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WHY DOES CAPITAL PROTECTION HAVE TO BE SO HARD?

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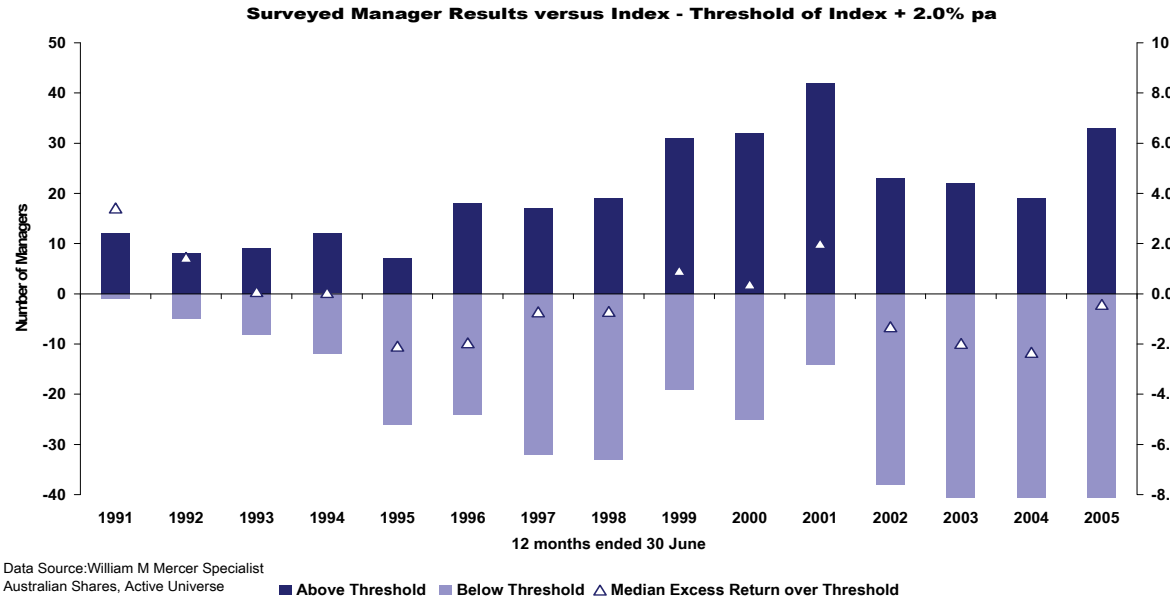
A 2009 paper published by the Australian Prudential Regulation Authority (APRA) "Investment performance ranking of superannuation firms"[1] questioned the value of managed funds. Those in the HNW and SMSF segments have been using capital protection as a key service differentiator for early- and mid-life accumulators, and for pre- and post- retirees. Some protected products have worked well, but many have failed to deliver. This paper examines each form of capital protection.

The irony is that finding of APRA's study are not new. For example, a 2005 paper by StateStreet Global Advisors appraised Australian actively managed equity funds, using data provided by Mercer's, and showed that the median Australian active equity fund underperformed a benchmark of the ASX 200 index plus 2% (the median cost of investing in the surveyed funds) in 10 of the 15 years to 30 June 2005.

Figure 1: Australian Equity Funds – returns from 1991 to 2005



Source: StateStreet Global Advisors, Mercer 2005

[1] Sy W and Liu K: "Investment performance ranking of superannuation firms" (APRA Working Paper, 23 June 2009).

Asset consultants like Intech have been making similar statements for the last decade, and the newly launched S&P SPIVA Index shows the same persistent underperformance. Traditionally, the counter to this critique is that the manager selection processes can avoid the median performing manager/s. That stance is untenable given that manager performance persistence is weak. The StateStreet research cited above also showed that managers did not consistently perform above the median.

