FRONTIER ADVISORS

20 years

Alternatives & Innovation Quarterly

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Alternatives & Innovation Quarterly

Welcome to the second addition of Alt IQ. Alt IQ provides Frontier's up-to-date thinking on opportunities and innovations in alternative and emerging asset classes, strategies and markets.

In February we completed our annual Absolute Return Strategies (ARS) configuration and manager review. In this edition we provide an overview of the strategies we cover within ARS and the varied roles each can play within a portfolio. In particular, we focus on the return profile of each strategy in relation to listed equities, as the largest (actual and risk) allocation in most portfolios.

Strategies that provide diversification or downside protection to listed equities are front of mind for many investors given that sovereign bond yields remain historically low and the Australian dollar has moved to more neutral levels. With foreign currency exposure less able to provide portfolio diversification looking forward, and the limited ability of bond yields to fall in an equity market selloff, we discuss the merits of tail risk hedging and long volatility hedge fund strategies. While they are unlikely to be a long-term allocation for most diversified portfolios, it is worth considering the case for an allocation to these strategies in the current market environment.

As part of our ongoing research we often find interesting insights into lesser known corners of the capital markets that provide illumination into the broader investing environment. We also discuss market events with a range of managers which helps us better understand market risks and opportunities. In this edition, our Market in Focus discussion centres around the recent removal of the Swiss Franc peg against the Euro: who won, who lost, who got the hedge right and any lessons learned.

We hope Alt IQ provides you with some food for thought.

As always, we're keen to find ways to differentiate our clients "from the pack", and enhance portfolio outcomes. If you would like to discuss any of these topics further, please contact your Consultant – we would be pleased to provide further detail on these views and other alternative or new investment strategies in the context of your investment strategy and fund objectives.

An update on Absolute Return Strategies

Our most recent ARS sector review focused on the extent to which a range of strategies can provide diversification and/or downside protection versus equities.

We consider the ARS sector to include hedge funds, multi-asset strategies, derivative based strategies and genuinely uncorrelated strategies without any fundamental relationships to equities or bonds. Most of these strategies justify their inclusion in a portfolio in their own right given the risk/return profile. The equity-bias of most balanced portfolios (whether that is from equities themselves or equity-like investments such as private equity or credit), means the key reason for considering these strategies is as a diversifier to equities in a range of market scenarios, the most important scenario being relatively-large equity falls.

The range of strategies covered by AIT, categorised by their relationship with equities, is shown in Table 1.

The table details how each strategy is expected to fare relative to equities in a range of scenarios, the relative level of fees (green meaning cheap around 0.5% to 1%, red expensive), level of complexity, liquidity (ranging from highly liquid to relatively illiquid), volatility levels (most run volatility levels below equities except for CTAs which target high volatility strategies) and tail risk (this reflects the level of unexpected losses for the strategy with only tail risk hedging, by their very nature, having small tail-risks).

Table 1: AIT strategies categorised by relationship with equities

Equity Relationship	ARS Sub-Strategy	Return Characteristics in Equity Scenarios	Fees[1,2]	Complexity	Liquidity	Volatility	Tail Risk	Expected Performance in Equity Scenario[3]			
								Strong	Flat to mild up	Slightly down	Heavily weak
	Equities										
Positive Growth	Multi-Asset (Directional)	Relies on asset allocation decisions to outperform.									
	Multi-Strategy (incl. event)	High-octane equity and debt strategy.									
	Opportunistic Credit	Less liquid credit strategies which could fall with equities.									
	Long/Short Credit	Less correlated normally with equities but will suffer in crisis.									
Positive Diversifying	CTAs	Should pick up trend in rising and falling markets.									
	Alt Beta	Structured to be uncorrelated with equities. May suffer in crisis.									
	Multi-Asset (Risk Parity)	Leveraged bond plays could hurt in inflation crisis.									
	Multi-Asset (Rel-Val)	Normally uncorrelated but may suffer in crisis.									
	Macro	Agile and can profit in equity falls given shorting.									
Uncorrelated	ILS – Cat Bonds	Little relationship normally but illiquidity in a crisis will hurt									
	ILS – Reinsurance	Non-traded securities. No fundamental relationship to equities.									
	ILS – Property & Casualty	Cash flow based strategy with no relationship to equities.									
Negatively Correlated	Tail Risk Hedging Overlay	Portfolio structured to rise strongly in crisis.									
	Funded Tail Risk Hedging	Portfolio structured to rise strongly in crisis.									
	Long volatility	Does not profit as much as tail hedges in a crisis.									

