

Sector in Brief:

Hedge Funds and Tail Protection



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What's new?

The concept of using overlays for tail risk protection—whether more active or passive in style—is a well-established technique in the institutional investor's toolkit (see [Portfolio Protection and Overlays](#)). Less familiar to many, however, are the **hedge fund strategies whose primary goal is to offer portfolio protection**, but who often seek to do so with an 'all-weather' profile so that investors are not losing money during benign periods.

These all-weather 'tail protection hedge funds' (for want of an established industry term) overlap quite significantly with the cohort defined by Eurekahedge as 'Long Volatility' hedge funds, though it is important to differentiate between volatility strategies with greater focus on protection and those with a stronger focus on return (Volatility Arbitrage and Relative Value). They also share common ground with dynamic risk overlay strategies.

It is helpful to think of these and other sources of heroic diversification—positive performers during market downturns—on a spectrum, as shown in Figure 1. 'Convexity' is increasingly viewed as a necessity rather than a luxury for many

long-term investors: periods such as H1 2020 and 2022 challenged the traditional portfolio diversification paradigm and highlighted the benefits of strategies that can throw out positive performance in risk-off environments and/or when liquidity becomes constrained.

There are several reasons why investors may prefer to use hedge funds rather than employing an active or passive overlay. In some cases, the choice may be due to the structure of the institution: for Wealth Managers handling portfolios for multiple underlying investors and certain Defined Contribution pension structures, a risk overlay on a multi-client portfolio may be unfeasible. More broadly, many investors are unable or unwilling to tolerate the 'cost of carry' associated with overlays, which traditionally lose money in non-volatile or bull market regimes.

Nearly ten new hedge funds have been launched in this group since January 2022, including two new firms: this takes the manager universe to a varied group of more than 20, providing plenty of choice for investors that seek improved portfolio protection in a non-overlay construct.

Facts & figures

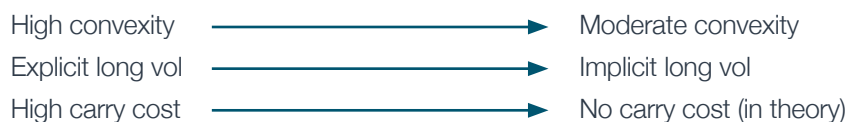
> **~20** managers offer all-weather tail protection strategies on a commingled basis, including hedge funds with a focus on volatility investing and dedicated tail protection providers.

> **+25.4%:** returns of CBOE Eurekahedge Long Volatility Index in 2020, net of fees. In 2008, performance averaged +45.8%.

We hope that this concise report—part of bfinance's educational 'sector in brief' series—helps readers to gain a clearer understanding of this evolving niche of the investment universe, including key issues to consider when implementing allocations and selecting asset managers.

FIGURE 1: THE 'HEROIC DIVERSIFICATION' TOOLKIT

	Primary objective: Protection			Primary objective: Return	
Strategy	Passive tail protection	Dynamic tail protection	Tail protection / long volatility	Long volatility (vol arb/ relative value)	CTAs and global macro
Implementation	Overlay	Overlay	Hedge fund (commingled/SMA)	Hedge fund (commingled)	Hedge fund (commingled)



Source: bfinance.

Tail protection hedge funds explained

'All-weather' tail protection strategies are a cohort of hedge fund investment styles whose primary objective is to provide positive performance during periods of market stress while avoiding losses ('cost of carry') in more benign environments. They employ combinations of sub-strategies to differing degrees and are not a homogenous group.

Typically, they use both highly convex **options-based tail protection** (to deliver large infrequent pay-outs in periods of sharp market dislocation, i.e. 'gap down' scenarios) and moderately convex **long volatility techniques** (that tend to deliver much stronger performance during periods of prolonged volatility and de-risking, i.e. 'grind down' scenarios). The latter include dynamically managed equity delta strategies employing equity futures, volatility triggers with long VIX or variance swap exposure, and even trend-following strategies that can offer some convexity and have been effective in 'grind down' markets. In addition, many will include a third strategy sleeve focused on **market-independent returns**, designed to help offset the explicit carry cost of the options-based strategies and create an all-weather profile.

