

MARKET GPS  
**ALTERNATIVE  
PERSPECTIVES**

An abstract geometric graphic on the right side of the page. It features a wireframe mountain shape composed of many small triangles, with a solid red rectangle positioned to its right. The background of the entire page consists of vertical stripes in shades of blue and white.

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# OUR DIVERSIFIED ALTERNATIVES CAPABILITIES

WELCOME TO THE LATEST EDITION OF OUR MARKET GPS: ALTERNATIVE PERSPECTIVES, WHERE WE HIGHLIGHT WHAT WE HOPE TO BE THOUGHT-PROVOKING VIEWS FROM ACROSS OUR DIVERSIFIED ALTERNATIVES TEAM. THESE ARTICLES ARE INTENDED TO HAVE BROAD APPEAL; BUT MAY BE PARTICULARLY RELEVANT FOR THOSE INVESTORS CONSIDERING HOW BEST TO DIVERSIFY THEIR STRATEGIC PORTFOLIO ALLOCATIONS AT A SEMINAL MOMENT IN TIME FOR GLOBAL MARKETS.

We came into 2020 with a view that all the ingredients were in place for potentially significant moves in the market. Highly elevated political and economic risk, an ageing bull market, inverted yield curves, negative rates rattling investors, and unicorns falling short of expectations. We believed the extremely low levels of implied volatility failed to capture these potential risks. COVID-19, however, was a classic 'left-hand tail risk' – an unexpected event with significant ramifications for investment markets globally.

The scale, breadth and speed of market falls earlier this year cast the spotlight on some hitherto accepted paradigms of risk mitigation and asset allocation. With investors now reassessing the range of tools available to them, the argument to consider more sophisticated 'alternative' strategies has rarely been stronger.

In this edition of Perspectives, Mark Richardson looks at the rationale behind an 'always on' protection strategy in a portfolio, considering how different complementary instruments can potentially mitigate the impact of unforeseeable market risks. Andrew Kaleel and Maya Perone then introduce a new tactical addition to our range of 'protection' strategies, a dynamic 'Tail' hedging strategy that offers a cost-efficient alternative when risk (and protection costs) are relatively high.

Bonds have been the natural choice to use as a diversifier for equity allocations over the past two decades. Aneet Chachra and Steve Cain give a brief insight into why the negative correlation that underpins this relationship may not be as reliable as it once was. This naturally rolls into our final article from Natasha Sibley, who looks in more detail at the history of bond/equity correlations and considers how investors can tap the alternatives market to help build a portfolio with truly diversified performance drivers.

We hope you find this publication interesting, and we would be happy to discuss any of these ideas in more detail. We publish Perspectives on a six-monthly basis and seek to continue the dialogue with timely articles in the intervening months. As always, we welcome any feedback you may have.

## David Elms

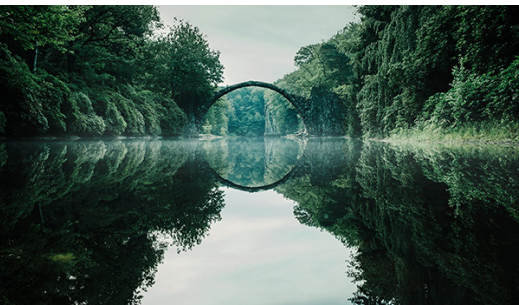
Head of Diversified Alternatives

The Janus Henderson Diversified Alternatives Team is made up of 23 investment professionals situated in the UK, US, Australia and Singapore. The team is responsible for US\$12.5 billion\* in client assets and manages a range of investment solutions aimed at delivering specific outcomes tailored to meet the needs and constraints of clients. The team brings together a cross-asset class combination of alpha generation, risk management and efficient beta replication strategies, as well as the flexibility to create customised offerings. Current solutions include multi-strategy hedge funds, alternative risk premia, managed futures and both global commodities and equity enhanced index strategies.



\*As at 30 June 2020

# PORTFOLIO PROTECTION IN A WORLD OF RADICAL UNCERTAINTY



Source: Getty Images

Should investors always be protected? If so, how can this be implemented? In this article, Portfolio Manager **Mark Richardson** describes the construction of a multi-faceted 'protection' strategy designed to mitigate a large range of unforeseeable market risks.