The author's of the APRA paper make statements which coincide in many respects with the earlier findings of StateStreet et al:

> "… the average firm under-performed their net benchmark by 0.9% per year… this raises a question about the value of the active approach to risk management of investment portfolios and may support our doubt about the appropriateness of the Sharpe ratio in measuring performance…"
>
> "The net under-performance of the average firm appears more pronounced in down markets. This suggests either inactive risk management where investment managers appear to forego value adding opportunities in down markets or unsuccessful risk management in down markets perhaps due to costs."
>
> "The empirical data suggests that superannuation firms may be less efficient at using the tax credits from capital gains and losses than we have assumed… For example, excessive share trading could forfeit capital gains tax concessions which are available after a 12 month holding period."[2]"

The APRA paper does a great service to the community. Unfortunately it doesn't delve into the reasons for this observed under-performance, which are summarised as follows:

- Actively managed funds, delivered using the unit trust structure, have proliferated since the 1983 financial services de-regulation ushered in by the Campbell Committee (prior to that the dominant form of externally managed investments were provided either by LICs (unscaleable) or by insurance products (scaleable but highly complex);

- Non-insurance products do not have the same prudential requirements as insurance products or ADI's (both of which rely on various forms of reserving to ensure investor protection) and, to be able to offer them in scaleable, open-ended format, their design needs to be aware of the potential for investor loss in the event of a "run" on the fund;

- The traditional unit trust registry does not provide fund managers with details regarding individual investor's investment timeframes, so coupled with the open-ended nature of these funds, managers have to cater for the prospect that in times of financial distress, the level of redemptions in the fund will rise dramatically;
- As a result, traditional open-ended equity funds tend to invest in the most liquid equity securities available; in the case of Australia, this is stocks in the ASX 200 index. To justify their existence and fees, most managers attempt to beat the index by being slightly under or over

[2] Ibid, p. 18.

weight specific stocks in that index (this is recognized in the APRA paper which states that "…investment managers are hired to exploit market inefficiencies to add incremental returns through market timing or tactical asset allocation and through selecting or over-weighting better-performing securities, while trying to minimise trading costs.");[3]

- Benchmark awareness means, in practice, that these types of funds will sell stocks when the market falls and re-purchase stocks when the market rises (in line with general market movements, adjusted as desired to allow for over- or under-weighting of specific stocks); and,

- This leads to the high turnover experienced by traditional managed funds, which can be as high as 60% to 80% per annum.

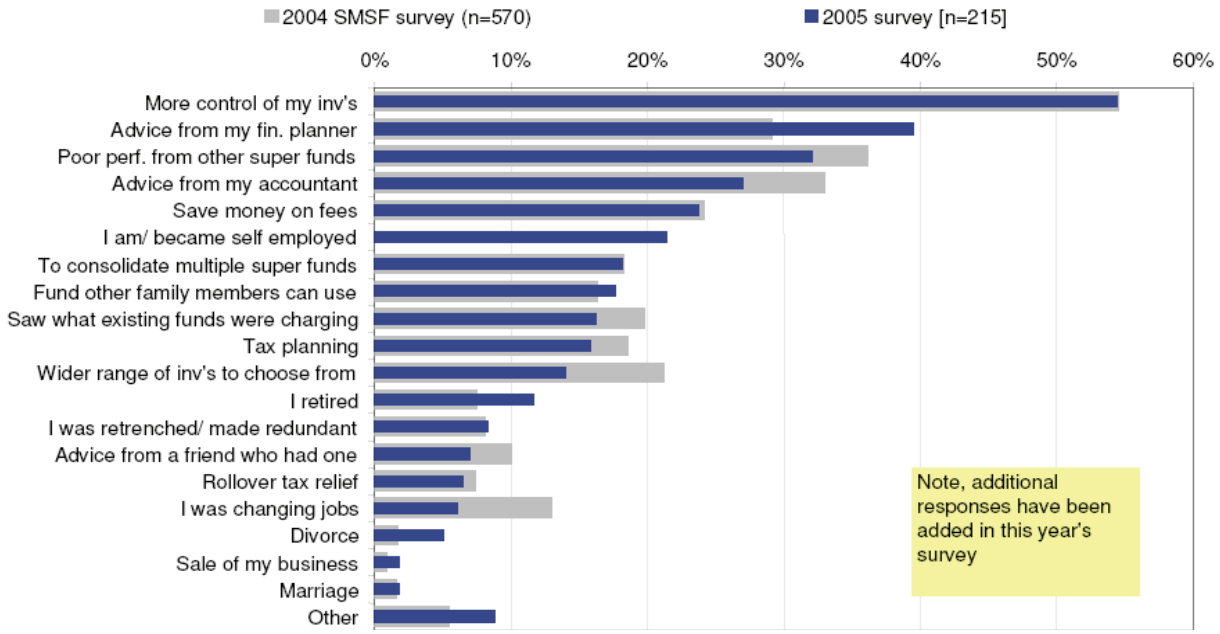
The fallacy in this approach is that it is posited on the basis of an assumed need for high levels of liquidity at the investor level. Driven by the limitations of anachronistic registry technology, traditional funds are managed to provide maximum liquidity for all investors, at all times (even when not needed).