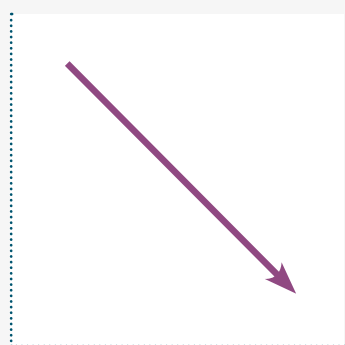
All-weather tail protection hedge funds typically employ a **multi-asset** investment approach, recognising that convexity can exist across multiple asset classes and, if managed appropriately, can result in cross-asset benefits (higher convexity and lower carry). Many utilise either a fully **systematic** investment process or a systematic screening with decisions taken by a discretionary portfolio manager. Some strategies also have an outright **discretionary** component that is opportunistic, seeking to profit from idiosyncratic events or dislocations.

Investment universe

All-weather tail protection strategies feature a very broad array of both vanilla and exotic derivatives, including: equity and index options, volatility/ variance swaps, VIX futures and options, swaptions, CDS, and other volatility-linked instruments, e.g. convertible bonds.

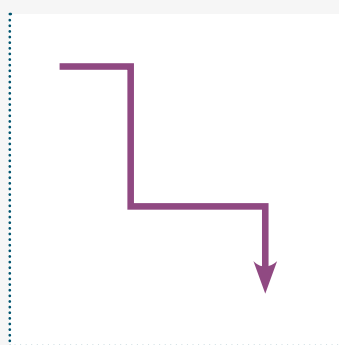
JARGON BUSTER:

GRIND DOWN, GAP DOWN, CONVEXITY AND EXPLICIT/IMPLICIT TAIL RISK PROTECTION



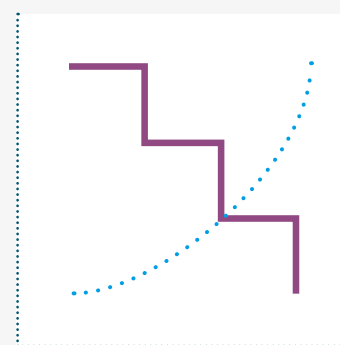
Grind down

A protracted and persistent decline in risk assets, as was witnessed in 2022 and during the Global Financial Crisis.



Gap down

A sudden, severe decline or dislocation in risk assets, as was observed—for example—at the onset of the Covid-19 pandemic.



Convexity

A concept relating to outwards curvature, depicting the shape of the return profile, signifying gains during a market downturn.

Explicit tail protection is established in advance, with a dependable mechanism and known outcomes. It requires an ongoing premium spend, but this can be made cheaper or potentially premium-neutral by selling the upside to fund the downside.

Implicit tail protection, by contrast, may have no 'explicit' cost. Protection outcomes, while statistically likely, are not guaranteed.

Reviewing performance

In stressed market environments, investors should expect all-weather tail protection hedge funds to produce returns of **20-30%** in absolute terms. Some managers prefer to express expected gains as a multiple of equity market drawdowns (e.g. **1-1.5x** magnitude of equity drawdown). Although such returns are very unlikely to hedge an investor's overall equity losses, due to the likely difference in the sizing of exposures, they provide useful gains at a time when liquidity is likely to be in high demand and opportunities for investing at attractive valuations should be on offer across other asset classes. In benign markets, they have a positive return expectation, ranging from cash+0% to cash +4% per annum.

By contrast, a passive tail protection strategy may be expected to see gains of ten times the magnitude of equity market losses, but with material carry costs (over 5% per annum in normal or low volatility environments), with the expectation that the position will be rebalanced through top-ups in these periods to maintain the level of notional exposure.

Historic **convexity** is strongly evidenced by the returns of the CBOE Eurekahedge Long Volatility index. This cohort overlaps quite strongly with the all-weather tail protection hedge fund group described in this briefing. The graph below shows average monthly returns for this group in different conditions, based on the level of the VIX, ranging from very low volatility (generally

representative of benign markets) through to very high volatility (associated with stressed markets and negative equity returns).

Strategies tended to break even or deliver small losses in low volatility environments, offer small gains in normal volatility environments and deliver strong returns in high volatility environments: the average gain in 'extreme high volatility' months was broadly equivalent to 1x the average equity market loss in those months.