## KEY TAKEAWAYS

- ▶ Left-tail events occur substantially more frequently than one might expect. We believe that we should be looking to hedge risk for our clients over all timeframes. The question is how to achieve this, while minimizing costs.
- ▶ It is possible to identify certain core characteristics of past crises to help build an approximate map of what a credible diversified protection strategy might look like.
- ▶ The power of a well-constructed protection strategy lies in the judicious combination of different protective prongs, allocating to each of them in such a way that acknowledges the existence of radical uncertainty.

Tail-risks are by their nature difficult, or even impossible, to anticipate. Were that not the case, the obvious remedy would simply be to de-risk ahead of the expected event that by assumption you know with a high degree of confidence is coming. Though some risk events are potentially foreseeable in advance (market risk around scheduled elections, for instance) the most significant ones, in terms of their impact on portfolios, tend to be those that for all practical purposes are unforeseeable. The COVID-19 crash in early 2020 may well become a literal textbook example of this.

We begin from the assertion that the world is rife with radical uncertainty<sup>1</sup>. Indeed, we see that the quantity of unforeseeable risk is sufficiently large that not hedging is simply not a viable option. Our main goal in constructing a 'protection' strategy is with reference to this set of unforeseeable risks. A recognition of this fact suggests that any reasonable risk mitigation programme thus requires some sort of protective capacity to be in play at all times. The key question then becomes how to do this.

No two crises are exactly alike or play out in the same way. Nevertheless, it is possible to identify certain core characteristics shared by many past stress events in order to build an approximate map of what a credible diversified protection strategy might look like. This framework has led us to the view that a sensible way to go about implementing real-world protection involves assembling a suite of strategies tuned for systematic resilience against both short-term sharp sell-offs and more protracted longer-term risk-off environments.

There are three key tools within our diversified alternatives toolset available for deployment in a protection strategy: 'Long Volatility', 'Trend' and 'Discretionary Macro'. The first two are fully systematic and 'always on', whereas the third is (as the name suggests) discretionary and operates by identifying ex-ante visible macro catalysts, looking for opportunities to buy under-priced convexity.

# PORTFOLIO PROTECTION IN A WORLD OF RADICAL UNCERTAINTY (cont.)

Long Volatility is deployed by establishing a position in equity index put options. Such trades are generally expensive to run and the key is finding a way to minimise the carry without damaging the payoff potential in a crisis. Option convexity of this sort performed exceptionally well in risk events past such as Black Monday in October 1987 and the 2008 Global Financial Crisis (GFC). They may be characteristically well suited to benefit from the appearance of market 'gaps', such as in October 1987 and, much more recently, the series of extremely volatile days observed in March 2020.

'Trend' strategies work by establishing time-series momentum exposures across asset classes, implemented via global futures. Defensive variants of such strategies tend towards having relatively short-dated signal windows, resulting in a higher level of reactivity to abrupt trend reversals. Trend can generally be expected to perform well as a hedge during periods of sustained drawdown, such as in the GFC.

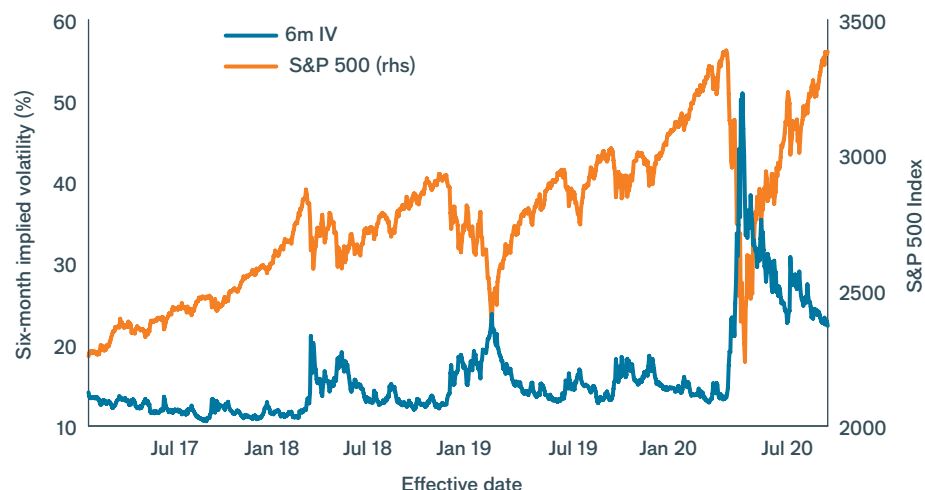
Discretionary Macro trading relies upon insight into global macroeconomic events and trends, and their specific implications for risk assets (typically equities, bonds, currencies and commodities). Once a catalyst or theme has been identified, the task is to identify a likely expression vehicle and purchase convexity on that asset for a price below perception of what the fair value is. To give a concrete example: a Sterling put purchased several months ahead of the Brexit referendum could have been obtained at very low cost on account of the general perception at the time that the probability of Brexit occurring was very low. But in order to make this trade one would have first required a view that the market was incorrectly pricing the risk.