Although not many investors articulate the technical *investment* rationale, they do know what they hope to achieve. As shown in Figure 2 (over page), investment control is cited as the top factor driving the use of self managed super funds and an increasingly large number of SMSF investors shun managed funds and use, instead, concentrated portfolios of direct equities.

The shortcoming in the APRA paper is that it does not consider the alternatives to traditional managed funds. Those managed funds are very effective for older retirees who need maximum liquidity but for those in the accumulation phase with suitable levels of investment sophistication, the SMSF is a powerful vehicle for the accumulation of a portfolio tailored to meet their specific life and retirement planning expectations. Since Australian equities are often the best performing asset class for Australian investors,[4] SMSF's correctly include an allocation to them. The SMSF investor can implement a direct portfolio with turnover and an investment timeframe to suit their needs. The literature indicates the optimal number of securities in an equity portfolio to be no more than 15 stocks,[5] hence concentrated portfolios use this approach.

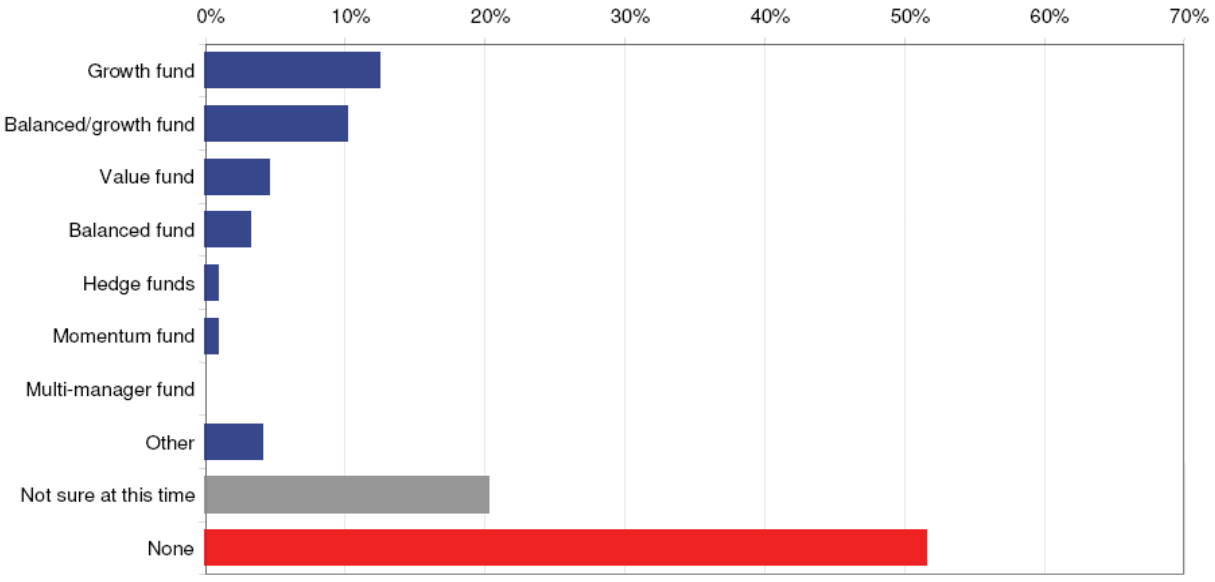
[3] Ibid, p.10.
[4] See for example the annual ASX/Frank Russell "Investment Survey" for data on this point.
[5] Eg Haggstrom R: The Warren Buffett Portfolio (J Wiley & Sons 1999)

