

Volatility for alpha and protection

Volatility markets provide an insurance-style risk premium which can deliver attractive and persistent returns. Volatility markets can also provide predictable protection opportunities. Volatility strategies can **help investors increase returns and reduce risk**.

Predictability is key

Going forward, we believe global markets will be different from the past few decades. Challenges posed by slowing productivity and economic growth, deglobalisation, demographics, high debt levels and climate change may provide headwinds and/or a changing behaviour of both return-seeking and defensive asset classes. For investors to meet return objectives in a new world, predictability becomes paramount.

But how and where do investors find predictability? We believe the answer lies in keeping things simple, understanding the logic behind investment returns (in the context of a changing environment) and tailoring outcomes through portfolio design. We think investment strategies in volatility markets meet these criteria and can be used to provide predictable, defensive and attractive returns.



volatility alpha strategies are driven by a genuine risk-transfer risk premium that is clear, logical and sustainable, which we believe makes them attractive and likely to persist

** An option is a financial instrument that gives the owner the right, but not the obligation, to buy or sell an underlying asset for a pre-agreed price on, or by, a certain date in the future.*

For an introduction to options see our paper 'Using options to improve risk and return'.

What is volatility

Volatility is a measure of how much something 'moves'. In financial markets, it is the degree of variation around the price of an asset, usually expressed as the annualised standard deviation of returns. It is a key component of option* pricing because options are used to transfer the 'price risk' of an asset from one party to another. The more volatile (and therefore risky) the underlying asset, the higher the price of an option referencing that asset.

This is similar to a regular insurance contract (like house insurance, car insurance or health insurance); the higher the risk of a particular event, the higher the price of insuring against that event. As we'll discuss, option strategies can be used to create attractive investments. And in that context, the parallel to how insurance is priced is very relevant.

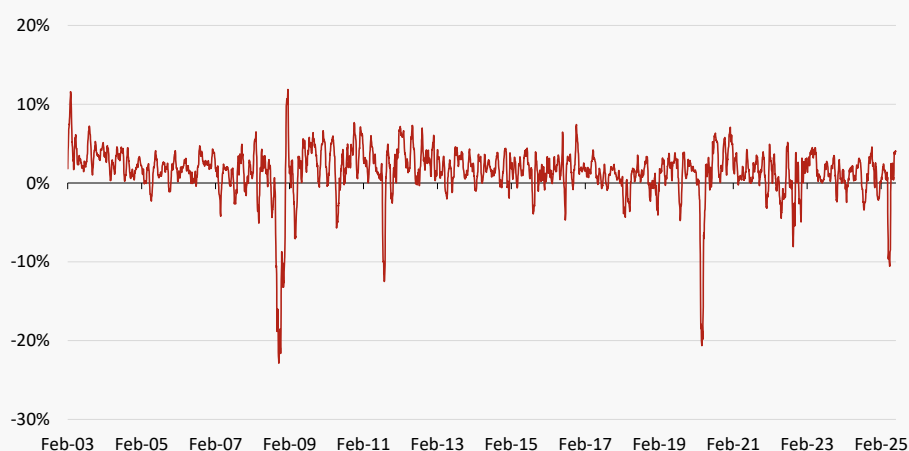
Benefits for alpha

As outlined, options are used to transfer the price risk of an asset (such as equities) from the option buyer to the seller, and there is a positive relationship between the expected magnitude of price moves of an asset (volatility) and the cost of options on that asset. Because of this, estimating future volatility is a key step in option pricing.

In a risk-averse market, on top of the estimate of future volatility, the option seller will demand a risk premium as compensation for the risk that the volatility prediction turns out to be wrong.

Again, this is similar to insurance markets; the cost of an insurance contract will reflect an estimate of the future riskiness of the insured event plus a risk premium (including profit margin) as demanded by the insurance provider.

Figure 1: Persistence of the implied-realised volatility risk premium



20-day average of 1-week S&P500 volatility. Past performance is not an indicator of future performance. See important information on the last page. Source: Société Générale, Bloomberg, SouthPeak.



