Lake Hill

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Are you ready for the next downturn?

Spoiler alert! You are most likely not ready for the next downturn. In an 11-year bull market (2009-2019), we have all grown accustomed to positive returns.

The annualized return for S&P 500 TR over the last 11 years has been 14.7%. The worst calendar year in this period was in 2018 (down only 4.4%). This has made allocators and investment boards comfortable using their investment portfolios to drive spending, increase services, and continue capital expenditures.

Our memories fade, so perhaps a refresher would be helpful. In the proceeding 11 years (1998-2008) the annualized return of the S&P 500 TR was just 1.0%. There were 4 negative return years, -37.0% (2008), -22.1% (2002), -11.9% (2001), -9.1% (2000). You might be saying, what is the return over the combined 22 year period? It is 7.6% per annum, which is in line with many plan targets. But let's be honest, who looks at their portfolio only once every 22 years? Nobody. Volatility matters, drawdowns hurt, and portfolio planning is not simply responsible, it's mandatory.

Compounding the equity effect, many allocators have been increasing their exposures to private equity. We believe that private equity is the risk equivalent of leveraged public equity and should therefore be included in the equity allocation. Because of the difference in leverage (1.87x higher leverage in private equity versus public equity) markets, investors now have even higher exposures to the equity market.

If investors continue to maintain or increase their equity exposures, a repeat of the 1998-2008 period would be devastating. The middle of a crisis is the worst time to start planning. Don't order medical supplies in the midst of an epidemic. Don't buy a generator during a blackout. Don't look for an insurance policy while your house is on fire. The equity markets are no different.

The time to plan for a market drawdown event is before it happens.

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Only those who are prepared for a crisis will be able to weather the storm. Until recently, being prepared likely meant buying options and paying away the Volatility Risk Premia [VRP]. Having insurance helps during market downturns, but over the long term the benefits do not offset the costs.

A more thoughtful approach is to buy insurance and pay for it by giving away some upside. The classic option structure that accomplishes this is a zero-cost put spread collar. If executed in a disciplined fashion, one can smooth out annual returns.

A case study of the static put spread collar

A real benefit of a put spread collar is that the sold call option pays for the put spread. Returns are dampened and no net premium is spent.

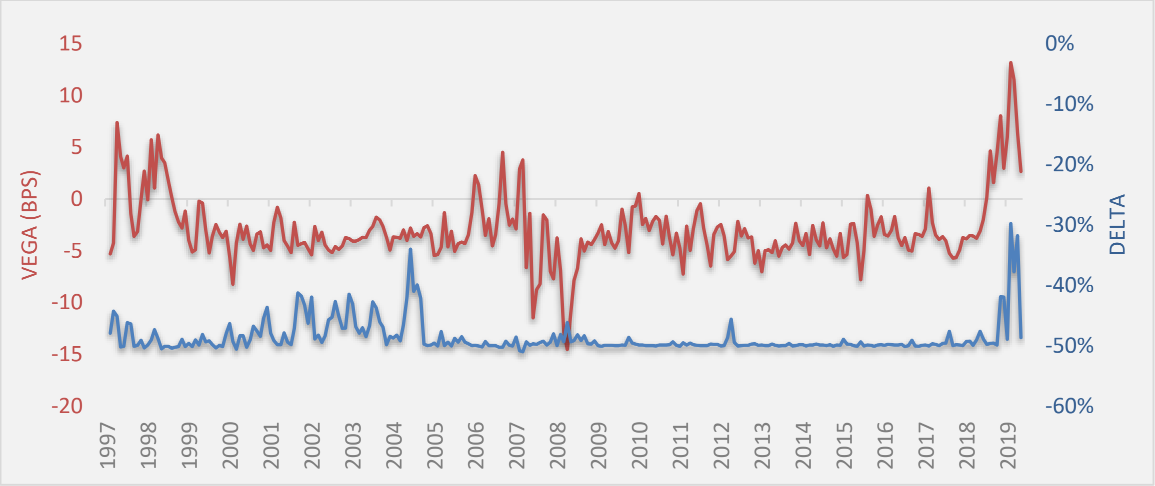
However, the big caveat is that there are many parameters you must choose amongst, and that can lead to choices that turn out to be sub optimal. What strikes should you choose? Which tenor? After the position is initiated, markets will move. So how do you find the most cost-effective collar? Is that collar you selected still the best choice after markets have moved? If the markets have moved enough, your put spread collar may no longer provide the protection you desire. You will want to know if it is possible to improve returns by buying more, holding, rolling down, or reducing? Over the course of a month, an option can easily swing from 0.1 delta to 1 delta and back to 0.1 delta. Is this degree of variation in risk acceptable? How do you factor in the Volatility Risk Premia [VRP] and its associated bias?

