

## ABR Dynamic Funds' Series on Stagnation Solutions: Part 2

### Short Volatility

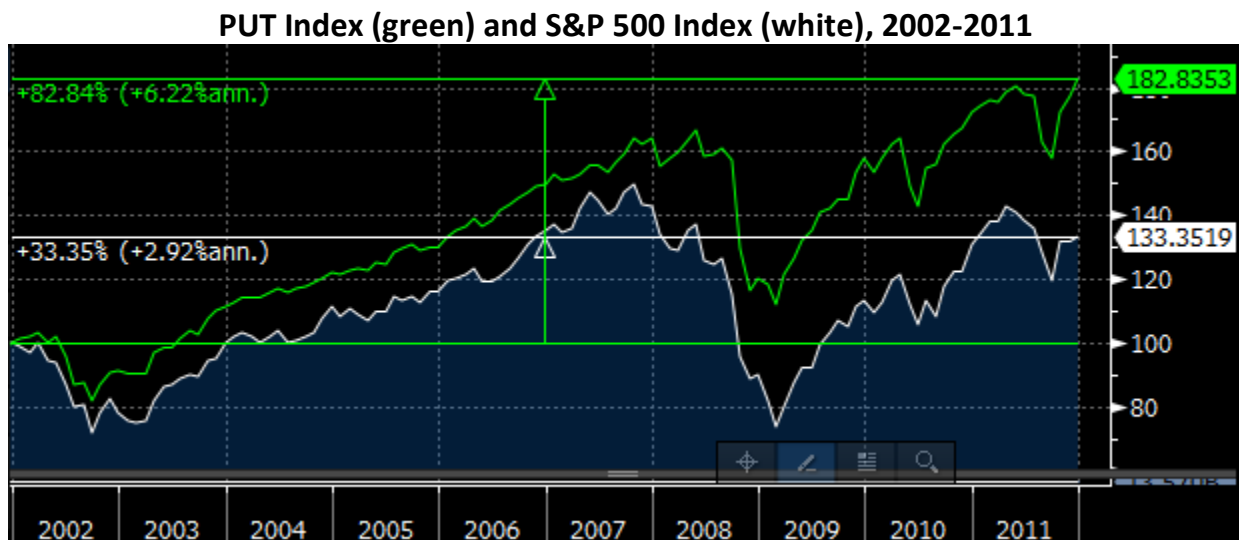
#### Preface

In the first installment, we noted that, at the time this series was written, the S&P 500 Shiller cyclically-adjusted price to earnings ratio (CAPE) was approximately 30 (of course, that can change quickly), and that value has historically indicated a next 10-year annualized return for the S&P 500 of about 3%. The last time the S&P 500 Shiller CAPE was about 30 was near the beginning of 2002. Over the next decade (2002-2011), the S&P 500 annualized return was 2.9%. Therefore, we have chosen that 10-year period to illustrate the equity replacement possibilities throughout this series. That choice reflects neither (1) a prediction that the next 10 years will play out just like the decade from 2002-2011, nor (2) a belief that the Shiller CAPE's forecasts are quite that accurate over time.

#### Short Volatility

Many pensions and large institutions are ahead of the curve on this one. They have been using short volatility exposure as an equity replacement for some time, as it has often produced a similar return profile to equities while tying up less capital than an equity investment sized to similar risk levels. However, shorting volatility has had the potential to deliver an additional source of return, in addition to some inherent equity-like exposure. Over time, the price of volatility instruments (called "implied volatility") has generally exceeded the payout of volatility instruments (called "realized volatility"). These inflated prices, compared to payouts, have created an opportunity to win over the long-term from shorting volatility instruments. Some short volatility strategies layer this potential source of return on top of equity-like exposure, for the possibility of outperforming equities in some market environments.

The following graph shows one such strategy, the CBOE S&P 500 Putwrite Index (PUT Index), which sells (fully collateralized) at-the-money puts on the S&P 500 each month. The time period shown is the decade from 2002-2011, for reasons covered in the preface. **As the graphs shows, PUT Index meaningfully outperformed the S&P 500, producing a 6.22% annualized return over this decade (vs. 2.92% for the S&P 500 Index).** As with all of the choices in this series, the PUT Index was chosen for illustration purposes, and not as an endorsement.



Source: Bloomberg

Recall from above that PUT Index generally seeks two sources of return:

1. The inflated prices of the shorted put options; and
2. The equity-like exposure inherent in shorting put options.

Therefore, PUT Index can also underperform the S&P 500, including perhaps in a rapidly rising equity bull market. In such markets, the shorted put options in PUT Index may become further away from the current S&P 500 price. When that happens, the equity-like exposure of the put options may be reduced, possibly leading to underperformance of outright equity exposure.