To illustrate, let's look at a real-life example. Figure 1 shows the difference between 'implied' volatility and 'realised' volatility of options on the S&P500 equity index. Implied volatility is the amount of forward-looking volatility of an asset that is baked into the price of an option. Realised volatility is the volatility that then actually occurs during the option term. So, if the annualised implied volatility of an option is 16% (an average move of about 1% per day) and the annualised realised volatility turns out to be 12% (an average move of about 0.75% per day), the implied minus realised gap is 4%.

As Figure 1 shows, in the last two decades implied volatility tended to be above subsequent realised volatility quite persistently. Sometimes that was not the case, in particular the market crashes in 2008 and 2020, and the equity turbulence in April 2025.

Implied volatility being higher than realised volatility most of the time means options are generally overpriced. This makes sense and reflects the insurance-style risk premium demanded by option sellers. We believe this risk premium is clear, predictable and sustainable; we do not think it will go away if market dynamics change in the future.

So, while options can be mathematically complex, at their core they are quite straightforward; they are a type of insurance contract. As such they are priced with an excess risk premium. Selling options (selling volatility) may therefore be a good idea to generate alpha – especially if the risk of loss can be mitigated (akin to insurance companies using reinsurance to limit risks).

Benefits for protection

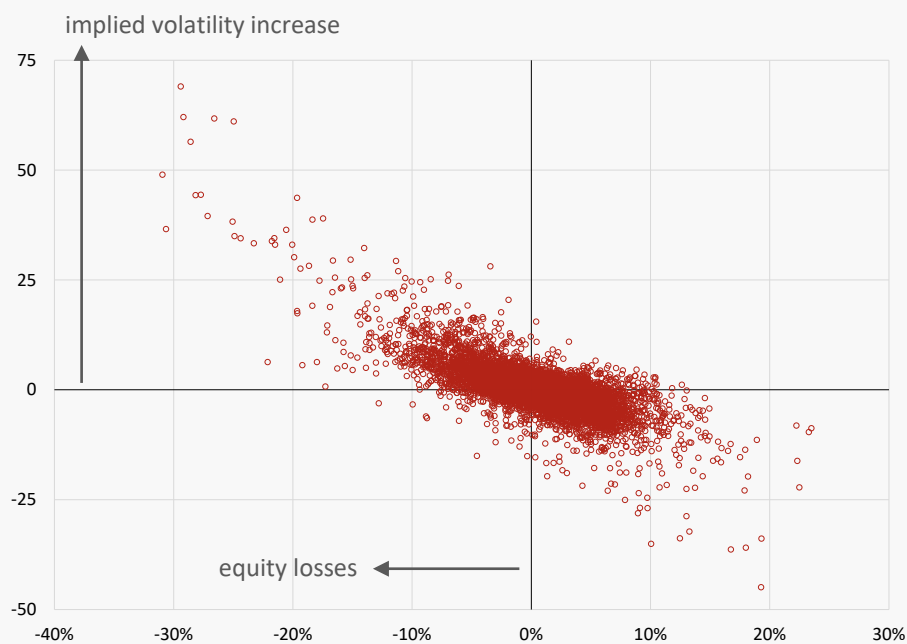
Another aspect of volatility is its behaviour when markets fall. In equities, market falls are usually associated with rising actual and implied volatility and vice versa. This can be partially explained by investor 'loss-aversion' (the negative feeling of a loss is greater than the positive feeling of a gain), causing investors to 'rush for the exit door' and sell when prices go down to avoid losses, exacerbating price moves and volatility when markets fall.

Another aspect of this are risk management approaches where investors sell assets to protect the value of their investments when prices fall. Importantly, as loss-aversion is grounded in investor psychology, we don't think this behaviour will cease in a potentially different macro environment ahead.

To illustrate, Figure 2 shows the negative relationship between equity returns (horizontal axis) and changes in implied volatility (vertical axis). This relationship makes buying options (buying volatility) an interesting tool to protect against large equity falls, particularly if the excess cost of those options can be managed.

