7 considerations for establishing a hedging program

Protecting portfolios from downside risks

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After global equity markets bottomed during the global financial crisis, the rebound rally was fairly consistent. With only a few brief exceptions, market volatility levels stayed well below historical levels. Up until the notable correction in late 2018, market participants' memories of the carnage of 2009 were starting to fade. Fortunately, even that correction failed to leave much lasting damage with the market reaching previous highs within six months of the correction. Since that time, an elevated volatility regime has replaced of unnaturally low volatility. Uncertainty from politics and trade disputes has some investors concerned about their equity allocations, while others are looking to enhance traditional static allocation with more dynamic behaviour going forward.

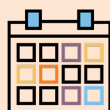
Sudden market losses can leave a lasting scar on the track record of a portfolio. While market volatility can make the investor's journey less comfortable, this volatility is a symptom rather than the problem. The real culprit is a drawdown in portfolio value, as it can take considerable time to recover the losses from a major correction. Here are some considerations for investors navigating more volatile market environments, wherein more conventional measures (e.g., reducing equity exposure, seeking low-volatility equity exposures, increasing the diversity of the portfolio structure) may prove inadequate. The challenge of protecting against market corrections is not met by a "one size fits all" solution. This note focuses on a framework for assessing derivative-based solutions and considerations for establishing an effective drawdown-hedging program.

1. Determine which risks and potential events are most concerning

A multi-asset portfolio with a target horizon over 20 years has a very dominant exposure to equity market risk. While returns to other holdings in a diversified portfolio can go down, public market equity has a greater impact on absolute portfolio risk than any other holding, due to large portfolio allocations coupled with high volatility. While other risks in a portfolio may also be material, and may certainly be worthy of hedging, this discussion is framed in terms of equity risks and solutions. With very subtle adaptation, this framework can also be applied to hedging risks stemming from other asset classes (e.g., nominal duration, credit, commodities, etc.).

Consider choosing between mild corrections and major tail events:

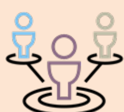
1. Protection against milder corrections is less expensive than protection against major ones. Considerable cost savings can be realised by not protecting the entire left tail of the possible return distribution.
2. Protection against more extreme tail risk is not only expensive, but also challenging. These hedges often have strong "time decay" – i.e., the value of a hedge position tends to erode consistently, until a big-enough correction causes that position to gain materially in value. This type of hedging is similar to an expensive insurance premium. It may be necessary to take the hedge off after a big gain, so as not to risk giving it back as the market normalises. A discretionary investment mandate is often required to implement such a solution properly.



2. Determine the time horizon for the hedge

A tactical hedge is one that has a short time horizon, but provides fairly solid protection. In addition to an accurate view on market direction, a tactical hedge requires insight into the timing of a correction.

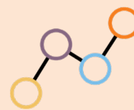
A strategic hedging program is one that can be maintained on an ongoing basis. For this to be possible, the hedge cannot have an excessive time-value decay characteristic. If excessive time-value decay does exist, some sort of financing trade is usually needed to offset this loss characteristic (e.g., a put-spread collar, which protects for a portion of the downside risk – but not the full tail – and finances that protection by selling a call option that caps the upside over the protection period). Strategic hedges can accomplish several goals – including reducing volatility, offsetting drawdowns and embedding asymmetry in the potential return distribution (where value can go up more than it can go down).



3. Find a provider that can help specify and manage solutions

An agent working on your behalf, without conflicts of interest, should be strongly considered when:[i]

- Structuring advice from skilled portfolio managers with overlay management capability is required, whether the need is driven by lack of internal capability (see also Step 4) or a regulatory imperative to involve an agent.
- The agent can offer a broad array of derivative and physical trading capabilities, also critical in formulating the right solution.
- The agent has specialised global trading capability with the requisite 24-hour market coverage.



4. Choosing the right mandate structure

Advisory client-directed implementation

These are more tactical in nature, and best suited to a client who fully understands the specific risks in need of hedging. A client-directed implementation structure can include an ongoing, futures-based exposure-management overlay in addition to periodic option-based hedging. It should be noted that not all institutional investors have a nimble-enough governance structure, with required delegation of discretion to in-house investment staff, to function in this way.

Downside protection overlay

This mandate is structured as complementary protection of an underlying portfolio holding. In this instance, performance of the sum of the underlying holding and the protective overlay is the appropriate focus. Such protection allows for the creation of a holistic protection with set floors and more precise drawdown limitations or target volatility levels. Futures and index options are suitable instruments for this purpose.

This mandate is meant to function on a stand-alone basis, similarly to a traditional investment mandate. Capital allocated to the account sets the maximum possible loss over the time horizon of concern. Unlike an overlay solution, performance of this mandate is evaluated in isolation (based on the capital in the account), rather than as a complement to all other portfolio holdings. Such solutions have a performance pattern that gradually declines over most periods, but benefits from a large gain when significant market corrections occur. In some cases, hedges within a strategy may need to be suspended after a big gain until markets return to more "normal" conditions. Interestingly, these strategies are related to the tried-and-true concept of diversification, given that they are volatile and uncorrelated to other portfolio holdings. The major difference is that they are not an existing asset class exposure, but one that is created synthetically by dynamic trading in derivatives markets.

5. Choosing required hedge precision

Asset class hedges

Using a derivative based directly on the underlying asset is an obvious starting point. For example: hedge equity risk with equity index derivatives or hedge bond risks with interest rate and credit derivatives. Asset class hedges have a direct relationship and more consistent correlation to the holdings being hedged. This can be important in some jurisdictions, where regulations or tax laws require a minimum correlation test to allow for favorable hedge treatment.