### **Additional Observations**

- The inflated price of volatility instruments, over time, is well-documented for S&P 500 Index volatility, but appears less prevalent in individual companies.
- Studies indicate that the most inflated prices of S&P 500 Index options have been found in the downside options (i.e. options with strike prices lower than the at-the-money options), while the least inflated (often not-even-inflated) prices have been found in the upside options. This presents potentially one more reason to avoid option collar overlay strategies, which often buy historically expensive downside put options and sell historically cheap upside call options.
- Equity replacements (such as many Short Volatility strategies) that are selected in part for risk/return profiles that have been similar to the S&P 500 should not be mistaken for significantly diversifying allocations. We've called them replacements, after all.
- The PUT Index used in this installment sells fully collateralized puts, which have a limited maximum loss. However, some forms of short volatility strategies may not have limited losses. In those cases, it may be beneficial to an end investor to access the strategy through long exposure to a vehicle that cannot drop below 0.

### **February 5, 2018 – “Volmageddon”**

We would also like to take this opportunity to address head-on what we think is a misguided criticism of short volatility strategies. It usually goes something like this: “If I short volatility, I’ll blow out. Look at the XIV underlying index on February 5, 2018.”

Straw men aren't known for punching back, so we'll do it. Do you know any investor with all of his/her net worth in short VIX futures? Do you know any advisor who recommends putting 100% of net worth into short VIX futures?

*Please note that the XIV underlying index is a very different form of short volatility than the PUT Index. Comments in this section do not apply to the previous section and vice versa.*

Putting aside the fact that the XIV underlying index is a terrible implementation (market-on-close orders in VIX futures, etc.) of a suboptimal strategy (fixed exposure regardless of risk/reward, etc.), the criticism simply isn't true. Yes, investors who had 100% of their net worth in something that blew out also blew out, but investors who had 1% of their net worth in that same thing only lost 1%. Investments should be

sized appropriately, based on risk, and they should be rebalanced to maintain target exposures. We know this is pretty basic stuff for our audience.

Let's use more realistic numbers than either 100% or 1%. Consider a 10% allocation to the XIV underlying index compared to a 10% allocation to the S&P 500 Index. 10% was chosen as a reasonable illustration of a partial equity replacement. The following chart shows summary statistics for these allocations and demonstrates that the XIV underlying index clearly had the potential to add significant value to portfolios with S&P 500-like exposure. The data cover 2006-2019; that time period includes the "blow out" on February 5, 2018.

Statistic	10% XIV Underlying Index	10% S&P 500 Index
Average Annual Return	5.1%	1.1%
Best Year	18.4%	3.2%
Worst Year	-9.7%	-3.7%

Source: ABR (data from Bloomberg)

For another perspective on the XIV underlying index as a partial equity replacement, we ran two portfolios:

1. 100% S&P 500
2. 90% S&P 500 plus 10% XIV underlying index
  - a. Rebalanced at any month-end when the 90/10 proportions were off by 5% or more

**The portfolio with a 10% allocation to the XIV underlying index performed 2.6% per year better than the portfolio with only the S&P 500 (11.6% vs. 9.3%), and the maximum drawdown over the entire time period increased by only 3.9% (54.8% vs. 50.9%).**

Remember, the XIV underlying index is, frankly, a terrible implementation of a suboptimal strategy. Furthermore, this time period (2006-2019) contains a so-called "blow-out" event. Despite all of that, the XIV underlying index would have served as a helpful 10% equity replacement.

It may also be noteworthy that, during the time period 2006-2019, the XIV underlying index essentially had the largest drawdown it could have had, **provided that** exposure to it was achieved through a vehicle that cannot drop below 0 (in line with the fourth bullet point under "Additional Observations" above). That stands in contrast to the S&P 500, which had a large drawdown (~50%), but not its largest ever (~80%) or largest possible.

*Next Week's Preview: Some high yield bond strategies have outperformed the S&P 500 during decades of lower S&P 500 returns.*

#### Notes/Disclosures

Some of the indices may contain some hypothetical results. There are inherent limitations to hypothetical results. Past performance does not guarantee future results. No index presented in this installment is representative of any strategy at ABR Dynamic Funds, LLC. It is not possible to invest directly in an index. The information presented in this installment does not constitute a complete analysis of any index or strategy, and this installment contains no recommendation to buy, sell, or hold any investment. All data was obtained from sources believed to be accurate; however, ABR Dynamic Funds, LLC cannot and does not guarantee the accuracy of such data.