“ volatility tends to increase when markets fall; a behaviour we think is similarly timeless ”

Figure 2: Persistence of negative equity/volatility correlation



20-day S&P500 return (%), x-axis) against 20-day change in the VIX Index (vol points, y-axis): since Jan 1990. Past performance is not an indicator of future performance. See important information on the last page. Source: Bloomberg, SouthPeak.



Volatility strategies can provide defensive alpha

Because of the persistent positive gap between implied and realised volatility (see Figure 1), a strategy that sells options can harvest a 'structural alpha' source. However, as we've seen, occasionally realised volatility spikes, inflicting losses on a volatility selling strategy. Fortunately, option strategies can be tailored to mitigate downside risk, leaving us with a trade-off:

Can volatility-selling strategies be designed to limit drawdowns but still harvest the bulk of the expected returns over time?

We believe so and we have successfully used such design techniques on systematic volatility alpha strategies for many years, including during the market turbulence in 2018, 2020 and 2025.

To illustrate, Figure 3 shows the simulated performance of two approaches of harvesting the volatility risk premium in equity markets.

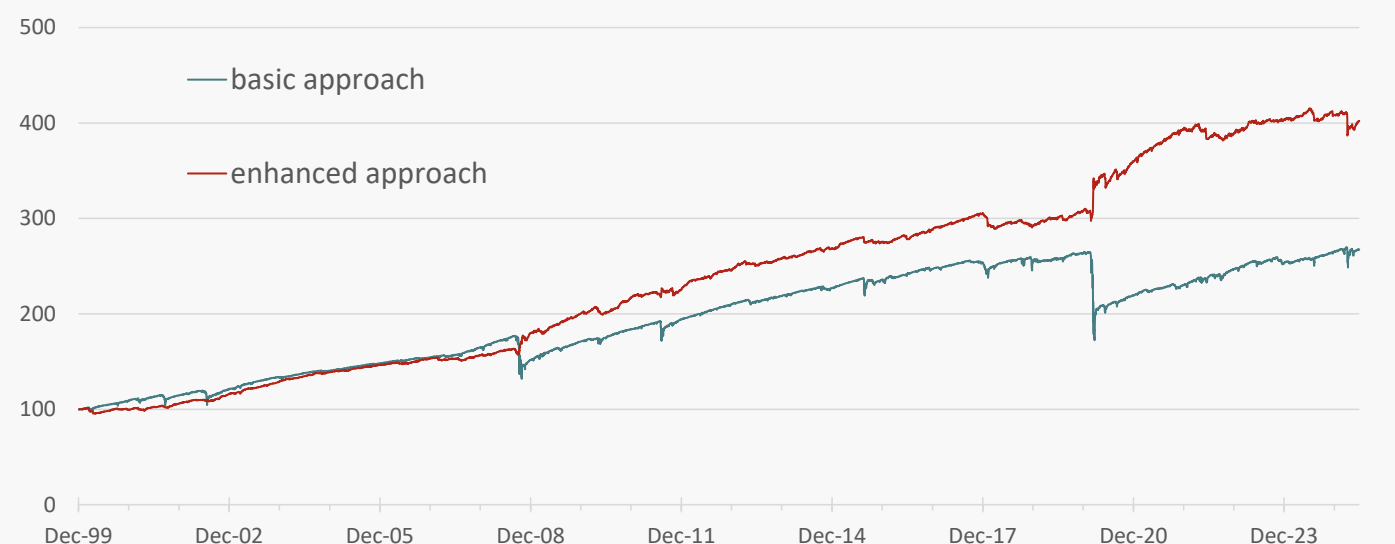
The 'basic approach' systematically sells options on the S&P500. This simulation achieves an annualised return of 4.7% (excluding a cash return) with a maximum drawdown of 27%, which is almost 6 times the annualised return.

The 'enhanced approach' also sells options and in addition incorporates daily delta hedging*, dynamic positing sizing and protection against large equity crashes. The enhanced approach improves the simulated annualised return to 5.7% (excluding a cash return) while reducing the maximum drawdown to 6%, which is only 1 times the annualised return.

the aim of defensive volatility alpha strategies is to provide consistent, reliable, predictable returns that harvest a true risk-transfer risk premium

* Delta hedging involves trading the underlying asset (in this case S&P500 index futures) with the aim of mitigating exposure to the direction of the underlying market but maintaining exposure to volatility.

