactical implementation - volatility, term structure, and skew are not considered;
- zero-cost collar the CLLZ Index fails to capture significant upside gains and provides sub-optimal protection against large downside moves which is seen in the Sortino comparison in the figure below



	YTD	1 yr	1 yr Vol	1 yr IR	3 yr	3 yr Vol	3 yr IR	5 yr	5 yr Vol	5 yr IR	ITD	Ann. Vol	Ann. IR	Sortino Ratio
Passaic USHE	-6.23%	1.30%	8.48%	**0.15**	11.89%	9.67%	**1.23**	10.15%	9.39%	**1.08**	7.79%	8.23%	**0.95**	1.65
SPTR Index	-12.76%	-0.30%	15.40%	**-0.02**	16.44%	17.87%	**0.92**	13.38%	16.28%	**0.82**	12.85%	13.93%	**0.92**	1.61
CLLZ Index	-10.83%	-3.51%	11.45%	**-0.31**	9.25%	14.70%	**0.63**	7.88%	12.85%	**0.61**	7.39%	10.60%	**0.70**	1.17

Figure 4. *S&P 500 Total Return Index, CBOE Zero-Cost Collar Index and Passaic USHE cumulative return and annualized return/annualized volatility statistics from 8/1/2013 to 5/31/2022.*



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60/40 Portfolio	-11.29%	-3.92%	10.47%	**-0.37**	9.04%	11.40%	**0.79**	7.68%	10.16%	**0.76**	7.62%	8.64%	**0.88**	1.52
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Figure 5. *Portfolio of 60% S&P 500 Total Return Index and 40% AGG US Equity Index, CBOE Zero-Cost Collar Index and Passaic USHE cumulative return and annualized return/annualized volatility statistics from 8/1/2013 to 5/31/2022.*

Passaic's Approach

Passaic Partners Hedged Equity strategies (U.S. and Global) employ a quantitative, rules-based, tactical methodology. This strategy seeks to capture 70% of the upside performance while mitigating 50% of the downside performance. In practice, we overlay market beta with a proprietary equity put purchasing strategy. Passaic's Hedged Equity employs a systematic investment process which involves:

1. proprietary signals inform our view on implied volatility, skew, and term structure;
2. determine volatility environment: high, medium, or low;
3. select one of four option strategies that best fit the current environment;.
4. modify positions between puts, put-spreads, collars, and put-spread collars (sometimes calendar and sometimes vertical);
5. dynamically changing the option strategy;
6. optimize and rebalance the portfolio monthly – increases market exposure as the markets sell off and reduces market exposure as markets rally.

Passaic believes that protecting downside will result in long-term outperformance.

In the following section (Competitors), we illustrate how Passaic Partners U.S. Hedged Equity strategy compares with other risk-reduction strategies in the market.

Footnotes:

1. *Passaic Partners Hedged Equity (the "Strategy") performance is reported net of fees and transaction expenses, is unaudited, and may reflect the reinvestment of dividends and other earnings if applicable. See End Notes for additional information.*
2. *The composition and volatility of the indices referenced herein are materially different from that of the Strategy. There is no guarantee that the Strategy's performance will meet or exceed any index. Any benchmark or index performance is provided for purposes of comparison and does not reflect the deduction of fees, brokerage commissions, taxes or other expenses of investing.*

Competitors

In March 2022, 60/40, which has performed extremely well on the back of strong equity returns, posted its worst monthly slide since the start of the pandemic. 60/40 portfolios were designed to solve two objectives: long-term capital appreciation and capital preservation. We believe that it will be extremely difficult for 60/40 to achieve either objective on a go-forward basis with equity valuations at all-time highs and real rates on bonds negative.

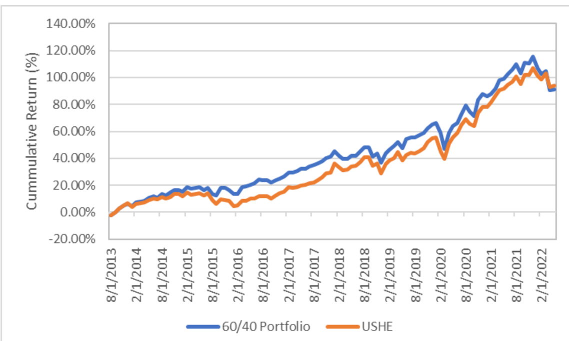

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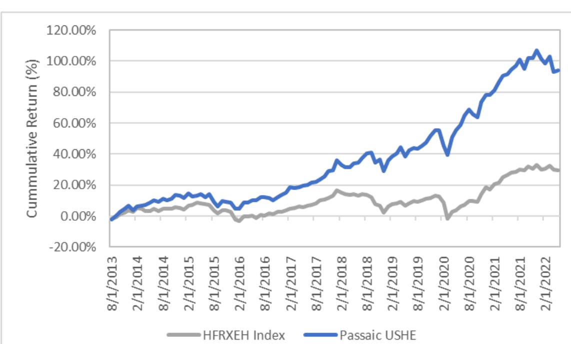
Figure 6. Portfolio of 60% S&P 500 Total Return Index and 40% AGG US Equity Index AND Passaic USHE cumulative return and annualized return/annualized volatility statistics from 8/30/2013 to 5/31/2022.

Equity long/short hedge funds have worked hard to produce better risk-adjusted equity returns. Whether it be a top-down or bottoms-up approach the broad universe of equity long/short hedge funds have suffered from an inability to consistently capitalize on mispricing's or to put sufficient cash to work to avoid material drag. Whatever the reason, the results are not there, headline risk is too high, and a lack of liquidity make it very difficult to justify the fees.



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HFRXEH Index	-2.66%	2.38%	4.74%	**0.50**	6.54%	8.43%	**0.78**	4.13%	7.72%	**0.54**	2.96%	6.73%	**0.44**	0.66

Figure 7. HFRX Equity Hedge Index and Passaic USHE cumulative return and annualized return/annualized volatility statistics from 12/31/2013 to 5/31/2022.

Conclusion

We believe that derivative strategies are the most effective way to hedge market beta. Using these strategies in isolation has its limitations and therefore Passaic Partners seeks to use the strategy that is most effective in the current market environment.

Investors use Passaic Partners Hedged Equity strategies as a replacement for long-only equity, long-only bonds, and equity long/short hedge funds. By providing investors with a more durable return stream with daily liquidity and daily transparency, Passaic Hedged Equity strategies allow investors to maintain market exposure, reduce risk, better manage cash needs, improve long-term performance.

For more information about Passaic Partners, please contact info@passaicpartners.com.

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The composition and volatility of the indices referenced herein are materially different from that of the Strategy. There is no guarantee that the Strategy's performance will meet or exceed any index. Any benchmark or index performance is provided for purposes of comparison and does not reflect the deduction of fees, brokerage commissions, taxes or other expenses of investing.

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