

CASE STUDY

Harnessing Stock Market Volatility to Add Incremental Return

The Wall Street Journal, April 30, 2018: The Real Risk is Believing that Volatility is Risk - “Volatility matters a lot if you have a short-term investing horizon, because it is a proxy for how much money you might make or lose over a short period. But if you have a long-term horizon, volatility is an opportunity.”

Warren Buffett: “Risk is not the same as volatility, but that lesson has not customarily been taught in business schools, where volatility is almost universally used as a proxy for risk. Though this pedagogic assumption makes for easy teaching, it is dead wrong: Volatility is far from synonymous with risk.”

Goldman Sachs Research, November 15, 2007:

We believe equity index volatility meets the definition of an asset class:

- (1) selling index volatility offers significant, passively generated returns for equity and credit investors;
- (2) returns are large enough to justify a nontrivial allocation; and
- (3) volatility selling offers an appealing diversification benefit.

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Published: January 2019

During periods of high market volatility, individual investors typically become fearful, so it's only natural for them to react skittishly to proposals for new types of investments when volatility is brisk. Indeed, they're worried enough about the investments they already hold.

After a year of historically low volatility and upward ascent in 2017, the domestic stock market turned volatile again in 2018, much to the chagrin of investors who had enjoyed a fairly steady ride of great returns the previous year. And now, after market declines in early in 2019, individual investors are even more shaken by rollercoaster volatility, and worried about its impact on their portfolios—and their retirements.

When advisors' clients think of volatility, many doubtless see only of risk—without opportunity. And risk in general is a huge concern for them, especially those scarred and scared from the 2008 financial crisis—a specter that so haunts individual investors' psyches that it has played a strong role in their financial behavior over the past decade. The decade-long bull market has been a salve for their wounds, but now that returns are down and volatility is spiking, many of these individuals are afraid because they lack awareness of strategies designed to deal with a shifting market landscape.

The late John Bogle famously said that, as volatility is a certainty, the question isn't whether investments will go up and down, but whether investors will overreact by doing “something dumb” (sell low, only to buy back in at higher prices down the road). There's a corollary to Bogle's insights: Volatility is also a chance to do something smart—to harness this force for supplemental returns.

Indeed, abject fear of volatility is irrational. As volatility is always present to some degree, fearing it too much would presumably preclude any equity investments whatsoever. Volatility is simply the price of admission to enter equity markets.

Harnessing Volatility

A more rational approach for equity investors is to harness volatility for gain through a disciplined, long-term options program. Some advisors might regard this as an unlikely choice for their individual clients, but trends in recent years show otherwise. For years after listed options were first introduced in 1973, adoption was slow. But at least since 2010, options have been coming into increasingly broader usage by independent advisors serving retail clients. A [2017 study by Cerulli Associates](#) showed that options use had grown to the point where independent RIAs that were using them were doing so across 28% of their client accounts. Further, the survey found, these firms expect to extend options usage to 39% of their accounts by 2020.

In recent years, many clients have changed their portfolios by using more alternative investments, reflecting a [significantly broader use of them](#) in the industry as a whole. This suggests opportunities for advisors to characterize options as a move consistent with the theme that individuals' portfolios today aren't their fathers' portfolios.

The Overlay Strategy

For clients who come to accept the potential benefits of options in their portfolios, a potentially attractive approach for providing long-term income while managing risk is an overlay strategy. Such strategies seek to exploit volatility through repetitive trades in a long-term program, applied in tandem with exposure to an underlying portfolio, that derives returns from the ups and downs of indexes. When properly executed, these strategies can be an effective way to seek small yet incrementally significant amounts of additional yield.

Overlay strategies utilizing put options on an index can be designed to seek premium credit returns from equity index option spreads. Tied to an underlying broad-based equity index, this is a long-term, time-premium-capture strategy to yield cash flow and eventual capital gains.