Figure 3: Harvesting the implied-realised volatility risk premium



Simulations have been created using models with assumptions and may have the benefit of hindsight. No actual investments were made. There can be sharp differences between simulated and actual results for many reasons. The simulations are net of estimated transaction costs but gross of management fees. Past performance is not an indicator of future performance. See important information on the last page. Source: Bloomberg, SouthPeak.



Volatility strategies can provide cost-effective protection

The negative equity / volatility correlation (see Figure 2) means that a portfolio of option-buying (protection) strategies can be expected to make money when equity markets fall sharply. However, because options are usually 'overpriced' (because of the implied-to-realised volatility premium), option-buying strategies usually cost too much over time relative to their gains during market falls. So, we are faced with another trade-off:

Can protection strategies be designed to deliver strong and reliable gains during equity crashes, while limiting the cost at other times?

We believe so and have shown that in 10+ years of using such strategies in our funds. There are two key actions to achieve this goal.

First, use several complementary strategies so that each protection strategy works best in a different type of equity crash. Every market crash is somewhat different, so there may be little benefit in designing protection strategies purely based on what would have worked best in the most recent crash.

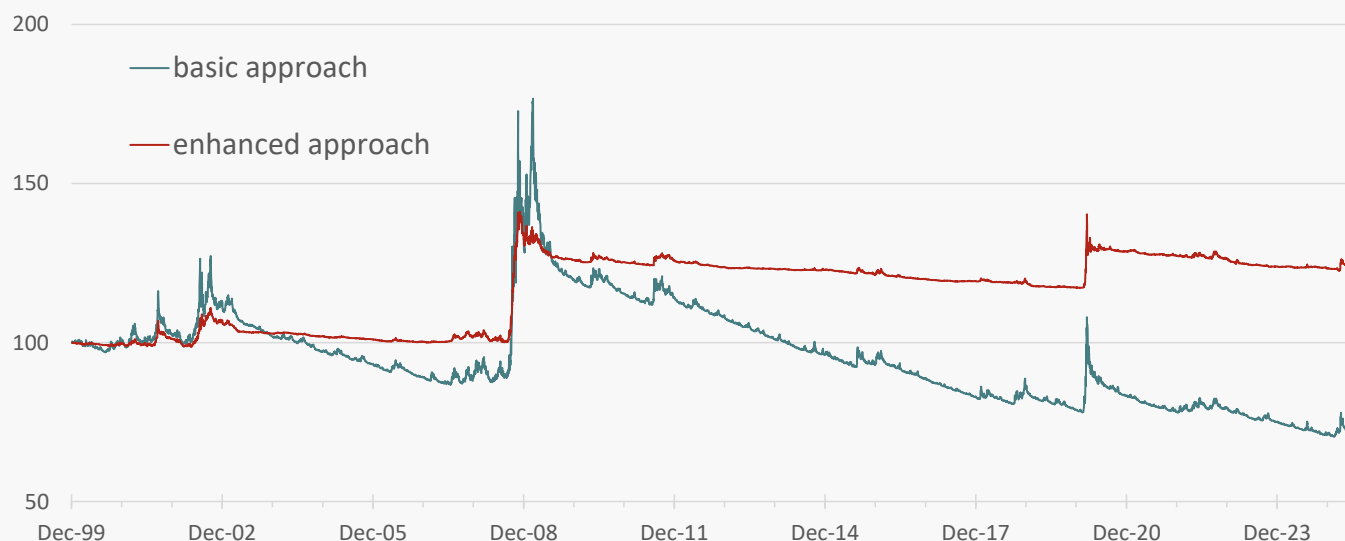
Second, dynamically manage the strategies to effectively mitigate the 'bleed' based on an understanding of the source of the cost behind owning options. Reducing the expected cost of protection makes it easier for investors to include a meaningful amount in their portfolio.

