April 2024

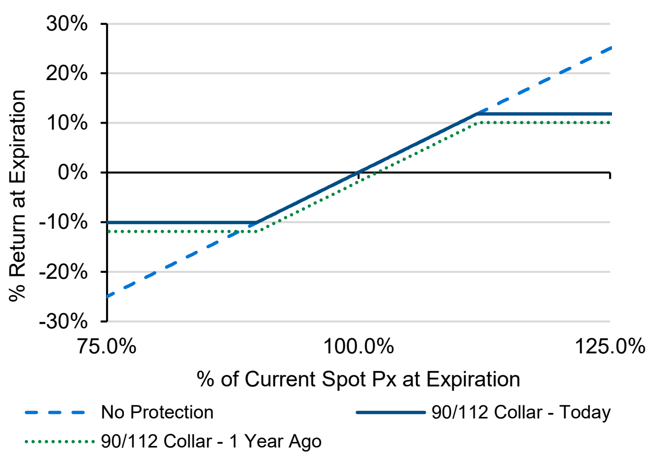
Tailor Your Risk by Buttoning-up with an Equity Collar

Overview

While the considerable equity rally since October 2023 has stocks priced for perfection, we believe the balance of future return scenarios is skewed to the downside. Given the tight macroeconomic backdrop, our view is that these high-flying valuations may be unsustainable and that investors are underappreciating remaining recession risks. If these risks do materialize, poor equity returns may pose a significant challenge for many institutional investors seeking to maintain recently improved funded statuses.

Fortunately, the market is currently offering favorable pricing on combinations of equity options that can be used to define compelling outcomes for well-funded pension plans. For example, an equity collar today can be structured to potentially protect against a drawdown of greater than 10% while still allowing for positive market returns of up to 12% over the next year for no upfront cost. In other words, investors who buy a 90% 1-year put option can fully offset the premium by selling a 112% 1-year call option. [1]

Figure 1: 90% put / 112% call collar payoff at maturity

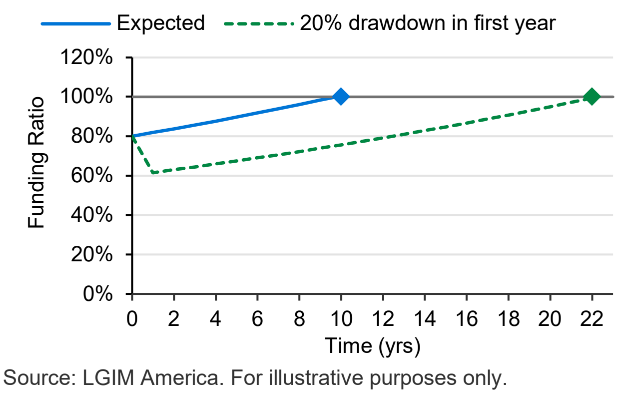


Source: Bloomberg. For illustrative purposes only.

Impact of volatility on pension plans

Even during periods of relative calm, the threat of volatility should always be a consideration for investors. Pension plans, in particular, must achieve target returns over many periods to meet their objectives, but as volatility rises, this becomes more difficult. High volatility regimes increase the likelihood of outsized drawdowns, which, if they occur, can significantly lengthen the time horizon required to fund objectives. Consider a pension plan that begins at an 80% funded status but suffers a pullback to a 60% funded status in one year. This drawdown could add many years of required returns to reach fully funded status, depending on return assumptions. Add the impact of benefit payments, and the pension plan's outcome could be devastating.

Figure 2: Drawdown impact on funding time horizon



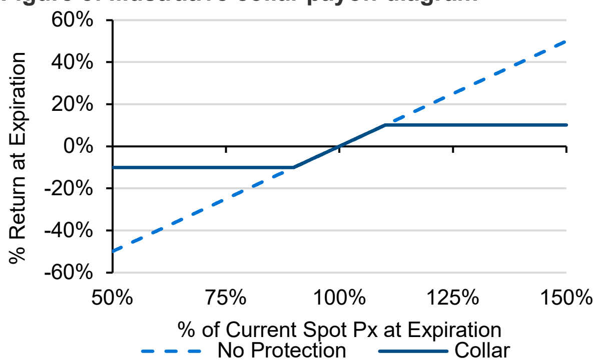
Source: LGIM America. For illustrative purposes only.

Figure 2 illustrates the concept of volatility drag, which we believe is a significant risk to pension plans and should be carefully planned for in any market environment. With that in mind, we believe it is prudent for pension plans to be familiar with options strategies that can limit the range of return outcomes, especially on their return-seeking asset allocation.