Generally, this strategy requires:

- An underlying large position in a single equity security, a diversified portfolio of equities or mutual funds, or in a portfolio of individual bonds.
- An upward bias by investors—an unwavering belief that the market will grow over decades or, at least, maintain its worth.
- Long-term commitment and perennial patience. Years with poor returns should be expected and abandoning the strategy prematurely may mean forfeiting the opportunity for compensatory gains. If clients throw in the towel in the wrong year—typically, when asset prices are declining—this could significantly damage long-term average returns. Thus, the highest potential goes to the committed, as success hinges on clients having faith and remaining confident during down years. This steadfast mentality requires a conceptual understanding of the strategy and faith in advisory execution—key factors influencing risk tolerance. This is a strategy for patient, long-distance runners, for tortoises rather than hares. It tends to be most suitable for clients with an investment horizon of 10 years or longer.

Unavoidably, seeking to leverage volatility increases exposure to it. Yet, when tied to the right indexes and properly executed over the long term, this strategy tends to carry a relatively low risk of permanent loss of capital, if history is any guide. Of course, past performance (hypothetical or actual) doesn't predict future returns; it's possible that the market could change into an unrecognizable entity.

But this strategy is designed to exploit the nature of the market as we have historically known it. It's designed to use volatility in underlying indexes, rather than being captive to it, by exploiting the difference between implied volatility—what the market expects and prices in—and actual volatility, the ups and downs that actually occur.

There are two main objectives:

1. Generating positive monthly cash flow from option premiums.
2. Hedging downside risk by employing a long defensive position.

Principles reflected in the strategy's methodology include:

- On average, time tends to work against the option buyer and in favor of the option seller.
- Selling put spreads is like creating a synthetic dividend in that it gives investors a statistically better-than-average probability of success.
- Using the S&P 500 for this purpose holds promise because this index has demonstrated an historical long-term upward trend.

This is not a trading strategy—that is, it doesn't seek returns from attempting to predict the direction of the underlying index. Rather, it's a strategy designed to capture option premiums over the long term through a put credit-spread index position on the S&P 500 (so called because yield is credited to accounts from gains based on the spreads), while simultaneously buying put options to provide insurance against catastrophic loss from a substantial decline.

Back Test

Our comprehensive back test regarding common stocks examined the assumed yet demonstrable retroactive results from having hypothetically invested in the MSCI Large-Cap Value index--both with and without the addition of the overlay, using notional options on the SPDR S&P 500 ETF (SPY). Please note that this back test of these designated strategies in no way reflects the performance of either Sheaff Brock, Innovative Portfolios, or any of their affiliates or any of their client accounts or funds. It is hypothetical only with assumptions made about option premiums and transaction costs. This ETF was used because it has the longest capturable trading history and thus encompasses many different market environments.