To illustrate, the 'basic approach' in Figure 4 shows a number of protection strategies put together, while the 'enhanced approach' shows the same strategies but using proprietary techniques to actively and systematically limit the cost over time. While this is a simulation so that we can show the performance of these strategies over a longer time period (including in 2008), the simulation largely matches our actual experience using protection strategies in the last decade.

the aim of cost-effective protection strategies is to provide positive returns in large equity falls while limiting the cost at other times

Figure 4: Complementary, cost-effective protection strategies

SIMULATION



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Adding volatility strategies to cash for defensive absolute returns

Earlier we saw an example of a risk-managed option-selling strategy as a way to deliver defensive alpha. We can include other volatility-selling strategies with similar dynamic risk management to harvest the broader volatility risk premium in a defensive and diversified way. On top of that, we can combine these with the cost-effective protection strategies we just explored to create an investment that aims to deliver a consistent absolute return regardless of market conditions.

Because of the structural alpha, insurance-style nature of the alpha strategies, and the behaviour of option-selling and option-buying strategies, we believe this approach is likely to continue to perform well even if a change in macro conditions causes other absolute return approaches to struggle going forward. It also has the benefit of being liquid.

To illustrate, figures 5 and 6 show the simulated performance of adding a portfolio of risk-managed volatility-selling strategies and complementary protection strategies to Australian dollar cash. Figure 5 shows the cumulative performance of such an approach, while Figure 6 shows the annual outperformance added by the volatility strategies.

the aim of adding volatility strategies to cash is to create a diversifying investment with low correlation to bonds and equities, but with higher returns than traditional defensive investments

Figure 5: Adding volatility strategies to cash

SIMULATION

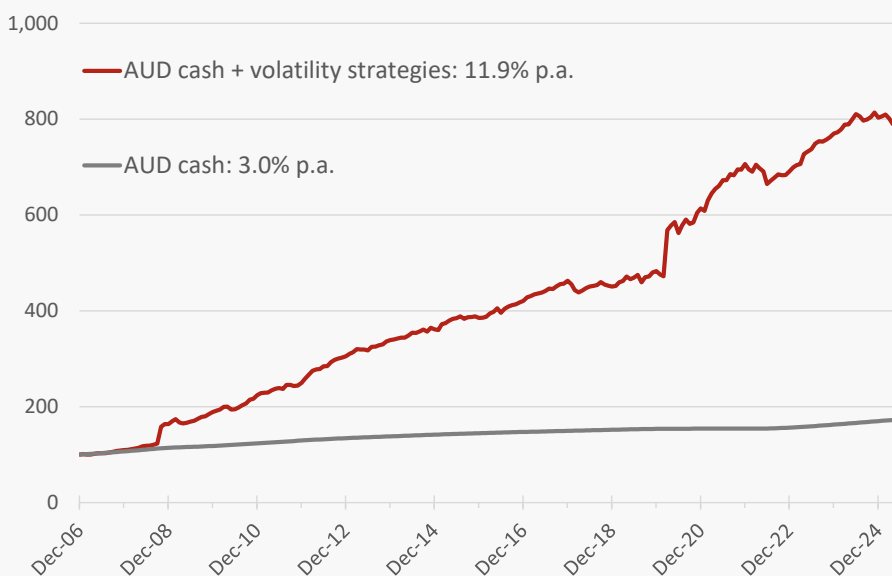
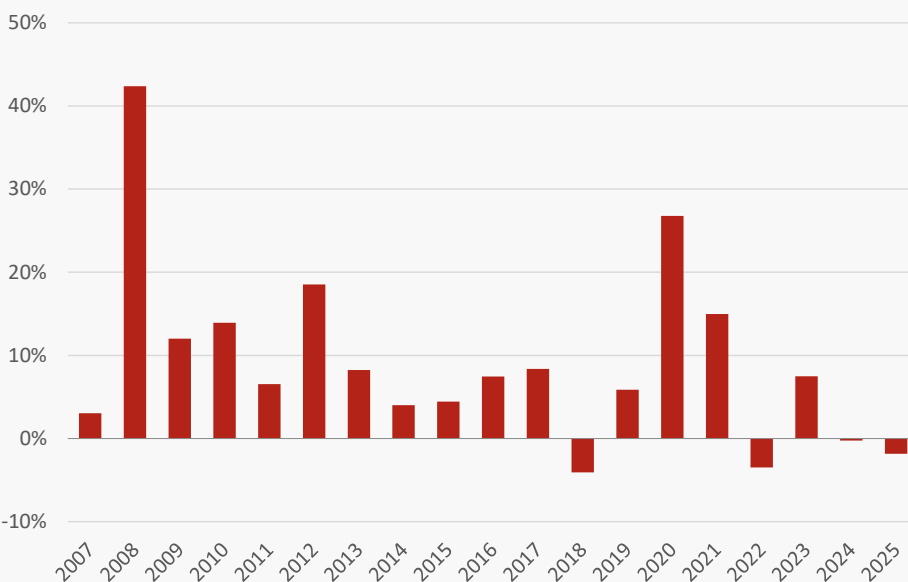