The Engine can untangle the put spread collar

Lake Hill's Engine continuously determines the fair value for the entire universe of eligible options and finds the optimal combination of options positions, while adhering to preset risk controls. As exposures to Greeks (delta, vega, etc.) change, the Engine automatically re-optimizes the portfolio. The Engine monitors Volatility Risk Premia [VRP], a driving factor in option pricing, but it does not attempt to predict the future direction or volatility of the market.

We can input risk constraints into the Engine such that we replicate a put spread collar payoff profile. Figure 1 shows how the Engine replicates a put spread collar, it attempts to take advantage of VRP by continuously re-optimizing the portfolio within the pre-defined risk parameters. Since options tend to trade at a premium (VRP), Engine parameters set up to replicate a put spread collar will often be slightly short vega (VRP), but the optimization process is dynamic and is not constrained to always be short vega. Figure 1 shows that while the Engine's consistent short delta position provides market crash protection, it will sometimes reduce that short delta when vega exposures turn positive (as VRP becomes relatively cheap). At Lake Hill we believe that over time our Engine's dynamic re-optimization process will outperform static approaches to time-tested option strategies such as put spread collars.

***Figure 1:** Lake Hill Put Spread Collar Replication. The delta is more tightly managed than a static strategy. The "Engine" dynamically selects the ideal vega exposure given the market conditions.*



What's next?

It would be great if allocators could invest their portfolio only to revisit every 22 years. Unfortunately, this is not possible for most. Reducing the variability of calendar year returns is a highly attractive proposal which can only be done directly with options. We believe the right approach is to modify and adjust options positions daily to both reduce drag and optimize to current opportunities. Something that requires technology, systems, automation and trading discipline.

Past Performance is not indicative of future performance. Data is subject to revision without notice.

Important information regarding the information provided herein:

HYPOTHETICAL PERFORMANCE RESULTS HAVE MANY INHERENT LIMITATIONS, SOME OF WHICH ARE DESCRIBED BELOW. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN. IN FACT, THERE ARE FREQUENTLY SHARP DIFFERENCES BETWEEN HYPOTHETICAL PERFORMANCE RESULTS AND THE ACTUAL RESULTS SUBSEQUENTLY ACHIEVED BY ANY PARTICULAR TRADING PROGRAM. ONE OF THE LIMITATIONS OF HYPOTHETICAL PERFORMANCE RESULTS IS THAT THEY ARE GENERALLY PREPARED WITH THE BENEFIT OF HINDSIGHT. IN ADDITION, HYPOTHETICAL TRADING DOES NOT INVOLVE FINANCIAL RISK, AND NO HYPOTHETICAL TRADING RECORD CAN COMPLETELY ACCOUNT FOR THE IMPACT OF FINANCIAL RISK IN ACTUAL TRADING. FOR EXAMPLE, THE ABILITY TO WITHSTAND LOSSES OR ADHERE TO A PARTICULAR TRADING PROGRAM IN SPITE OF TRADING LOSSES ARE MATERIAL POINTS WHICH CAN ALSO ADVERSELY AFFECT ACTUAL TRADING RESULTS. THERE ARE NUMEROUS OTHER FACTORS RELATED TO THE MARKETS IN GENERAL OR TO THE IMPLEMENTATION OF ANY SPECIFIC TRADING PROGRAM WHICH CANNOT BE FULLY ACCOUNTED FOR IN THE PREPARATION OF HYPOTHETICAL PERFORMANCE RESULTS AND ALL OF WHICH CAN ADVERSELY AFFECT ACTUAL TRADING RESULTS.

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Futures, options and derivatives products inherently involve substantial leverage and also greatly increase the risk of loss. There is no additional portfolio leverage applied to generate the returns.

Risk Factors: Hedge funds and Managed Accounts have certain inherent risks associated with them, including but not limited to the following:

(i) the funds and managed accounts are speculative and involve varying degrees of risk, including substantial degrees of risk in some cases; (ii) the funds and managed accounts may be leveraged and may engage in other speculative investment practices that may increase the risk of investment loss; (iii) the funds' and managed accounts performance may be volatile; (iv) an investor could lose all or a substantial amount of his or her investment; (v) the investment managers have total trading authority over the funds, the funds are dependent upon the services of the investment managers, and the use of a single advisor could mean lack of diversification and, consequently, higher risk; (vi) the funds may have varying liquidity provisions and limitations and there is no secondary market for investors' interests in any of the funds and none is expected to develop; (vii) there are restrictions on transferring interests in the funds; (viii) the funds' fees and expenses may offset the funds' trading and investment profits; (ix) the funds may not be required to provide periodic pricing or valuation information to investors with respect to individual investments; (x) the funds are not subject to the same regulatory requirements as mutual funds; and (xi) the funds are subject to conflicts of interest.

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