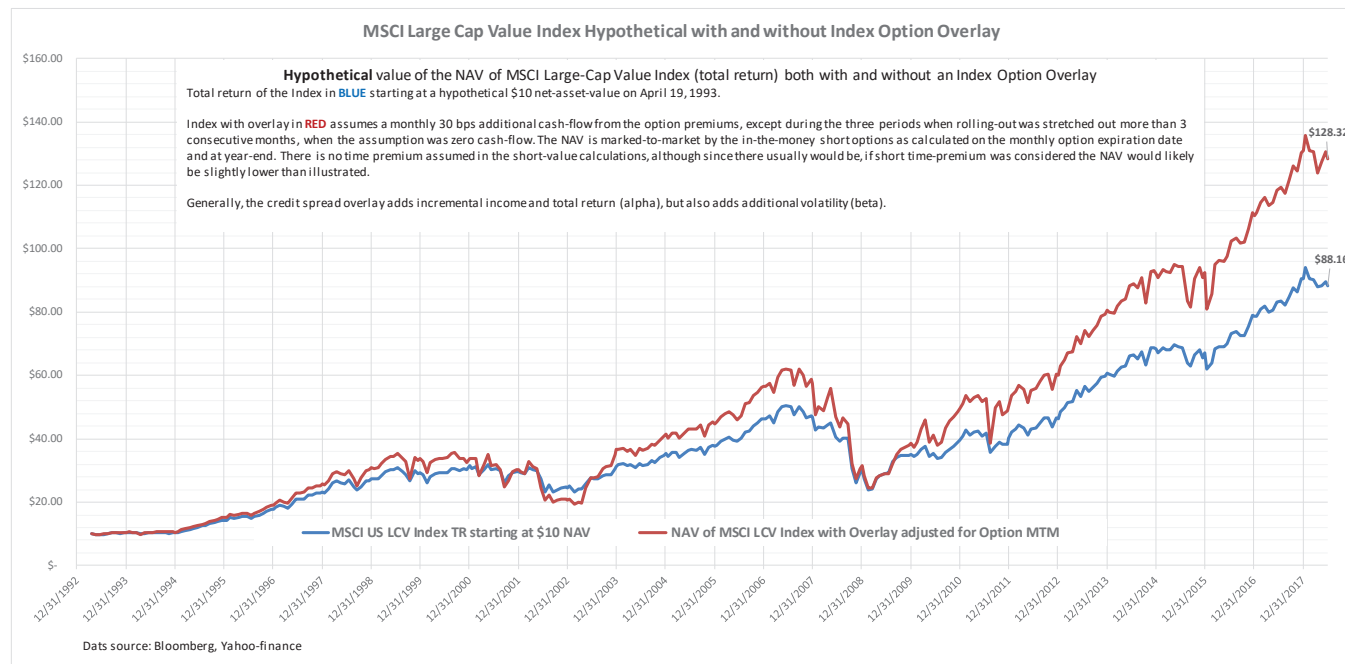
Based on millions of historical datapoints, the study measures the frequency with which puts would have been in or out of the money at expiration, the impact that the short-strike profit or loss had on the portfolio, the period return of the index, the period return of the index with an overlay, and annual returns.

The data used begins in 1993 because that's when options trading on the SPDR S&P 500 index ETF-SPY began. Index return data was obtained from MSCI. The study assumes a management fee of 12.5 bps per month (150 bps annually) on the index with the overlay.

One option spread was typically written for each three-month period. If the front month expires out-of-the-money, a new spread is written for three months into the future, with a strike price 3% lower than the current market value. If the front month expires a small amount in-the-money, the short put is rolled out into the future for a credit, and a new long put is purchased at a target of 15% below the rolled strike price. Thus, trades are predetermined to provide downside protection as well as put income. If the front month expires deep in-the-money, the assumption is made the short put is rolled out into the future for zero credit, and a new long put is purchased more than the target of 15% below the rolled strike price. The spread normally would need to widen.

This hypothetical execution continues throughout the back test with the presumption that option periods will likely roll out for several months when necessary, during periods of high and sustained

market drawdowns (e.g., the financial crisis of 2008). The test methodology seeks to hedge significant declines in the S&P 500 by selling puts on it with 30-, 60- and 90-day expirations; seeking monthly cash flow; and buying a protective put on the overall position to provide insurance.



| Drawdowns | 2000 to 2003 | 2007 to 2009 | 2011 | 2016 | Recoveries | 2003 to 2007 | 2009 to 2018 |
|-----------------|--------------|--------------|------|------|-----------------|--------------|--------------|
| Index | -27% | -53% | -16% | -10% | Index | 118% | 270% |
| Index w/overlay | -46% | -61% | -28% | -16% | Index w/overlay | 205% | 377% |

Here’s an example of the execution, starting from the very beginning of the data.

Based on the SPY price of 43.56 on Feb. 19, 1993, we sold a 43 put for May and bought a 36 put for catastrophic insurance. On the May expiration date, SPY had risen to 44.75, so the 36 put expired worthless. That was the downside insurance and, as with most insurance policies, it wasn’t invoked—an outcome that was expected for most periods.

The result for the first series of options: Through May’s expiration date, the index’s total return was – 3.508%. The option overlay added 17.5 bps of net return, making the index with overlay return –3.33%. The hypothetical NAV of the index went down 35 cents, from \$10 to \$9.65, while the NAV of the index with the overlay dropped a little less, from \$10.00 to \$9.67.