Collar structures

A put option can be an exceptionally useful tool for mitigating downside risk, but purchasing one outright can be quite costly. Prospective hedgers who wish to reduce the up-front cost of protection should consider the collar strategy. A collar is a simple structure that helps reduce the cost of downside protection by giving up a portion of the upside in equity markets. In practice, an investor who owns the underlying asset would buy a put option and sell an out-of-the-money call option simultaneously. The proceeds from the sold call option are used to offset the premium paid for the put option. Under this structure, losses are mitigated if the market trades below a certain level (the put option strike price), whereas gains are reduced if the market rises above a certain level (the sold call option strike price). This has the effect of narrowing the range of return outcomes to be between the two strike prices.

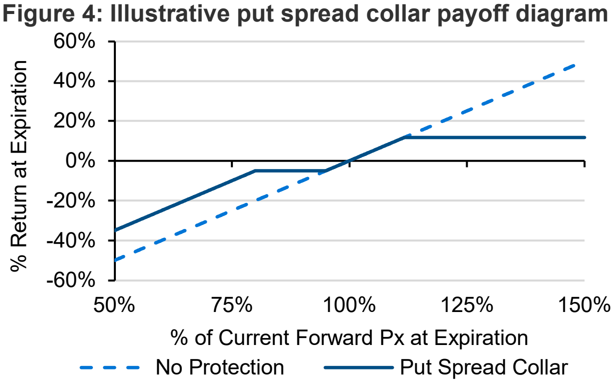
Figure 3: Illustrative collar payoff diagram



Source: LGIM America. For illustrative purposes only.

A put spread collar, a common modification to this structure, can help further reduce the cost of hedging. This involves collecting additional premium by selling another option, this time a farther out-of-the-money put. The additional premium can be used to either reduce the position's initial outlay or to expand the potential upside by selling a call with a higher strike price. The key difference between a put spread collar and a standard collar, from a left-tail perspective, is that the former only provides protection between the bought and sold put option strike prices, while the latter provides uninterrupted protection below the bought put option strike price.

Figure 4: Illustrative put spread collar payoff diagram



Source: LGIM America. For illustrative purposes only.

As the funded status of a plan improves, equity collar strategies may be advantageous for plans seeking to de-risk from equities to fixed income. In other words, with increases in funded status, equity exposure is reduced, to limit the risk of losing those gains. Collar strategies can capitalize on this by collecting a premium for selling the upside beyond the call strike, which is similar to reducing exposure while following a glidepath. The premium is then exchanged for providing a level of downside protection which may be more strategically important to a pension plan than having exposure to the full upside of equity returns.

Collars in a funded status context

Pension plans have experienced strong funded status improvements driven by the steep rise in interest rates and strong equity returns over the past several years. At this stage, maintaining that status becomes more important than the incremental benefit of achieving higher returns. Now, with equity valuations stretched to alarming levels and with the Federal Reserve signaling no further interest rate hikes, plans may no longer be able to rely on greater discounting to offset potential equity risk. As an alternative, a collar structure can be utilized to reduce the volatility of the return-seeking asset portfolio, thereby mitigating the risk of a significant drawdown while still allowing the plan the opportunity to meet its funding objectives.

In this context, we believe it is particularly crucial for pension plans to limit the range of potential funded status outcomes. Using a collar strategy defines the range of equity outcomes, giving sponsors greater control over the actions required to finish fulfilling pension obligations. Further, most long-term capital market assumptions are based on a negative correlation between equity and Treasury returns, but as recent returns have demonstrated, this is not always the case. In certain instances, this can improve the funded status of a pension. However, the use of a collar likely improves funded status outcomes relative to unhedged equity across more potential market environments.

Figure 5: Funded status (FS) impact of an equity collar relative to unhedged equity

	Rates up	Rates down
Equities up	Some funded status benefit is sacrificed from the sold equity call, but overall FS should still improve dramatically	Some funded status benefit is sacrificed from the sold equity call, and the overall FS will decline unless the liabilities are fully hedged
Equities down	Asset levels are protected against at least some of the equity losses, and liability values should decline more steeply	Protection from some equity losses will mitigate the overall decline in funded status

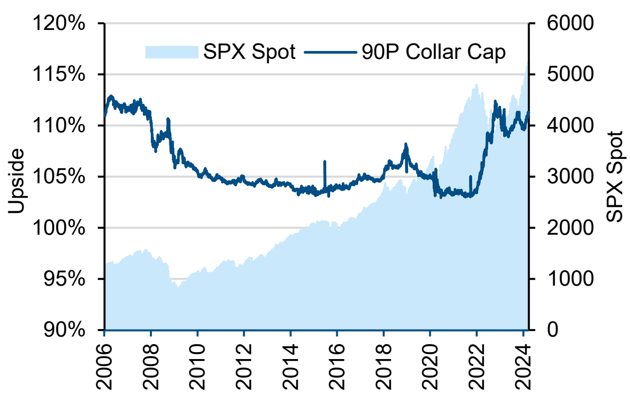
Source: LGIM America. For illustrative purposes only.

