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## Understanding tail-risk hedges & funds - part four

Bailey McCann, Opalesque New York:
Last week we discussed how portfolio protection has evolved from initial theories of portfolio insurance to newer theories such as hedging left tail-risk and how to structure this type of hedge. This week we will continue our discussion of structure to include more controversial options such as derivatives, and volatility.

**Structure, part 2**
Left tail-risk is often discussed in terms of an equities focused portfolio, however, the potential for a tail event exists across investments - equities, credit, commodities and fixed income. Individual investors may opt to examine or "hedge out" those risks ahead of investment in a given fund or within their existing portfolio in order to effectively size a tail-risk hedge. Dynamic sizing is an important structural component of this type of hedge in order to realize maximum protection during a tail event and control cost before an event strikes.

Funds of hedge funds do this on a bigger scale by constructing portfolios made up of different funds and different risk profiles toward a broader set of investment objectives. In this case, they look at tail-risk at both the macro and micro level. "We have an integrated risk management program, on one hand its independent from the investment committee on the other hand it's integrated into how we pick managers and their approach," explains Oleg Movchan, Director of Risk Management, at Attalus Capital. Attalus Capital is a Philadelphia-based investment and trading firm specializing in fund of hedge funds and active core equity and bond strategies. When it comes to choosing managers, the firm will carefully examine the risk of a given fund at first on a standalone basis as part of the due diligence process and then more broadly against the other managers already in a given portfolio and its objectives. "For us, tail-risk hedging is a component of portfolio construction, we look at the entire probability distribution, we aren't looking at just downside equity risk. Our portfolios are exposed to different kinds of risk: equity, credit, commodities, fixed income," he says.

Managing the risk of individual managers against the broader portfolio is also important in order to avoid an unintended concentration of a given strategy, according to Movchan, a bias toward a certain strategy or style can create tail-risk and potentially undermine the performance of a portfolio. He cites the quant crisis of 2007, as an example of micro-level tail-risk. Avoiding unintended concentrations also ensures a better understanding of broader financial markets activity which can, in turn, give portfolio managers greater ability to take advantage of conditions such as the mispricing of risk.

**Are puts the only option?**
Movchan notes that he has seen an increase in the types of instruments available to hedge against tail-risk including - vanilla derivatives, credit swaptions, inflation protection, and volatility products, in addition to the more standard choice of buying out of the money puts. Indeed, the market for tail-risk products continues to grow as markets remain choppy; this growth has also

ignited a debate among investors and managers about what really constitutes a tail-risk hedge. For Movchan, each of these instruments can have a place in tail-risk hedging depending on the type of risk an investor is trying to hedge against.

"We think there are products that deal with inflation protection for example, that have a place. If a portfolio is heavily weighted in fixed income, then out of the money puts on the S&P 500 are not necessarily going to help if there is a re-pricing of inflation expectations. You also have to decide if you're going handle this issue directly, or outsource it to a manager. Volatility instruments, vanilla derivatives have a place as tail-risk hedges."

Cost is also a factor, "we seek to identify the assets that are likely to move the most and give the best return on the price of the insurance in a "risk off" scenario, be it in equity markets, currencies or bonds. Our preference is to use out of the money put options, which give us large notional exposures at low cost. Of course price is very important and when the price of the insurance (the option premium) becomes expensive, we will construct the positions differently, perhaps by using option spreads, or trading in the money put options with stop losses," says Greg McEntyre, Director, Symphony Financial Partners, a Tokyo-based firm.

Symphony manages an Asian-macro fund, Sinfonietta, that focuses on tail-risk. The fund was established in June 2008 to invest Symphony principal capital outside the scope of its existing funds with tail-risk in mind. Symphony opened the fund to outside investors at the end of 2011. The fund seeks to generate alpha through investments in equities, equity indices, derivatives, fixed income and currencies. According to McEntyre, Symphony's approach is designed to manage the exposure of long positions and take profits during market corrections.

As an Asia-based and Asia-focused firm, McEntyre also outlines regional considerations that can come into play in terms of how they approach tail-risk. "Asian markets tend to be very liquidity driven, so one needs to be focused on liquidity flows. For example, foreign investor flows, or domestic retail flows, can be a very large part of the markets in Hong Kong, Korea and India. Central Bank flows are currently having a large impact on the Australian dollar and Australian Bond markets," these factors, in addition to cost can impact what instruments the firm uses when constructing a tail-risk hedge.

This variable approach raises some flags for other managers. "Using OTC derivatives is a completely nonsensical tail-hedge - when a real Black Swan hits, like in the fourth quarter of 2008, you need to be sure that your counterparty will be able to pay, a rather unlikely and irrational expectation as financial firms that are the counterparties are most at risk of failing," says Claude Bovet, Founder and Managing Director of Lionscrest Capital. He adds that taking on basis risk is not a wise trade-off to protect against tail-risk.

**Volatility**

The use of VIX-based instruments is often also included in tail-risk discussions. The VIX is a measure of the implied volatility of the prices of S&5 500 futures. When the 2008 crisis hit, the CBOE Volatility Index (the VIX) soared - up 126% over the S&P 500. Since then, the VIX has been getting the attention of investors looking for protection from tail events. VIX futures were first offered in 2004, but investing in the VIX didn't really take off until 2009 when the first VIX exchange-traded products were added. Since then, average 30-day trading volume in VIX futures has increased significantly, making it a multi-billion dollar market.

One of the more common approaches is to be long volatility, however, this can be very expensive as the VIX tends to trend and can trend against a long-only position. VelocityShares, a US-based firm, offers volatility products as part of its tail-risk solutions, including six volatility ETPs that have 2x leveraged long and inverse positions on the S&P 500 VIX short-term futures index and the S&P 500 VIX mid-term futures index. According to Will Lloyd, Managing Director at Velocity shares, the inverse positions are critical - "being both long and short the VIX gets you the convexity that you need to effectively hedge tail-risk without the costs associated with being just long volatility."

He notes that the severe contango, or upward-slope of the VIX futures market is what makes it so expensive to buy and hold long positions. Lloyd and other VelocityShares principals Nick Cherney and Geremy Kawaller, wrote a paper for *IndexUniverse* describing the consequences of this trend in detail. In it, they show that the VIX was in contango from mid-2009-July 2011. However, coupled with the use of daily resetting leveraged and inverse products which exhibit positive convexity, (a concept discussed in part three) that cost can come down.

Lloyd also notes investors can get in and out quickly, "with futures you can liquidate pretty immediately, where as out-of-money put strategies often have 30, 60, or 90 day liquidation terms." However, he explains that the strategy needs to be more actively managed as exposures can vary based on the performance of the VIX futures index.

Ultimately, all men agree that buyers of tail-risk products need to go in with eyes wide open about the cost and structure of this type of hedge. Movchan says these products are likely to remain in the consciousness of investors over the near term as global economic growth stays relatively weak. "Longer term, the big concerns we have in portfolio solutions are dealing with potential imbalances that have been built into the system as a result of central bank intervention since 2008."

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Our final addition to this series will be the results of a survey asking investors about their views on tail-risk it is available here. You can also watch a video of Symphony CEO David Baran discuss the Sinfonietta fund mentioned above in detail, on Opalesque TV.

Full article link (subscription required): http://www.opalesque.com/643058/Understanding_hedges_and_funds_part305.html