Figure 2: SMSF Trustee's – rationale for establishment of SMSF



Source: Investment Trends, 2005

Figure 3: SMSF use of managed funds



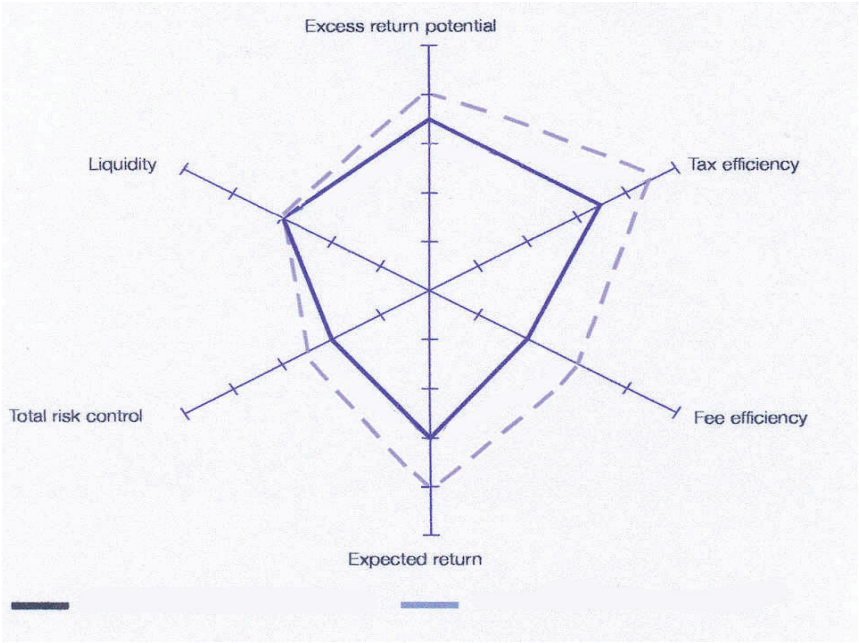
Source: Investment Trends, 2005

One outstanding example is the Model Equity Portfolio managed by the Australian research house, Lonsec. It has generated a total return of 299.2% since inception in 2001, through many market and business cycles, and has outperformed the ASX 100 Accumulation Index by 200.3% in that period (www.lonsec.com.au).

A further shortcoming of the APRA paper is that it does not go far enough in revising the criteria by which investments should be measured. It makes a valuable contribution to the critique of the Sharpe ratio, and seeks to develop a new benchmark, being the RAVA approach which takes account of fees and taxes, but it ignores the real world reality of what investors want from their portfolio.

An excellent assessment of this is in the 2003 paper by Robert Credaro, in which he proposes that investors actually value "Six Dimensions" of portfolio construction: expected return; excess return potential; tax efficiency; fee efficiency; liquidity; and, total risk control.[6]

Figure 4: The six dimensions of portfolio construction



Source: Macquarie Funds Management

[6] Credaro R: Multiple Dimensions of Portfolio Construction" (Precision, Macquarie Funds Management, Winter 2003).

CORE, SATELLITE AND CAPITAL PROTECTION

The "Core + Satellite" approach to investing recognises that its often unlikely that investment managers can outperform benchmark after fees, and thus that it can be more efficient to generate market beta by investing in the benchmark index itself, for a cost which may be up to 10 times less than paid to the fund manager. This approach then relies on a range of benchmark unaware investment decisions being made - investments into assets and markets which are capable of producing outperformance returns. Since there is validity to the idea that investment returns are mean reverting, the satellite investments may not be held for extended periods of time, leading to the potential for relatively high rotation of satellites.

The approach is consistent with Credaro's six dimensional approach to portfolio construction. Satellites are used to increase expected return and excess return potential. In doing so, care must be taken to minimise fees, maximise tax efficiency, and enhance risk control. This paves the way for the use of capital protected investments.

Satellite investments need to access assets and markets which outperform. Traditionally this could have been achieved by allocating, broadly, to international equity markets. But post the GFC, the utility of this approach is questionable. Commentators like Peter Schiff propose that the US is in the midst of a secular bear market - a sustained and prolonged bear market, in which the peaks and troughs of the market are really no more than the ebbs and flows of a prolonged period of economic pain. Whether this view is correct cannot be properly tested until after the event. But look at how clearly Schiff describes the origins of the current US malaise:

> "By (2007), the nation had undergone a radical transformation in terms of its economic infrastructure and its economic behavior. A service-based economy had largely supplanted one based on manufacturing that was now at a competitive disadvantage to producers in Asia and elsewhere who were less burdened by regulation, high taxes, and mandated worker benefits. America had become a nation of consumers, and manufacturers were disappearing.
>
> Reflecting that reality the balance of trade was running huge deficits, with imports exceeding exports by $800bn annually. Federal budget deficits ranged between $300bn and $400bn yearly, caused by trillions of dollars of Government spending for the Iraq and Afghanistan wars, entitlement programs, debt service, and other expenses …"[7]

Many commentators agree that this can be offset by allocating to selected emerging markets like China, some of the better performing Asian markets, the BRIC sector and the like. Non-traditional assets like commodities feature in investment recommendations, too. Consider the reality of the observations of Marc Faber:

> "Once in a great while, the world undergoes big changes. The great discovery voyages at the end of the fifteenth century led to a huge enlargement of the world's economic sphere. Venice – master of the previously important Mediterranean trade routes, and the world's

[7] Schiff, Peter: Bull moves in bear markets, (2008, John Wiley and Sons), p.7.