This “execution” continued repetitively through 1993. At year’s end, the overlay had produced a net return of 4.42% versus a return for the index alone of 2.97%.

The overlay outperformed the index alone for the next seven years, returning 134.59% versus 119.48%. It wasn’t until 2000 that the overlay underperformed the index, rising only 0.15% for the year compared with a 6.91% return for the index alone. During that year, options had to be rolled four times for losses. We closed the initial contracts and opened new longer-term contracts at the then-current market price.

During the tech stock meltdown at the turn of the century, the options had to be rolled each month, leading to a -10.48 performance versus the index's return of -5.28 in 2001. A loss compared with the index occurred again in 2002 at -31.49 versus -18.45.

Strong Finish

Yet the overlay ship righted itself and sailed nicely in ensuing years. In 2003, the overlay surged 77.5% against 28.38% for the index. On the whole, the overlay outperformed until the market meltdown in 2008, but then recovered nicely over the remainder of the rest of the test, through mid-2018, except for 2011.

Steep drawdowns and recoveries for the overlay during the back-test period occurred during periods of sustained and high market volatility. For example, from 2007 to 2009, the portfolio with the overlay fell 61%, versus a 53% loss for the index alone. But during the 2009-2018 recovery, the overlay returned 377% against 270% for the index alone.

Results

The back test produced a total return of 1,183% over the 26-year period, versus a nearly 782% gain for the index alone. In only six of the 26 years did the option overlay produced a negative return versus the index alone.

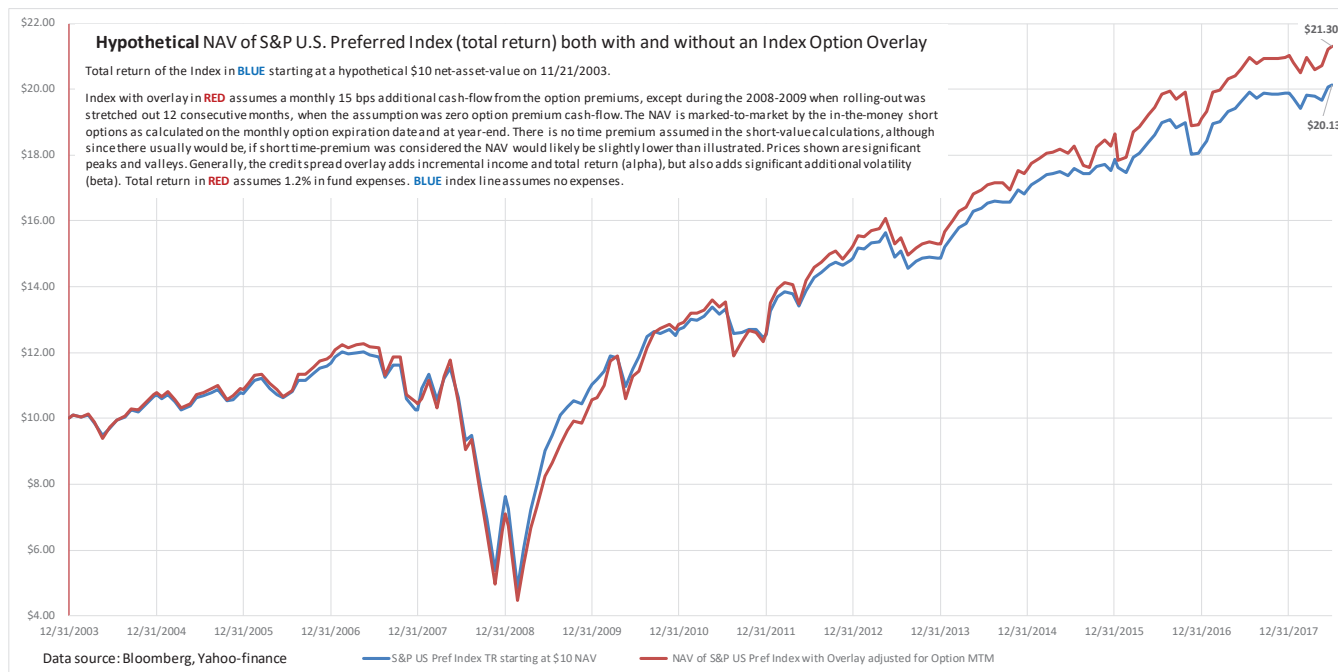
Using the overlay instead of the index alone, long-term investors would have realized an additional return totaling 200 to 300 basis points annually after trading expenses.