With respect to March 2020, the sell-off was characterised by extreme levels of realised volatility, entailing multiple days of super-normal equity downside moves. Long Volatility is set up to capture these effects in the form of Gamma (the capture of realised volatility) and Vega (the capture of surging option prices).

In general, the power of a well-constructed protection strategy lies in the judicious combination of different protective prongs, allocating to each of them in such a way that acknowledges the existence of radical uncertainty. As discussed above, this typically involves making an allocation to each component. The trick is to do so in such a way that reflects the current 'pricing' of each of the components. For example, in the several years prior to 2020, option prices had been compressed to very low levels by a variety of factors (the existence of the short-volatility complex, for instance). This made it much more attractive to attach a substantial weighting to Long Volatility on account of the low ex-ante cost.

## PORTFOLIO PROTECTION IN A WORLD OF RADICAL UNCERTAINTY (cont.)

### EXHIBIT 1: OPTION PRICES REMAIN VERY HIGH



Source: Bloomberg, Janus Henderson Investors, 3 January 2017 to 17 August 2020 6mIV = 6 month implied volatility. Past performance is not a guide to future performance.

Although equity markets have recovered much of their lost ground, option prices – as measured by implied volatility – remain very high (see Exhibit 1). This suggests that in the short term, Long Volatility requires a lesser weighting within a protection strategy, and that other approaches need to move into focus.

Aside from the potential to generate positive returns during periods of market stress, investors that implement protection strategies may also benefit from the second-order effect of being able to access opportunities in distressed environments by virtue of capital that has been returned to them from the protective strategy. This is important because such opportunities typically do not exist in abundance in normal times.

The positive features of a protection strategy may not always be visible on shorter timescales. Since the nature of tail events is that they are exceptional, the temptation remains for some risk-on investment vehicles to consider protection strategies unnecessary. In truth, however, left-tail events occur substantially more frequently than many expect. From a fiduciary perspective, we believe that we should be hedging risk for our clients over all timeframes. If we are going to do that, the question shifts to how to achieve this, while minimising costs.

# A NEW TACTICAL ADDITION TO PORTFOLIO PROTECTION



Source: Getty Images

How can we mitigate some of the obstacles associated with systematic 'protection' strategies that are 'always on'? In this article, Portfolio Managers **Andrew Kaleel** and **Maya Perone** discuss the team's new Tail hedge strategy and how it can be used to address some of these challenges.

## KEY TAKEAWAYS

- ▶ A challenge for any 'always on' protection strategy is the ongoing cost of carry. After the March 2020 sell-off, implied volatility remains elevated, pushing up the cost of the Long Volatility and Trend strategies.
- ▶ We have developed a new, in-house tail strategy ('Tail') that tactically seeks to reflect long (short) exposure to asset classes that are expected to gain (decline) during stressed market regimes.
- ▶ We believe Tail provides a compelling addition to a robust suite of 'protection' strategies, aimed at maintaining required protection levels in times of high implied volatility, while reducing the cost drag and gap risk associated with Trend.

The COVID-19 related sell-off in March 2020 was a succinct reminder of the sheer ferocity with which markets can decline, and that no two crises follow the same playbook. Markets are always evolving and require a multi-layered approach to portfolio protection.

Of the three distinct portfolio 'protection' strategies currently utilised by the Diversified Alternatives team, each offers its own individual characteristics to help construct an overall 'holistic' take on protection. Long Volatility provides the most effective protection against gap risk and short-term shock events (2020 crisis). The Trend strategy is a complementary strategy that provides well documented 'crisis alpha' when markets exhibit sustained increases (decreases) in asset prices.

The major challenge for both the Long Volatility and Trend strategies is the ongoing 'carry'. A Long Volatility strategy costs more for the same level of protection during periods of heightened implied volatility, and a Trend-following strategy often has a negative carry in trendless regimes. In the past, we have not necessarily seen correlation between the carry costs of these two strategies and therefore relative weights can be modulated to mitigate the costs of protection. However, periods following market shocks have historically been defined by heightened cross-asset correlation and heightened implied volatility, as has been the case since March 2020. In essence, both strategies are expensive. The increase in implied volatility (and cost) has reduced our risk appetite in the Long Volatility strategy. Similarly, periods of strong trending markets for the Trend strategy are often followed by extended periods of mean reversion during which time Trend struggles.