> richest and most powerful city - was thrown into a corner of the world…
>
> The breakdown of the socialist/communist ideologies at the end of the twentieth century and the end of the policies of self-reliance and isolation on the Indian subcontinent were the other big changes. Suddenly, three billion ambitious and motivated people joined the world's free market economy and capitalistic system. These new citizens of the global economy are striving mightily to raise themselves to the level of affluence they see in their Western counterparts. Simply put, the free world has been joined by more than three billion people who have a similar frame of mind as the American pioneers of the nineteenth century".[8]

However valuable these insights may be, for many Australian investors - even at the more sophisticated, HNW and SMSF end - they may fall on deaf ears. It's typical for non-core investments to struggle to find a home, without a well developed understanding of core and satellite investment methodology.

As outlined above, the core should be used to generate low cost market beta, with satellites being used to expose the portfolio to alpha generators; with rotation between satellites as required to extract maximum return with minimal risk.

And to further enable investor access to these satellite investments – in new markets and assets with which they may not be as familiar as they are with Australian and traditional international markets[9]- capital protected investments offer some valuable benefits.

Capital protection can be a way to improve portfolio performance when measured using traditional notions of risk and return. When traditional notions are expanded to include Credaro's six dimensions, capital protection - *if it is effective* - provides additional, important benefits.

Academic literature tends to focus on **optimising mean-variance** – that is, defining "risk" as standard deviation of returns, and holding the greatest expected return for a given risk or equivalently minimising risk for a given level of expected return. "More risk = more return," generally with diminishing returns as a much greater risk is required for incremental expected performance. While this definition is mathematically convenient, in the real world investors perceive negative returns much more acutely than volatility. For example, an investor is unlikely to care about a fund fluctuating between +10% and +70% per annum, even though the volatility is high. However, a relatively modest expansion of the range to include -5% per annum may start to induce concern. Better measures of perceived risk include semi-variance and other statistical measures based on drawdowns.

Anecdotally, investors also tend to accept negative mark-to-market values better if there is a fixed maturity date at which they are scheduled to receive their full investment back, as opposed to a markdown in an investment where there is no explicit light at the end of the tunnel.[10]

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[8] Faber M, in Foreword to Schiff, Peter: Bull moves in bear markets, (2008, John Wiley & Sons)

[9] Satellites may be used to generate alpha in respect of the underlying market or asset, or they can generate alpha for an Australian investor (that is, compared to the general Australian market return) even if they provide access simply to the beta of a non-Australian market (call this "exotic beta").

Assessing the effectiveness of capital protection

Capital protection can be implemented in three main ways and each has its own benefits and risks, so the suitability of each depends on the conditions against which protection is being sought):

1. Buying a put option over the asset with the exercise price struck at the level of desired protection. At the money put options such as those used to deliver 100% protected lending products tend to be expensive, and current pricing includes interest rates of in excess of 20% per annum, which is likely to be deemed by many to be prohibitive. Products such as AXA North use a variation of this ATM put option-based protection and suffer as a result from high costs;

2. Synthetically replicating the underlying asset but with zero or only partial downside risk, by combining zero coupon bonds of the desired tenor with call options over the underlying asset with matching maturity dates. In bond + call products, if the call option is At The Money and provides 100% or greater participation in the upside of the underlying asset, provide a linear or delta 1 payoff tracking the upside of the asset, but with no downside; and,