KEY INDICES

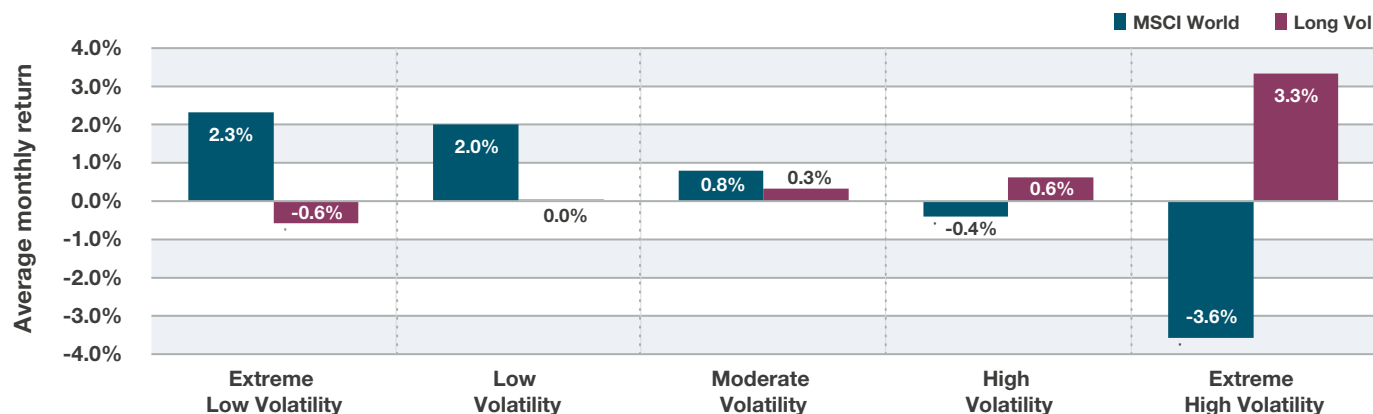
CBOE Eurekahedge Long Volatility Index:

hedge funds with a net long view on implied volatility and a goal of positive absolute return. This group overlaps strongly with the 'all-weather tail protection hedge funds' described in this report.

CBOE Eurekahedge Tail Risk Index:

strategies in this group are more focused on classic deep tail protection and do not have strong overlap with the 'all-weather tail protection hedge fund' described here (despite the similar terminology!).

FIGURE 2: AVERAGE MONTHLY RETURNS OF LONG VOLATILITY HEDGE FUNDS IN DIFFERENT VOLATILITY REGIMES, 2007-2023



Source: bfinance. Data from bfinance manager research, 2024. Returns in USD net of fees, for the period Jan 2007-Dec 2023.

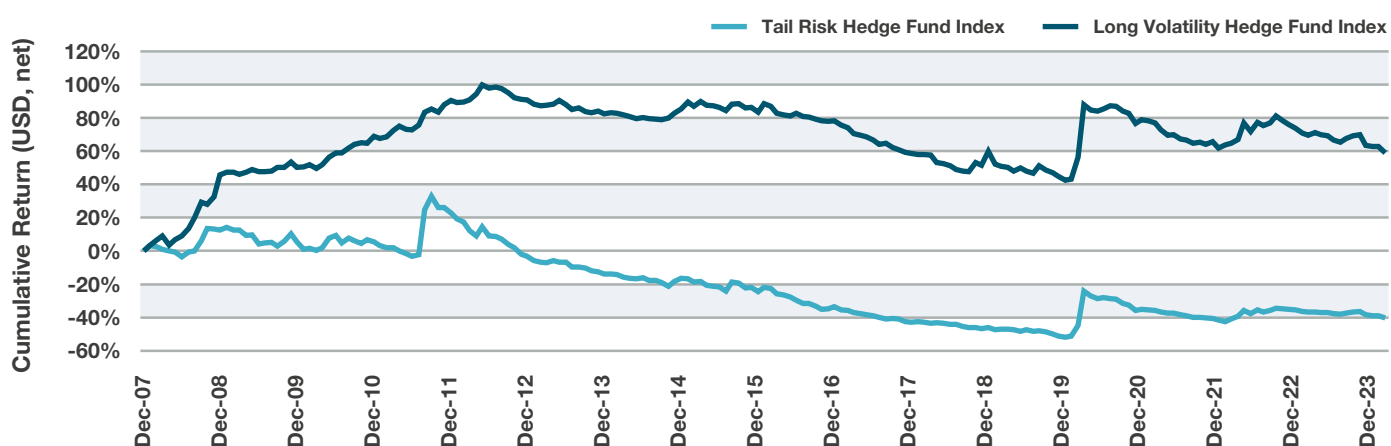
For a snapshot of cumulative returns, it is helpful to examine two Eurekahedge indices side by side: the Long Volatility index (broadly representative of the all-weather tail protection hedge funds described in this report) and the Tail Risk index (deep tail protection). Figure 3 shows the material negative carry associated with deep tail protection strategies versus the more balanced but still convex profile of all-weather strategies. On a cumulative basis, all-weather tail protection strategies outperform deep tail protection strategies by around 100% over the sixteen-year period shown, while also providing convexity during the