While a protection strategy is intended to be highly effective and efficient in providing non correlated returns in stressful markets, is there an additional strategy that can quickly, systematically and tactically provide protection when risk (and protection costs) are relatively high?

## THE TAIL STRATEGY ('TAIL')

A 'Tail' model could be used as an additional element to be deployed as part of a protection strategy in a portfolio. Unlike the Long Volatility and Trend-following strategies, exposure to Tail can be modulated in order to target required levels of portfolio protection, particularly during periods of high cost of carry for Long Volatility and/or Trend.

Tail seeks to tactically reflect long (short) exposure to asset classes that are expected to gain (decline) during stressed market regimes. During periods of low volatility and a lack of tail events, the tactical signal is designed to 'switch off' Tail, and therefore does not entail a cost of carry in periods when it is not required.

# A NEW TACTICAL ADDITION TO PORTFOLIO PROTECTION (cont.)

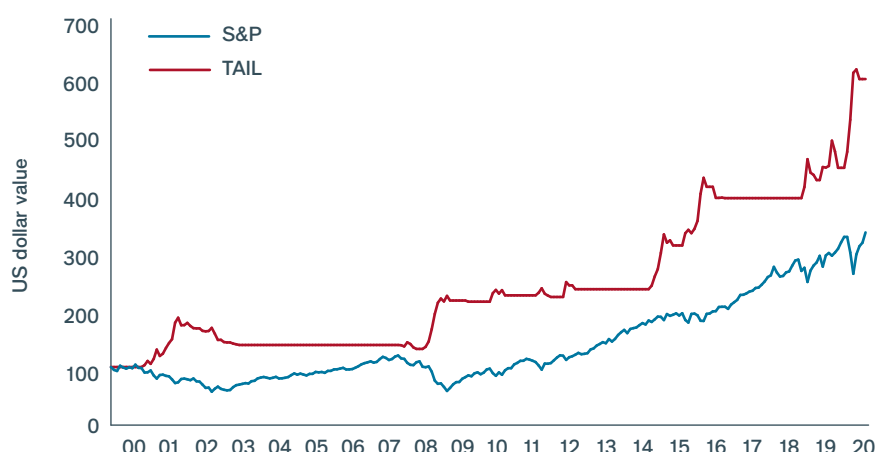
In order to capture as wide a series of shock events as possible (not just equity market risk), Tail utilized a variety of asset classes to construct the index. Given the unpredictable nature of stressed markets, it is important to avoid reliance upon any one particular asset. Will gold continue to behave as it has historically and provide the associated defensive characteristics? Will the US dollar broadly continue to be the currency of choice as investors seek a haven? Will bonds continue to provide the airbag they once did given historically low yields? With a diversified index, we simply require 'defensive' assets to outperform 'risk' assets for Tail to have the desired impact. The tactical trigger that determines investment in Tail is a high conviction trend mechanism utilized within the existing Trend strategy.

**Asset classes and positioning within the Tail strategy are as follows:**

Long – defensive assets	Short – risk assets
Global Treasuries	Global stock indices
Gold	Hard commodities (ex-gold)
VIX	Currencies (relative to \$US)

## EXHIBIT 1: A MODELLED TAIL STRATEGY COULD HAVE BENEFITED FROM ITS COMBINATION OF LONG AND SHORT ASSETS

Value of US\$100: Tail Index (12% volatility target) vs S&P 500



	Return p.a.	Volatility p.a.	Sharpe ratio	Correlation to world equities	Correlation to global bonds	Correlation to trend index
Tail Strategy	9.3%	11.2%	0.8	-0.61	0.21	0.27

Source: Janus Henderson Investors, 31 December 1999 to 31 December 2019. Past performance is not a guide to future performance. The value of your investment may go down as well as up and you may not get back the amount originally invested.

