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Insurance-Linked Investments: Consider your options

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Options strategies offer premiums for insuring against financial market risks. Joseph Mariathasan looks at strategies that attempt to collect these while protecting against the worst of the tail risks

Seeking income is a challenge in a world where 10-year government bond yields are barely above 2% in the US and UK, and less in Germany. Higher yields can certainly be obtained in the bond markets by taking on credit risk. But it is also possible to generate higher income from other asset classes through taking on controlled risks by writing options, albeit with risk profiles that need to be well understood in a portfolio context, as well as on a stand-alone basis.

Buying a call option gives the purchaser the right to buy an asset at a fixed strike price within or at the expiry of a certain time period. Conversely, buying a put option gives the purchaser the right to sell an asset at a fixed strike price within or at the expiry of a certain time period.

The seller of the option receives a premium that is dependent on how far the strike price is above or below current market prices, the time to expiry, the interest rate for that period and how volatile the underlying asset's price is estimated to be. As options are traded in the marketplace, the value of this 'implied volatility' can be calculated using standard option pricing formulae and the observed values of all the other variables.

Selling – or 'writing' – options without owning the underlying assets is akin to insuring against catastrophe risks. A strategy of continuously writing 'naked' options – where the underlying asset is not owned or sold short – would produce a steady income stream until the day when an option expires in-the-money.

In the case of a put option on an equity index, for example, the lowest price the index can go to is zero, so the seller of the put option could face paying the difference between zero and the strike price – which could be very large. In the case of writing a call option, because the index has no upper limit the potential loss would be somewhere between the strike price and infinity.

Writing 'covered' option positions – where a call option is paired with a holding in the underlying asset or a put option is paired with selling the underlying asset short – has a different profile. With a covered call, the writer is sacrificing the upside potential of the underlying asset for extra income from selling the option. If equities fall, then his portfolio would fall, too. The less common covered put would produce a steady income stream if the stock price goes down, but should the stock go up in value above the strike price, the potential loss would be unlimited.

It is certainly possible to use options to increase income in a controlled manner. One straightforward approach has been adopted by UBP Investment Management in a strategy aimed at producing higher income from European stocks, which involves simply writing one-month call

options every day on an equally weighted portfolio of 22 stocks with an average yield of 4.5%. The objective of the fund is to increase income to 9.5-10% in return for sacrificing upside potential.

The drawback to the approach was seen in 2012 – the fund delivered 7.5% in a period when European equities delivered 18%. The implied volatility of equities dropped after the fund was launched, reducing the amount of income that could be obtained by writing options. If equities had fallen in value, the strategy would not have protected the portfolio unless the manager had bought put options in addition to writing call options. That would have protected the downside, but would have reduced the net income from the positions.

Anders Svennesen, co-CIO at ATP, is wary of strategies like UBP's that involve writing covered call options on a continuous basis.

"If you look at equities over long periods of time such as the 1980s and 1990s, the upside return during the whole period occurred during relatively short periods of time," he explains. "If you had sold all the upside, your overall return from equities would not have been attractive."

As a result, ATP made the decision in 2006-07 that it would not try and harvest option premiums but, instead, would allocate around 1% of its assets each year to purchase – not write – put options to protect against downside tail risk in key markets.

In 2010, a section in Towers Watson's Global Investment Matters newsletter entitled 'Adding diversity with insurance strategies' likened selling insurance against natural catastrophes in the form of catastrophe bonds or industry loss warrants to "another strategy" in this family of insurance-related investment: insuring against "unexpected risk (volatility) in the equity and bond markets" through options-based volatility strategies.

Today, however, head of investment strategy Alasdair Macdonald agrees with Svennesen that writing options just isn't a natural fit with pension fund clients.

"They are all in the position of managing downside risk," Macdonald explains. "A strategy of generating income with high downside is just not attractive."

Some more complex strategies do help to square the circle, though. Macdonald describes volatility arbitrage via volatility swaps, for example.

"Banks write options but cannot hedge their exposure to volatility, so they are willing to pay a risk premium to take it off their balance sheets, which reduces their capital requirements," he says.

Effectively, the swap means that the pension fund receives implied volatility and pays out realised volatility. As implied volatilities are generally higher than realised, this can be an attractive, income-generating long-term strategy. But it can also offer some good equity downside exposure. "When equities start falling volatility rises – but implied volatility rockets," explains Macdonald.

What pension funds would really like is an asset that delivers 8% or so each year with bond market-like volatility. Some hedge funds that essentially do similar, but more complex volatility trades than the one Macdonald describes, believe they can achieve that.
Russell Abrams, founder and senior portfolio manager at Titan Capital Group, argues that there are structural reasons that can make writing options an attractive proposition.

"Insurance companies writing annuities where investors are guaranteed to have their principal

returned after 10 years are forced to buy long-dated options as protection," he explains. "As a result, longer-dated options are expensive."

Titan's strategy essentially relies on the same principles as UBP's.

"We collect premiums on call options," Abrams explains. "Over a decade, the chance of a 40% drop is low and if that happens, implied volatilities will go up a lot, so that we can collect more premium the following year. It is a mechanical process but you need to compare options with each other."

He is advising Titan's institutional clients to shift some of their bond portfolios and 20% of their equity portfolios into such absolute return strategies.

Towers Watson also offers the idea of the option 'collar' for pension funds looking to exploit options to generate yield.

"Implied volatility has gone down a lot but it does not appear to us that the world is a less risky place," says Macdonald. "That is a good case for buying put options, and you can finance that by selling equity call options."

Unfortunately, that erodes much of the income associated with a naked option position so, instead, Macdonald advocates that pension funds should sell interest-rate swaptions against their long-equity puts.

"The downside on this is when bond yields rise. But if that happens, the value of the pension fund's liabilities goes down and, moreover, this tends to happen when the economy is doing well and equities are going up," he says. "We think it is neat to sell bond upside to pay for equity downside."

Interest-rate swaptions are more expensive for the buyer than equity call options – or, to put it another way, they generate more premium for the seller. That results in a higher net income for the interest-rate swaption collar than the plain-vanilla equity option collar.
Generating some extra income by selling insurance is a worthwhile consideration for pension funds stuck in the current low-yield rut. Many have started to do so in traditional areas of non-financial insurance. They need to manage the left-hand tail risks of those exposures carefully – and given the correlations with core portfolios they need to manage the tail risks of financial market insurance even more carefully. But there are ways and means of doing so for those prepared to get to grips with the more complex strategies.