Preferred Index Overlay

If this back test of the overlay strategy resulted in good hypothetical returns, we reasoned, the results from using the same basic methodology for an options overlay in tandem with a preferred stock large cap index would likely also prove beneficial.

Preferred stocks can significantly diminish interest-rate risk in diversified portfolios. And as many have traditionally paid dividends, they offer significant tax advantages. A large and liquid asset class, preferred stocks' typical issuers are companies with high, stable and transparent cash flows, such as banks, insurance, utilities, telecommunications companies and real estate investment trusts.

So, as the inclusion of preferred shares in client portfolios makes sense, we proceeded to back test the overlay on this category. The methodology for this test was highly similar to the one used for the common stock index, but there was a key difference. While the common stock index study tested results with and without a 100% hypothetical overlay exposure, the preferred back test did so with an overlay exposure of 50%. A key reason for this was that many investors who buy preferred stocks are seeking exposure to their low-risk, bond-like behavior. Though these investors may be interested in an overlay to harness risk to some degree, they could still be relatively risk averse.



| Drawdown | 2007 to 2009 | 2011 | 2016 | Recovery | 2009 to 2018 |
|-----------------|--------------|------|------|-----------------|--------------|
| Index | 60% | 7% | 2% | Index | 315% |
| Index w/overlay | 64% | 13% | 4% | Index w/overlay | 377% |

Preferred Test Results

The period for this test began at the end of 2003. As we did with the strategy for the common stock index, we employed the short strike and long insurance put strike.

Through 2004, the total return for the overlay was 7.86%, compared with 7.21% for the index alone. The overlay underperformed the index in three of the 15 years tested. Over the entire period, however, the total return of the overlay was 112.98%, compared with 101.30% for the index alone.

As there’s less volatility in preferred stocks, drawdowns and recoveries were less pronounced than in the common stock back test. For example, the drawdown for the overlay was 64% from 2007 to 2009, versus 60% for the index. The long recovery from 2009 to 2018 saw the overlay rise 377%, compared with 315% for the index alone.

Though a hypothetical look back, this test indicates promise for the overlay strategy design, as do the results of the common stock index study. The back tests don’t represent real gains by real investors, but they nevertheless show that overlay strategies have significant potential for investors who are willing to commit to them as a step toward reaching their financial goals.

However, back tests aren’t likely to change client attitudes without an accompanying understanding of the overlay strategy methodology and goals—or, for that matter, without a basic understanding of options.

The Financial Planning Question

For these clients, the major financial planning question is: Are the chances for incremental additional returns worth the additional exposure to volatility? Historical market patterns indicate that, for the right investors, they probably are. The wrong investors are those for whom the additional returns aren't worth the angst that they might experience—assuming their advisors haven't managed to assuage fears that typically accompany a poor or nonexistent conceptual grasp of the role of a long-term options program in a portfolio and how the right methodology can control risk.

Exploding Myths

Despite increasing use of options by individuals, the word “options” remains a fear trigger for many because of associations with Wall Street speculators, and of their general category as derivatives, which carries a popular onus as being generally high-risk.

One reason that options myths stubbornly persist is that options are typically associated only with trading strategies by which institutional investors engage in rank speculation. Though a long-term options overlay is another thing entirely, the stigma of speculation is stubborn and hard to detach. The best example of an options debacle that many clients may remember is Long Term Capital Management's downfall in 1998, which made the Nobel-laureate-managed firm synonymous with the risks of options in the popular mind--when actually, the firm's problems derived from too much leverage, a fatal flaw in any investment strategy. The challenge here for advisors, then, is to help clients clearly distinguish a highly leveraged options strategy from one that has less net exposure than the client's account value.