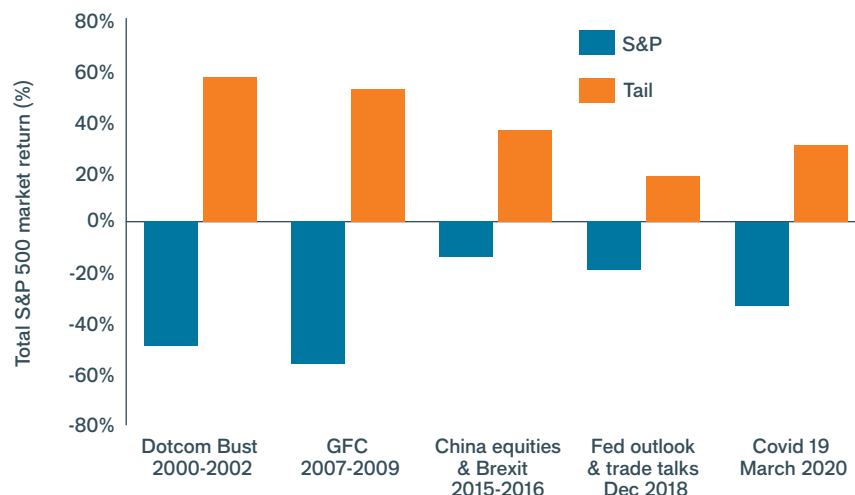
**Note: The hypothetical, back-tested performance shown in this model is for illustrative purposes only and does not represent actual performance of any client account.** No accounts were managed using the portfolio composition for the periods shown and no representation is made that the hypothetical returns would be similar to actual performance.

Over the past two decades, there have been several double-digit drawdowns on the S&P 500 Index, each drawdown path unique in terms of its speed and duration. The largest drawdowns were the GFC in 2007–2009 and the Dotcom bust in the early 2000s. While the COVID-19 induced drawdown was not as large, it was much faster. It took only 24 trading days for the S&P 500 Index to decline 33%. By comparison, during the GFC it took the S&P 500 a total of

## A NEW TACTICAL ADDITION TO PORTFOLIO PROTECTION (cont.)

260 trading days to see a similar decline. Analysis of a modelled Tail strategy across periods of high volatility historically suggests that this element of a protection strategy could offer a potential source of diversification during periods of significant drawdowns (Exhibit 2):

**EXHIBIT 2: FIVE BIGGEST DRAWDOWNS FOR THE S&P 500 THIS CENTURY**



Source: Janus Henderson Investors, 1 January 2000 to 31 July 2020. Past performance is not a guide to future performance. The value of your investment may go down as well as up and you may not get back the amount originally invested.

**Note: The hypothetical, back-tested performance shown in this model is for illustrative purposes only and does not represent actual performance of any client account.** No accounts were managed using the portfolio composition for the periods shown and no representation is made that the hypothetical returns would be similar to actual performance.

What are the potential shortcomings of the Tail strategy? One factor is that it relies on a tactical trigger to switch on exposure and can therefore be 'late to the party'. While the strategy has shown the potential to effectively participate in major stress events over the past two decades in modelling, there is no guarantee such a strategy would participate in the initial stages of a market shock. Another potential shortcoming is that Tail also assumes that underlying index constituents will behave as they have historically in market shocks; the next shock may impact past correlations.

What Tail ultimately seeks to deliver is a tactically useful and complementary lever within the portfolio protection bucket that addresses some of the challenges faced by other strategies:

- Maintain required protection levels in times of high implied volatility
- Reduce both the cost drag and gap risk associated with Trend

The Tail strategy potentially solves a problem for a particular environment of market stress and, in our view, provides a highly complementary fourth leg to an already robust suite of protection strategies offered by the diversified alternatives team.

### NOTES: A NEW TACTICAL ADDITION TO PORTFOLIO PROTECTION

**Hypothetical, back-tested or simulated model performance has many inherent limitations, only some of which are described here.** The hypothetical Tail strategy model has been constructed with the benefit of hindsight and does not reflect the impact that certain economic and market factors might have had on the decision making-process. No hypothetical, back-tested or simulated performance can completely account for the impact of financial risk in actual performance. **Therefore, it will invariably show optimised rates of return, used solely here for the purpose of illustration.** The hypothetical performance results shown may not be realised in the actual management of accounts. No representation or warranty is made as to the assumptions made or that all assumptions used in construction the hypothetical returns have been fully stated. Assumption changes may have a material impact on the returns presented. This material is not representative of any particular client's experience. **Investors should not assume that they will have an investment experience similar to the hypothetical, back-tested or simulated performance shown.** There are frequently material differences between hypothetical, back-tested or simulated performance results and actual results subsequently achieved by any investment strategy. Prospective investors are encouraged to contact the investment manager to discuss the methodologies and assumptions used to calculate the hypothetical performance shown.