1. Colour ranges (Fees, Complexity, Liquidity, Volatility, Tail Risk) are a guide only and are used to allow comparisons between sub-strategies and with equities
2. Fees colour scheme: Dark green denotes fees from 0% to around 0.5%; light green for around 0.5% to around 1%, orange for around 1% to 1.5%; red for above 1.5%
3. Colour coding for the equity scenario performance indicates performance for each ARS sub-strategy relative to the equivalent equity market move (i.e. the first row of colours).

An update on Absolute Return Strategies

We see downside protection strategies as being important inclusions in equity dominant portfolios, particularly in the current environment. These strategies tend to be complex in terms of investment process and instruments used, and are costly, but can still be relatively liquid. We discuss a number of these strategies in the following section.

Other strategies that can be considered include those that are cheap, liquid, relatively simple and offer some diversification to the predominant equity sensitivity of most balanced portfolios (for example, multi-asset or alternative beta strategies).

Slightly more complex, and costlier, strategies reduce the level of correlation with equities (e.g. multi-strategy or global macro). Other strategies do not have a fundamental relationship with equities; however this benefit comes at a cost with higher fees, less liquidity and more complexity (e.g. insurance linked securities).

The strategies appropriate for investors' portfolios will depend on the risk and return profile sought, relationship with equities and tolerance for fees and complexity.

If you would like further information on Absolute Return Strategies, please contact your Consultant.

Hedge funds for defensive purposes

In February 2014, Frontier recommended clients begin considering put options over listed equities as a form of portfolio insurance. In our February 2015 Quarterly Asset Allocation Review and Outlook (QAARO), we went a step further and recommended clients consider alternative means of obtaining downside protection, given the current level of sovereign bond yields (near record-lows) and the now more normalised valuation of the Australian dollar.

We recognise that a put option overlay is not practical for all, and some clients may prefer funded strategies instead of, or in addition to, a put option overlay.

As such, in recent quarters we have also been researching alternative strategies that replicate, or augment, the return stream provided by out-of-the-money put options on listed equities. Put another way, we have been reviewing the hedge fund universe to investigate **whether there is a way to use hedge funds solely as a defensive asset,** to proxy the role traditionally played by sovereign bonds and foreign currency exposure in a balanced portfolio.

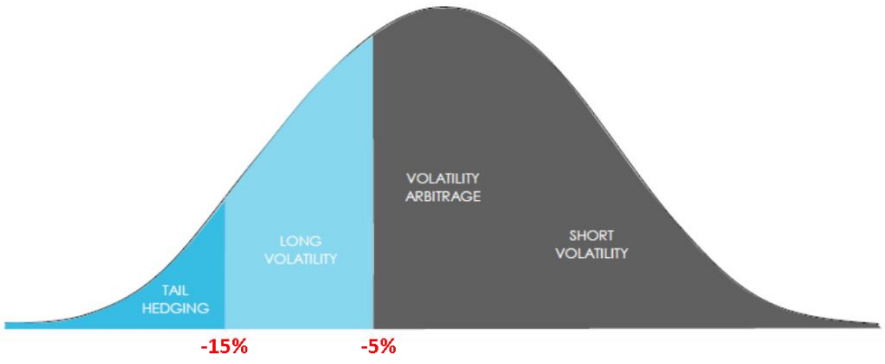
As many investors discovered to their chagrin in the GFC, a vanilla or diversified approach to hedge funds, and many of those so-called pure alpha strategies, can have a higher beta to listed equities than one may expect in a highly stressed liquidity crisis environment. Therefore, we are looking for those hedge fund managers that have something structural in their investment approach that means they are likely to perform well in a "left-tail" environment. There are two main strategy types that may fulfil this role:

- "Funded tail risk hedging" strategies; and
- "Long volatility" strategies.

What characterises both types of strategies is that they tend to benefit from a move from low to high volatility, which generally occurs when equity markets fall.

The volatility asset class also includes short volatility (effectively "risk-on" trades) and volatility arbitrage (relative value trades), which both have a very different role and pay-off to these strategies, as outlined in the following schematic.

Chart 1: The Volatility Asset Class



Source: Capstone (with Frontier annotations).

Hedge funds for defensive purposes

Funded tail risk hedging strategies.

Like put option overlays, these typically have a deep "attachment point", paying off with materially outsized returns in a significant left tail event (e.g. a -15% fall in equities). For example one manager in this space returned 200% in 2008 and 100% in 2011. However, these strategies will tend to produce negative returns in years without a negative market event. They are comprised of a selection of market instruments which are expected to rise quickly when equity markets fall (e.g. put options, credit default swaps, VIX futures and options, and variance swaps).