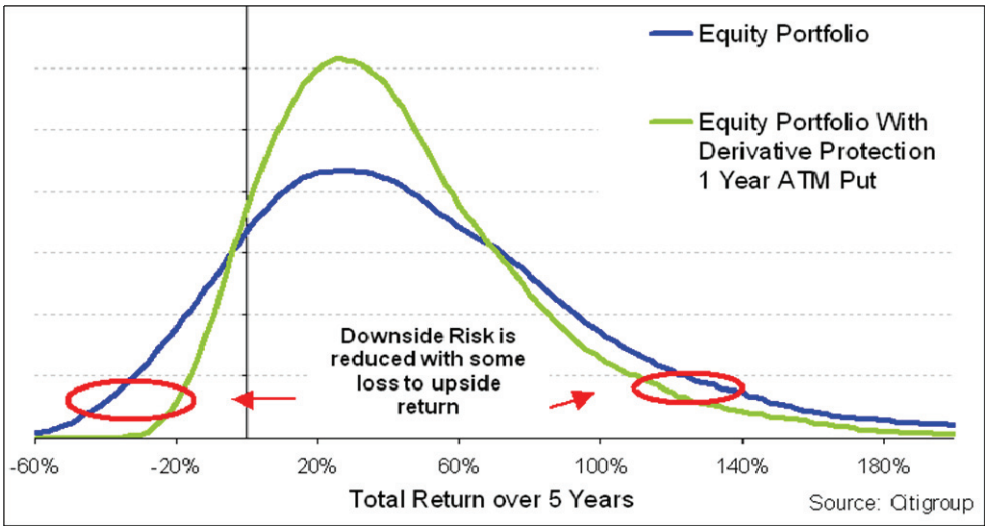
3. CPPI products provide full exposure to the underlying asset with the potential for enhanced leverage in rising markets, but with the prospect that in falling markets that exposure can be reduced potentially to zero - meaning that the investor's capital will be returned at maturity but exposure to the risky asset can be low or zero if asset prices fall dramatically.

Method One - buying put options - is expensive and results in a performance drag, but offers the benefits of certainty and full exposure to the underlying asset at all times. Dividends or distributions from the underlying assets can be passed through to investors (as they hold the assets directly).

Figure 5 below shows how risk/return is dispersed for asset plus put option positions. The cost of the put option lowers the upside potential in positively performing markets but reduces (or, where at the money puts are used, eliminates) downside risk. The investor needs to trade off the cost, and level, of risk protection when using put options.

[10] The author acknowledges the input and drafting to this section of the paper from Mr Andrew Vallner, Denison Consulting.

Figure 5: dispersal of returns: combined put option and underlying equities



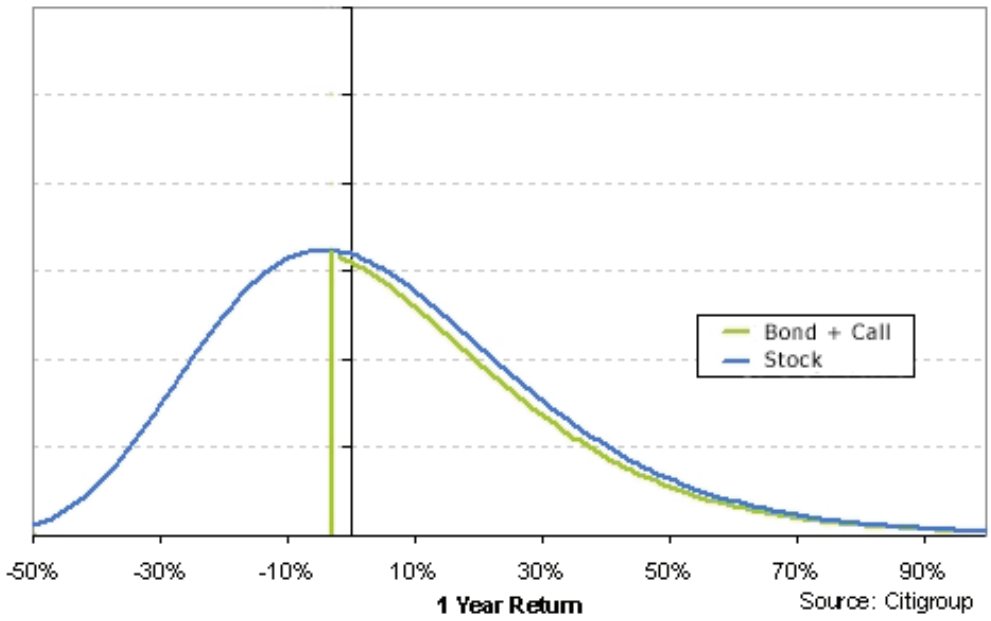
Note: put option strike is not at the money.