Cross-asset hedges

When precise hedges for each asset class are not available, a single strategy can be used to more holistically hedge a multi-asset portfolio. Two common examples of hedges against general market risk are volatility-based derivatives and government debt derivatives (particularly in markets of major reserve currencies). Typically, both of these exposures increase in value when markets correct, so they are negative-correlation plays. With cross-asset hedges, the relationship between the asset and the hedge is less precise as the actual correlation between markets varies over any given time period.

6. Choosing suitable hedging instruments

Listed futures

Very low transaction costs make listed futures an attractive choice, and deep markets make them candidates for very large hedging needs. Available futures contracts can be blended in proper proportions to manage an ongoing hedge so that it matches the benchmark index underlying the equity mandates. Initial margin requirements are fairly low, so use of listed futures can be a very capital-efficient solution.

Equity index options

Depending on the index, liquidity can vary for equity index options. Sensitivity to market declines or volatility increases can be useful, but upfront premiums and time decay are major considerations for investors choosing this type of hedge. Managing a basket of index options is more challenging than using futures, given that the sensitivity of each contract to the underlying market it represents (often referred to as the delta of the position) varies as markets move. Accessing several markets in listed options can be a challenge for documentation and operations. To mitigate these challenges, OTC equity index options are often more manageable.

Volatility-based instruments

The most liquid markets for volatility-based instruments are in the U.S. and Europe – so these instruments can result in an imperfect, cross-asset hedge. Still, these can be effective components of a tail-risk hedging solution for the total portfolio. These instruments are very volatile, compared to futures or index options, and they move dramatically within the day or the week; therefore, they are more suited to discretionary strategies run by an investment manager.

7. Choosing where the hedging account fits into the statement of accounts

Generally speaking, hedge accounting should reside closest to what it is meant to protect. Equity-centric hedging should roll up in the equity composite. A multi-asset exposure management overlay should roll up at the total fund level. In a traditional defined benefit plan portfolio, or in other institutional portfolios without participant-level accounting considerations, reflecting impact at the total portfolio level often makes sense. In specific cases involving unitised investments – for example, U.S. defined contribution or Australian superannuation plans – it often makes sense to add protection in the component (or sector) fund, so that all available multi-asset funds (e.g., a target date fund series) that need the same protection can access it via a single hedging mandate.

Exhibit 1: Strategies for managing portfolio risk

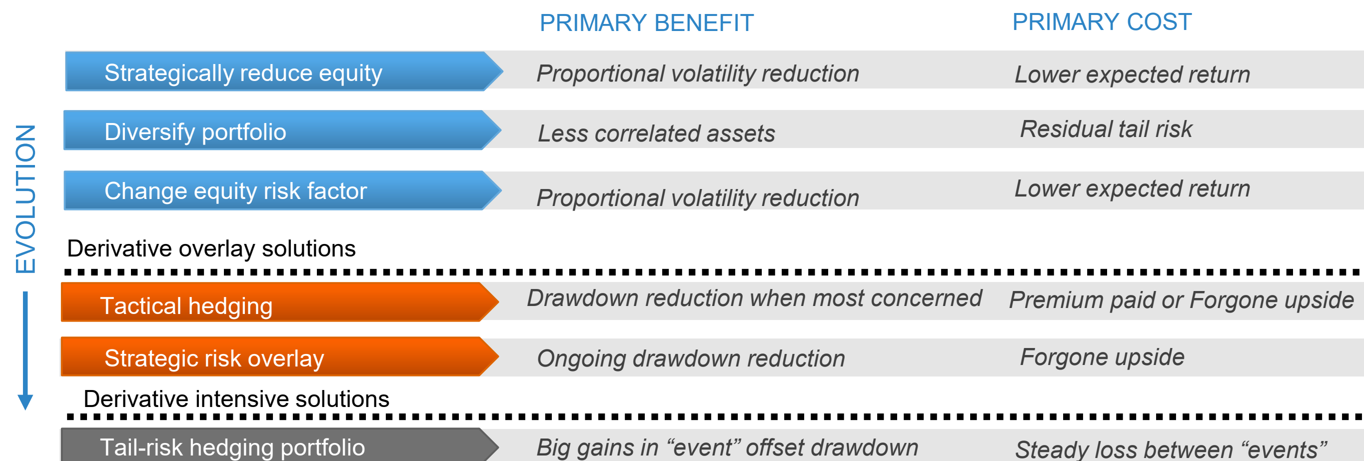


Exhibit 2: Overlay solutions for hedging market risk

SOLUTION	MANDATE TYPE	INSTRUMENTS USED	GOALS	ASSET CLASS
Exposure management	Overlay	Futures	1. Holistic view of exposures 2. Direct control of exposures	Multi-asset
Tactical hedging	Overlay	Options	1. Offset losses 2. Occasional need	Primarily equity Can extend to fixed income
Downside protection	Overlay	Futures and/or options	1. On-going protection 2. Reduce drawdowns 3. Improve risk-adjusted return	Primarily equity Works well in multi-asset context
Tail-risk hedging mandate	Isolated mandate	Options and/or volatility instruments	1. Negative correlation 2. Offset to major correction	Cross-asset

The solutions listed in Exhibits 1 and 2 may not be all inclusive or suitable for every client.

[i] In some cases, institutional investors are able to transact directly with brokers. This is more often the exception than the norm.

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