Unlike a simple passive approach to put options, these funds will look to actively manage the portfolio in a left tail event (e.g. take profits and rotate to new contracts).

Long volatility strategies.

These use a similar approach to tail risk hedging. However, the key difference is that the payoff is designed to occur earlier (e.g. at a circa -5% equity decline rather than at a circa -15%) and also that these strategies aim to generate small positive or small negative returns in years without a negative market event. They are also not designed to deliver as significantly outsized returns in a 2008-like event (more likely in the 20-100% range), but will "kick in" earlier than tail risk hedging strategies. The underlying instruments are similar to tail risk hedging but with an earlier payoff structure.

Both strategies will likely exhibit basis risk given the underlying instruments used are not perfectly matched to the portfolio exposure being hedged (unlike a simple equity put option overlay strategy).

A key area of focus for both strategies is the need to manage the "time decay". Time decay is the reduction in the value of the underlying instruments (typically options) as the chance of a future payoff diminishes as time passes - the closer the option is to expiry, the smaller the chance of a significant equity market fall and the lower the value of the option.

The concept of losing money "if nothing happens" is a common concept in all tail risk hedging and long volatility strategies, otherwise known as negative carry or theta bleed (theta being a measure of the relationship between an option's value and time).

In order to illustrate this effect, take for example, a simple put option.

- An index trades at $100 and one buys a put option with a strike price of $90 and expiry date 12 months into the future;
- A simple Black Scholes formula values that option at $4.20 on Day 1;
- As time passes, the value of that option decays (reduces), such that (all other things being equal) the put option is worth $2.02 with 6 months to go and $0.08 with one month to go.

Hedge funds for defensive purposes

Table 2 compares the key characteristics of the two strategies.

Long volatility hedge funds in particular are more likely to try to manage the "decay" using relative value positions, generally without compromising the long volatility characteristics of the portfolio although this is a risk.

One important issue in this space is the lack of track record. This is mainly an outcome of the infancy of the sector and the lack of client demand for these types of strategies prior to 2008. The data paucity means that a very good understanding of the underlying portfolio and likely performance under a range of possible scenarios is required.

Whether these strategies are appropriate depends somewhat on investors' tolerance towards complexity and fees.

These strategies seem unlikely to be a long-term allocation in a well-diversified portfolio for a number of reasons but primarily due to their negative carry or time decay. However, for portfolios that are currently less "balanced", we believe long volatility and tail risk hedging funds (for investors without direct tail risk hedging in place) are worth further investigation.

Table 2: Comparison of Tail Risk and Long Volatility Strategies

Funded tail risk hedging hedge funds	**Long volatility hedge funds**
Potential for very outsized returns in a crisis (e.g. 200%+ in 2008) – i.e. more *convexity*	Outsized returns are more likely to be in the 20-100% range in a crisis (e.g. 2008)
Potential for significant "time decay" (e.g. -10% to -20% p.a.) in up markets and may require additional inflows to maintain exposure (like put options, although this approach typically returns -100% p.a. in up markets)	Aims to deliver small positive/small negative returns in each year, to avoid the need for additional capital calls
Unlikely to use relative value trades (as these may compromise the return pay-off in a left tail event)	May use relative value trades to manage the "time decay"
Deeper "attachment point" (e.g. -15%)	Closer to zero attachment point (e.g. -5%)

The Euro Swiss trapdoor

On January 15 2015, the Swiss National Bank (SNB) announced it would no longer target a minimum exchange rate (referred to as a floor) for the Euro against the Swiss Franc (denoted in currency markets as the EURCHF). The resulting intraday moves were, to put it mildly, wild. Starting just above an exchange rate for EURCHF of 1.20 (i.e. one Euro converts to 1.2 Swiss Francs), the rate plummeted quickly to as low as 0.85. To put this in context, in essentially the blink of an eye, one Euro's value in Swiss Franc's terms plummeted by around 30%. By the time the market had found its feet, the EURCHF had rebounded to settle around 1.05 and has remained roughly around this level ever since.

We spoke to a range of managers about this trade (long the Euro, short the Swiss Franc): those that lost, those that profited and those that managed to effectively hedge the risks of this trade. Analysis of this trade is a useful way to better understand a manager's thinking around portfolio construction and risk management.

Why the dramatic fall?