Dispelling myths and overcoming misconceptions is no easy undertaking, but with the right clients—those who aren't highly risk-intolerant—it can be accomplished by using an effective education program.

This is essential because clients who fully understand the strategy are more likely to stay with it and potentially benefit. The first step is to get them to understand using options may be a way to harness the volatility they fear.

By identifying the right individuals, properly educating them and using a sound overlay strategy, advisors can position them to exploit volatility rather than lose sleep over it.

Disclaimer:

Please note that the performance shown in the above Case Study does not in any way reflect on the performance of Sheaff Brock, Innovative Portfolios or any of their affiliates. The back test is a hypothetical application of various strategies and is presented as a case study **only** in the use of these strategies. Various assumptions were made relating to the value of the option premiums or transactions costs that may or may not be accurate and may influence the results of the back test.

The results shown reflect the results of a hypothetical portfolio following the MSCI Large-cap Value Index or the S&P U.S. Preferred Index (Index) with a put credit-spread index option on the SPDR S&P500 Index ETF achieved through back-testing. Back-testing involves a hypothetical reconstruction, based on past market data, of what the performance of a particular account would have been had the adviser been managing the account using a specific investment strategy. These results should not be viewed as indicative of the adviser's skill and do not reflect the performance results that were achieved by any particular client. During this period, the adviser was not providing advice using this model and clients' results were materially different. The model that gave rise to these back-tested performance results is one that the adviser is now using in a mutual fund.

The illustration does not represent an actual client account but is a retroactive application of the trades in the strategy to a hypothetical mutual fund with a \$10 starting net asset value with the benefit of hindsight. Hypothetical results are shown using actual trade prices for the Index. Hypothetical results from the credit-spread index option assumes 30 basis points monthly options spread premium on 100% notional (or 15 basis points monthly options spread premium on 50% notional for the Preferred Stock strategy) in all periods except when the strike price was in-the-money by greater than 10% in which case 0 bps points of option spread premium is used. Hypothetical results assume an in-the-money credit spread can be rolled out-and-down one month by \$1.5 in strike price for a breakeven credit. There can be no assurances that the assumptions can be obtained in the future. The impact of mark to market on the credit-spread index options is applied to the net asset value each month, however not with an extrinsic time premium, which may have reduced the results. The results do not show the impact of trading commissions and including these costs would reduce the results. The strategy includes the deduction of a 1.50% annual management fee (or 1.20% annual management fee for the Preferred strategy), applied monthly in arrears. Results do reflect the reinvestment of premiums from the put credit-spread and income and dividends from the Index. The illustration assumes a start date of 2/19/1993 which is the inception of the SPDR S&P 500 ETF (or start date of November 23, 2003 which is the inception of the S&P U.S. Preferred Index). The hypothetical example assumes no deposits or withdrawals to the account. There are inherent limitations of data derived from the retroactive application of model developed with the benefit of hindsight, namely that the adviser now knows the price movements which would not have been apparent at the time so it may have taken a different course. The performance shown does not reflect the impact that material economic and market factors had or might have had on decision making if actual money had been managed. Performance information of the MSCI Large-cap Value Index, the S&P 500 Index or the S&P U.S. Preferred Stock Index as benchmark indexes are included for comparison purposes only. The benchmarks are provided to allow for comparison of the portfolio's performance to that of a well-known and widely recognized index.

Investment results portrayed may be materially different from the results portrayed in the hypothetical illustration. Past performance does not guarantee or indicate future results. Individuals should not enter into option transactions until they have read and understood the risk disclosure document titled, Characteristics and Risks of Standardized Options which can be obtained from their broker. Clients or prospective clients directed to Sheaff Brock's or Innovative Portfolios, LLC's Form ADV Part 2A and to one of the firms' representatives for individualized information prior to deciding to participate in any portfolio or making any investment decisions.

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