Overall, the only disadvantage of the collar is that it limits funded status gains when equities rise significantly. And while it may be natural to wince at the prospect of foregone equity upside, we believe that the current combination of highly stretched equity valuations and hedger-friendly options market dynamics can help mitigate the risk of regret.

Current market opportunity

The current dynamics of the options market make it a historically advantageous time to invest in collar structures. While there are several factors influencing options prices, the current opportunity is due to the interplay between elevated interest rates and the shape of the implied volatility structure ("the skew") which has flattened (i.e., implied volatility of calls has increased relative to the implied volatility of puts). This has influenced options' prices in a w3ay that has not been observed in over a decade.

Figure 6: Upside retained for 90% put costless collar



Source: Bloomberg. Data as of March 28, 2024.

The effect of these dynamics is most easily visualized by tracking the equity upside retained (i.e., the sold call option strike price) of a costless collar over time. In other words, should equity markets rise above this level, the plan's upside would be capped at that amount in exchange for a given level of downside protection. By definition, this structure has no premium, making it an attractive consideration for pension plans. In Figure 6, a higher value is of greater benefit to the plan as it means less upside is forfeited. In the case of a 12-month 90% put option, the costless collar upside retained is near its highest level since before the Great Financial Crisis. This gives plans the opportunity to lock in a positively skewed asymmetric return profile.

Governance

As with any derivatives strategy, it is important to consider the potential impacts a collar structure may have on the plan and the portfolio. When sized appropriately to a physical asset allocation, a collar does not add leverage to a plan. This is because the underlying asset can be used to fulfill the obligation of the sold option if exercised. If the market rises above the sold call strike, a liability will be owed to the counterparty; however, the underlying equity already owned by the plan can be sold to meet that obligation. In a market drawdown below the bought put option strike price, the plan will be owed payment from the counterparty which can offset losses on the physical portfolio.

Though a collared portfolio is not leveraged, the options will be marked-to-market (MTM) on a daily basis.

- As the market moves higher (i.e., closer to the sold call strike), more collateral will need to be posted, thus reducing liquidity.
- On the other hand, as the market sells off, more collateral will be owed to the plan, providing a boost to liquidity.

The strain of raising liquidity in a rising market versus an exposure that provides liquidity in a difficult market is an asymmetric benefit to defined benefit pension plans. Additionally, we at LGIM America partner with pension plans to establish appropriate levels of collateral to meet MTM needs prior to implementing the structures.

When using options, it is also important to consider the differences between trading them on an exchange or over-the-counter with a bank.

- Exchange traded options are standardized with listed strikes, maturities and published daily prices. They also offer the benefit of a clearing house, effectively removing counterparty risk. The drawback to a cleared options position is that only cash can be posted for daily mark-to-market.
- Over-the-counter (OTC) options, on the other hand, offer more collateral flexibility as physical Treasury securities can be posted in lieu of cash. The terms of OTC options are also more customizable (e.g., strikes, maturities, etc.), but this can reduce transparency on pricing. A common hybrid solution for clients is to trade OTC listed-lookalike options which are contracts that mirror the specifications of exchange traded options but are traded over-the-counter. The advantage is to have collateral flexibility while retaining the pricing transparency published by the exchange.

From a reporting perspective, collars can be presented as a stand-alone entity or incorporated into the equity benchmark. Our reporting capabilities are full customizable, and we work with clients to design the most appropriate method of options reporting.

Conclusion

Navigating the uncertain times ahead can be aided by the usage of equity collar strategies that narrow the range of possible outcomes. Backed by historically attractive options market dynamics, now may be the right time for pension plans to deploy these strategies to help mitigate the risks of volatility. If options usage is new to your plan, we at LGIM America welcome the opportunity to provide additional insight and education concerning these strategies.

For further information about LGIM America, find us at www.lgima.com

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1. Transaction costs may be incurred by investors in connection with the trade.

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