It wasn't only that the SNB's announcement was a surprise – which it clearly was to most. A big driver of the rate's move was a total absence of liquidity in the currency markets. The SNB had effectively been the major buyer of Euros since announcing the floor in September 2011. This activity by the SNB of buying Euros whenever EURCHF would fall to near the 1.20 floor meant that it was difficult for the currency market to know the true Swiss Franc value of the Euro – i.e. how far below 1.20 was the fair value for the exchange rate. Removing this major market player meant that there was no other participant large enough, or indeed willing enough, to take the other side of trades involving the rapid selling of the EUR against CHF. As markets often do, the first move was severe and, in hindsight, a massive overreaction.

Contagion to other markets?

It wasn't only the EURCHF exchange rate which was impacted. The EURUSD exchange rate also fell which is to be expected when a major buyer of Euros (i.e. the SNB) has effectively announced its exit from the market. However, the EURUSD fall was far smaller than may have been expected, falling by around 2% initially before settling down around 1% post-announcement.

Given the relatively small fall in the EURUSD rate, the USDCHF exchange rate therefore also fell rapidly from just over 1 to as low as 0.75. The SNB also announced that interest rates it would offer on short-term deposits would be reduced from -0.25% to -0.75%. This led to a fall across the Swiss government bond curve with negative yields out to 10 years. Finally, the Swiss equity market index (SMI) fell heavily (around 10%) given the view the Swiss economy would be heavily impacted by an overly strong currency.

Totally unexpected?

Quite a number of currency experts have claimed this was impossible to predict (in fairness, the SNB had as recently as just a few days before told the market that it would vigorously defend the floor). However, there were some retail-focused FX brokers who, in September 2014, started reducing the amount of leverage they would allow investors to take in EURCHF trades. Others did not have the same foresight with FXCM, a listed online trading company, forced to negotiate a loan from a counterparty to prevent a margin call default.

Manager Performance.

What we've found informative and worthy of further discussion has been the experience of the managers we cover in the currency, global macro, tail risk hedging / long volatility and multi-asset space.

The Euro Swiss trapdoor

Those managers that were long the EURCHF had a range of risk positions from relatively small to high conviction holdings. The degree to which the fall in the EURCHF impacted performance depended on the position size, the level of diversification, and the degree to which they held correlated assets. In some cases, risk management teams encouraged reductions in the EURCHF positions, but in other cases no real consideration was given to the ultimate scenario that occurred.

Unsurprisingly, this was painful for concentrated portfolios and less so for those that were well-diversified. Other managers approached risk management from the point of view of holding offsetting positions in other markets that were expected to payoff (e.g. EURUSD) in the event of the peg removal. This did not occur to the extent expected, and thus these positions did not pay off as predicted. One manager made the conscious decision to avoid the EURCHF but unfortunately did not make the next logical step to assume the Swiss equity market would be impacted (which it was). There were other managers who did make this next logical step in thinking through how a floor-removal scenario would evolve and avoided Swiss-related markets altogether.

Finally, a tail-risk manager (one who specialises in structuring the portfolio to experience very large profits from a market stress) held a position in EURCHF which profited whenever realised volatility rose. Realised volatilities for EURCHF were very small which makes sense given it mostly bumped along the floor. However, the realised volatility spiked dramatically when the floor was removed and the EURCHF rate plummeted.

Lessons for Portfolio Risk Management.

All of the above possibilities highlight different elements of risk management and portfolio construction, some positive and some negative.

In the first instance, the lack of consideration by managers of the floor's removal was a meaningful weakness. While generally this was offset by diversification, it highlights the importance of scenario analysis and just considering the unexpected. Some managers thought outside of market consensus and took appropriate steps to help diversify the portfolio. Unfortunately, the main assumption was that contagion would occur and the volatility in EURCHF would spread. In this case it didn't. However, the scenario analysis discipline is a positive. This same discipline would have been helpful for the managers that suffered losses from Swiss equity and bond yield falls. On this occasion, by having a natural portfolio strategy which seeks to profit from volatile events, tail risk and long volatility managers profited, although gains would have been far higher had contagion occurred.

The removal of the EURCHF floor was always a possibility. While timing was uncertain, this risk should have been incorporated into any EURCHF trade justification. What this scenario further highlights, is the perils of betting too much in favour of or against central banks. Crowded trades tend to unravel much more painfully if everyone is on to the same idea.

Conversely, betting against them can be a long and difficult ride. This risk is heightened when you are on the other side of a trade with a large market player (e.g. a central bank) in a market that has less liquidity than previously (think the Flash Crash in US Treasuries on 15 October 2014) . With the timing and size of spikes in volatility, and the degree of contagion almost impossible to predict, the manner in which positions are sized and portfolio risks are considered by managers is likely to be a key point of difference. We are continuing to test this with the managers we assess.

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