Figure 6: Annual outperformance compared to cash returns



Simulations have been created using models with assumptions and may have the benefit of hindsight. No actual investments were made. There can be sharp differences between simulated and actual results for many reasons. The simulations are net of estimated transaction costs but gross of management fees. Cash returns are the Reserve Bank of Australia Daily Cash Rate Target, RBACTRD Index. Past performance is not an indicator of future performance. See important information on the last page. Source: Bloomberg, SouthPeak.



Adding volatility strategies to equities for enhanced equity returns

A different approach is to add volatility strategies to a passive equity portfolio, as shown in figures 7 and 8.

Here a defensive volatility-harvesting strategy aims to consistently deliver outperformance on top of equities while the cost-effective protection strategies aim to add returns in large equity falls, reducing the losses of the equity investment.

Figure 7 simulates the cumulative performance of such an approach, while Figure 8 shows the annual outperformance added by the volatility strategies. Because this simulation includes an underlying return of equities (as opposed to cash), it contains a smaller allocation to the volatility-harvesting portion than the simulation on the previous page.

An approach like this may provide several advantages for investors: alpha on top of equity returns which compounds over time; lower drawdowns which should allow better long-term returns; lower sequencing risk for investors approaching or in retirement; a way of reducing equity risk while increasing expected returns.

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the aim of adding volatility strategies to equities is to create an investment that should outperform equities in ‘normal’ markets, and outperform by more in large equity falls