Method Two - synthetic replication using bond + call options - is easy to deliver and understand but may be expensive when call option volatility and prices are high or diseconomic when bond rates are low, leaving little risk budget aside to buy the option-based exposure.

Like method one, full exposure is maintained to the underlying asset at all times. Compared to method one, dividends or distributions cannot normally be paid through to investors (options don't pass these through) but can be compensated for if total return indices are used to hedge the synthetic product.

Figure 6 below shows how risk/return is dispersed for bond + call option positions. In this example, the bond + option provides exactly the same upside return dispersal as the underlying stock, but does not pass out dividends on that stock (thus the olive green line payoff for the bond + call position is slightly negative, that is, showing the opportunity cost of bond + call vs stock). Note, if accumulation indices are used as the basis for the call option, there is no opportunity cost other than the inability to claim tax benefits such as franking credits.

Figure 6: dispersal of returns, bond + call vs stock



Note: Bond + call product in this example does not pass through dividends from underlying shares.

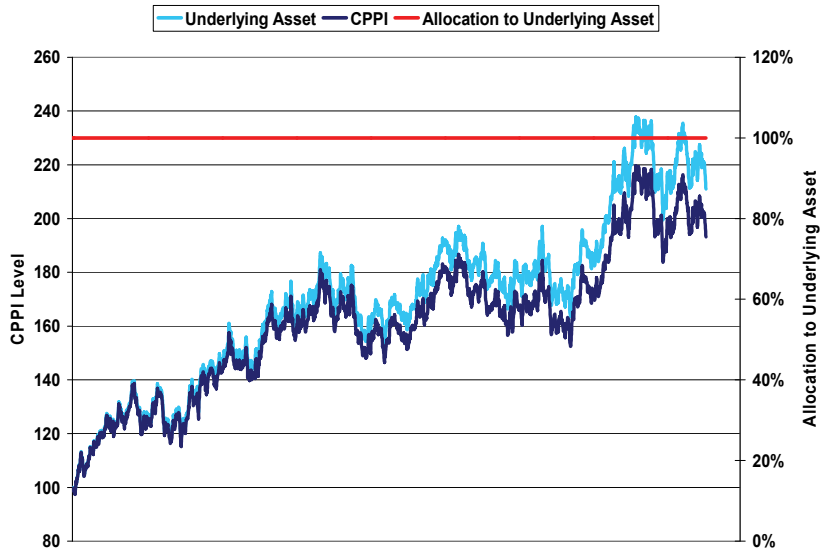
Method Three - CPPI - gives the benefits of physical (or synthetic) exposure to the underlying asset with the ability for leverage to increase returns above the delta 1 exposure possible in method one or two.

The drawback is that if the product de-leverages (potentially reducing the risky asset exposure to zero, that is, cashlock) further exposure to the underlying asset and any cashflow arising from it is reduced, potentially to zero.

Figures 7 to 10 show the risk/return dispersal for CPPI products.

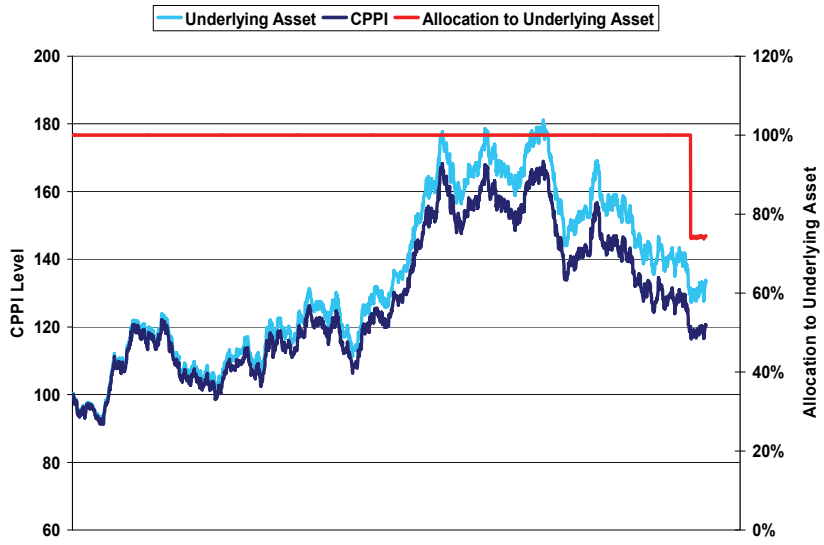
Capital protection can enable investors to take exposure to unfamiliar assets, especially those that are suitable for use within the investment portfolio satellites. This allows for better diversification and avoidance of the low returns generated by reliance on traditional portfolio construction methods and investments. Well designed capital protection can deliver a range of investor benefits including certainty of outcome and full access to investment upside, with minimal or zero downside depending on the type of protection used.