three periods of material market stress (GFC 2007-08, Debt Crisis 2011, Covid 2020). For example, the tail risk index was up 57% in Q1 2020, while the long volatility index rose by 32%.

It is particularly interesting to look at the period of the Global Financial Crisis: options-based strategies (that dominate the 'tail risk' group) did not do well at capturing the comparatively slow grind-down in 2008 and subsequent recovery, whereas all-weather strategies—which include trend-following or CTA-like techniques—were able to profit.

Reviewing performance Continued

FIGURE 3: CBOE EUREKAHEDGE LONG VOLATILITY AND TAIL RISK INDICES



Source: CBOE Eurekahedge. Eurekahedge indices represent managers' returns net of fees. Long Volatility index can be viewed as a proxy for the group that we term 'all-weather tail protection' strategies in this report.

Implementation and manager selection

Tail protection [overlays](#) are generally offered through separately managed accounts and are typically margin-funded for portfolio efficiency in line with other portfolio hedges such as currency overlays. Asset owners can construct their own strategies (e.g. purchasing put options) or use external providers for [active or passive](#) implementation. Some providers can port betas onto the tail protection strategy, so that investors can hold the combination as a single line item rather than holding tail protection as a standalone item.

On the other hand, **tail protection hedge funds** are primarily offered in fully funded commingled structures. SMAs and bespoke fund offerings are also available from most of these

managers, with appropriate minimum ticket sizes (e.g. >US\$50 million). The convenience of fund structures allows strategies to be included, for example, in a fund of hedge funds, or as a line item within a liquid alternative sleeve that can be accessed by asset owners with smaller portfolios.

More than **20** institutionally capable providers offer commingled funds that deliver some form of all-weather tail protection, mainly comprising hedge funds with a focus on volatility investing and dedicated tail protection providers. Although a broader group of asset managers provide risk overlay capabilities, they do not broadly offer commingled fund vehicles and are excluded from the count here.

KEY POINTS FOR INVESTORS:

- > **Suites of sub-products** are often available from managers that offer commingled funds in this space. The firm's flagship may be an all-weather long volatility offering, but the component parts are also often offered separately, such as a deep tail protection strategy, a CTA, or accessible components of a long volatility book such as equity dispersion. As such, it is possible to tailor-make allocations, even when restricted to commingled fund structures.
- > **Track record analysis** for these strategies can be challenging. For all but the longest track records there will be few examples of genuinely stressed market conditions to validate the principal objectives. Highly stressed markets are, after all, infrequent.
- > **Portfolios and processes** are complex. Investors need to gain comfort and confidence to understand and evaluate the various components.
- > **The purpose and performance of each part of the strategy should be well articulated.** Managers should be able to associate functional objectives with each part of the portfolio and returns from those sleeves should be interpretable across different market regimes ('gap down', 'grind down' and so forth).

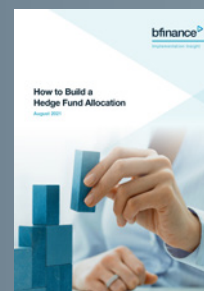
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