Figure 7: Adding volatility strategies to equities

SIMULATION

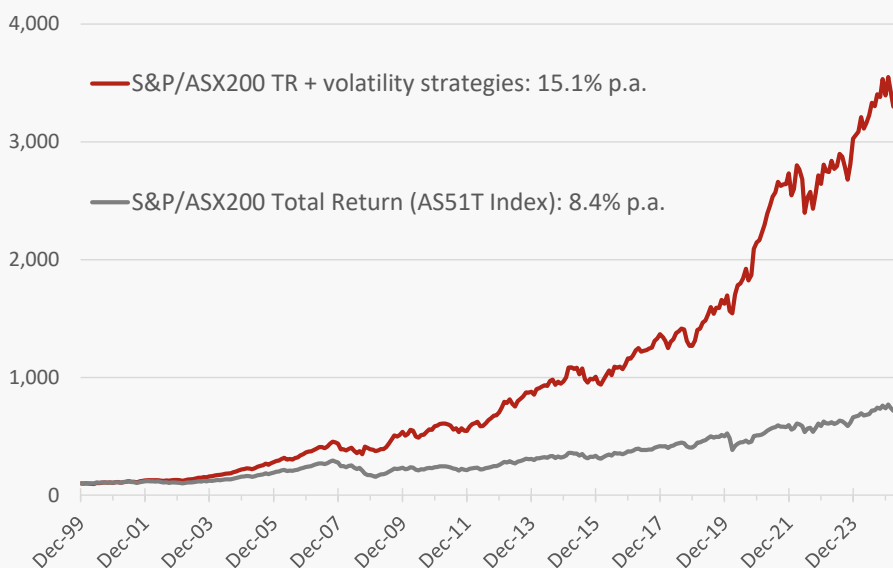
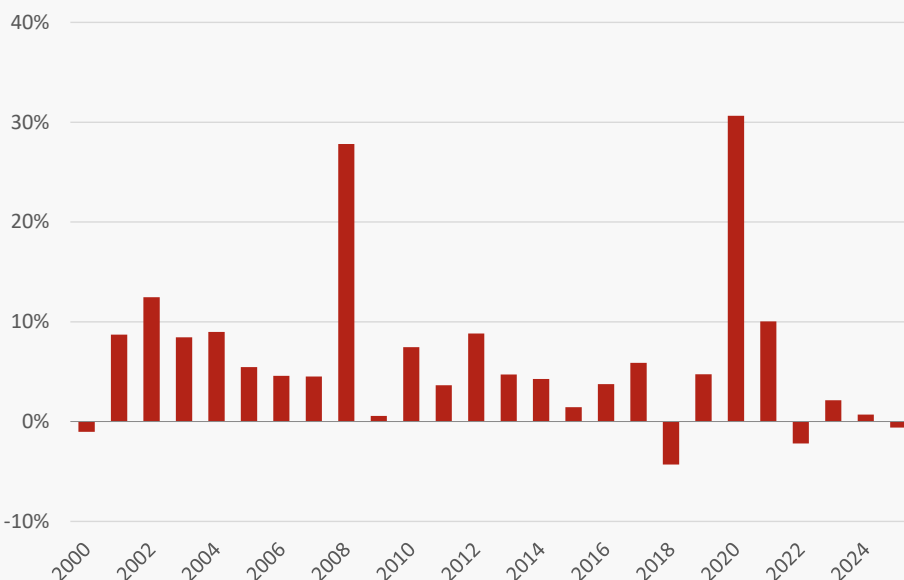


Figure 8: Annual outperformance compared to equity returns



Simulations have been created using models with assumptions and may have the benefit of hindsight. No actual investments were made. There can be sharp differences between simulated and actual results for many reasons. The simulations are net of estimated transaction costs but gross of management fees. Equity returns are the S&P/ASX 200 Total Return Index, AS51T Index. Past performance is not an indicator of future performance. See important information on the last page. Source: Bloomberg, SouthPeak.



Using volatility strategies to help build and maintain wealth

Many investors hold a large portion of their assets in equities. Two key challenges for portfolios dominated by equities are how to manage the risk of large losses associated with equity crashes (especially for investors close to, or in, retirement) and how to earn additional returns on top of the base asset class returns.

Investors often use a range of defensive assets (such as cash and bonds) to address the former challenge and look to active equity managers to address the latter challenge (often through stock-picking and/or 'style tilts').

One problem with the first approach is that defensive assets are expected to earn lower returns over the long-term compared to growth assets. In addition, unstable correlation between equities and bonds may make bonds unreliable diversifiers going forward.

Challenges with the second approach include that it is very difficult to consistently add positive returns over a long time period through stock-picking or style tilts.

Adding volatility strategies to cash can help address these challenges by creating an investment that aims to earn returns in line with growth assets while providing the type of diversification benefits associated with defensive assets.

Adding volatility strategies to equities can also help address these challenges, as the cost-effective protection strategies aim to reduce the risk of the equity portfolio.

In addition, we believe the persistent nature of the volatility risk premium harvested by the risk-managed alpha strategies can provide a more reliable source of outperformance than stock-picking or style tilts.

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for investors close to, or in, retirement that want to reduce risk, rather than selling equities and investing in potentially lower-returning defensive assets, retaining equities and enhancing them with volatility alpha and protection strategies may provide the ability to reduce portfolio risk without sacrificing the potential returns of growth assets*

For further discussion of how volatility strategies can be used in portfolio construction to reduce risk and increase returns see our paper 'Volatility and portfolio construction'.

In this note we discussed how the key characteristics of volatility make it well suited to provide investors with both **attractive alpha and cost-effective protection** to increase returns and reduce risk.

Important information

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About SouthPeak

SouthPeak is a specialist volatility manager providing alpha and protection.

We aim to deliver attractive outperformance with low correlation to bonds and equities.