Figure 7: CPPI compared to underlying asset return in a rising market – strong performance



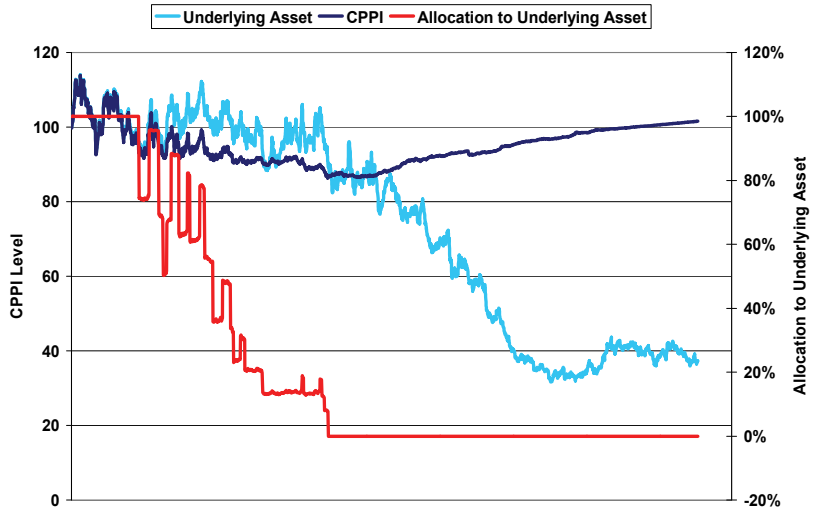
Note: Strong outperformance of CPPI approach is a result of internal leverage. Source: Adviser Edge

Figure 8: CPPI compared to underlying asset return in a rising then falling market – strong performance



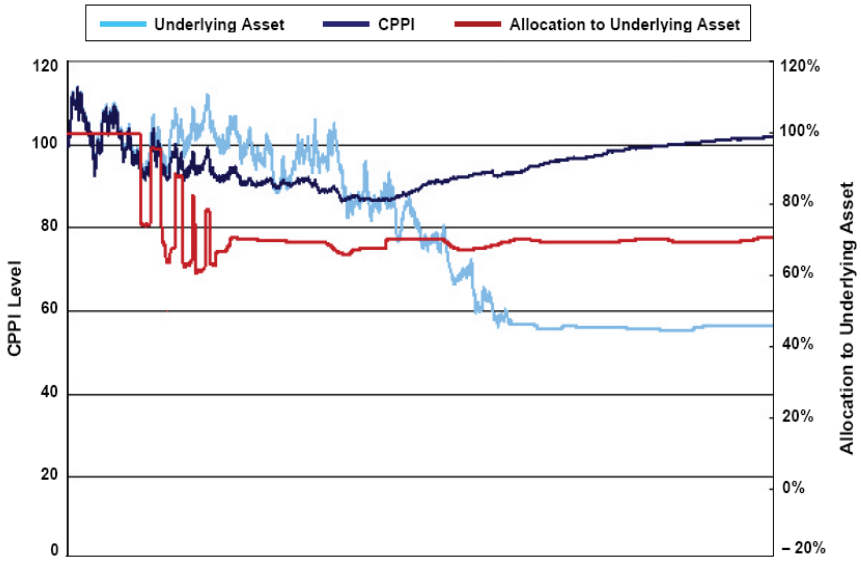
Note: Strong outperformance of CPPI approach is a result of internal leverage in earlier periods despite some erosion of overall return following market falls in subsequent periods. Source: Adviser Edge

Figure 9: CPPI compared to underlying asset return in a falling market – mixed performance



Note: Capital is protected at maturity but, as a result of cashlock the CPPI product does not participate in market recovery. Source: Adviser Edge

Figure 10: "Enhanced" CPPI compared to underlying asset return in a falling market



Note: Shows benefit of including ability for CPPI product to avoid cashlock, capital is protected at maturity but, as a result of CPPI enhancement, the CPPI product does participate in market recovery. Source: Adviser Edge