# THE END OF THE FREE PUT



Source: Getty Images

In this short read, Portfolio Managers, **Aneet Chachra** and **Steve Cain** consider to what extent the offsetting relationship between bonds and equities has held firm in 2020.

## KEY TAKEAWAYS

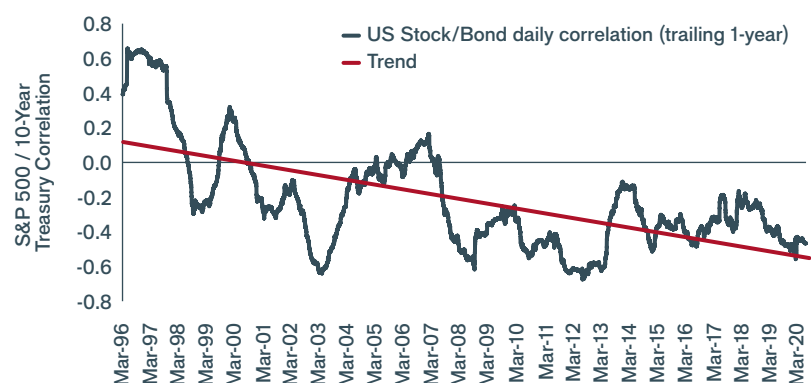
- ▶ Bonds have been the natural choice for income and diversification, with the adverse effect of falling rates made up by growing hedging benefits.
- ▶ However, bonds are mathematically less attractive now, given that the yield and diversification benefits of bonds have shrunk, while the risks of higher rates or correlations have risen.
- ▶ Instead of relying primarily on bonds, investors can now add absolute return strategies that offer performance that is uncorrelated to stocks, both in theory and in practice.

Equities have historically outperformed over the long run. However, big losses often occur at bad times so stocks, careers, house prices, and even relationships are unintentionally linked. We can't easily diversify our jobs or spouse, making it important to diversify our investment portfolio.

Bonds have been the natural choice providing income and diversification. The adverse effect of falling rates was made up by growing hedging benefits. Notably, the correlation between stock and bond price moves turned increasingly negative over the last 25 years.

## EXHIBIT 1: US STOCK vs BOND CORRELATIONS

The diversification benefits of bonds rose, even as yields fell



Source: FTSE, S&P, Janus Henderson Investors, 29 March 1996 to 21 July 2020.  
Past performance is not a guide to future performance.

## THE END OF THE FREE PUT (cont.)

This offsetting relationship is valuable. De facto, a bond buyer receives an equity put option in addition to interest payments. We estimate the value of this embedded option using observed bond moves during stock market selloffs. We ballpark that explicitly replicating the implicit hedge provided by Treasuries to a 50% stock/50% bond portfolio via S&P 500 put options would have otherwise cost around 2.5% per year.

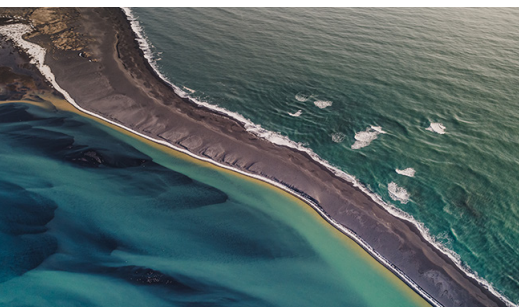
Bondholders not only received a decent coupon – the 10-year yield averaged 3.75% since 1995, but also “free” protection against stock market drops. Historically, during corrections, bond gains offset approximately 40% of concurrent equity losses.

However, in the drawdown between February 19 2020 and March 23 2020, 10-year Treasuries returned +7% while the S&P 500 dropped -34%. Treasuries hedged only about 20% of the equity drop, as low starting yields in February reduced upside from the bond rally.

Bonds are mathematically much less attractive now with the 10-year yield at 0.7% reducing both income and upside. Barring negative rates, we estimate the embedded put option is only worth about 1% per year, even if stock/bond correlation stays quite negative. The yield and diversification benefits of bonds have shrunk while the risks of higher rates or correlations have risen.

Instead of relying primarily on bonds, investors can add absolute return strategies that are uncorrelated to stocks both in theory and in practice. Diversifying equities can potentially reduce not just portfolio risk, but many other risks that an investor faces.

# BOND/EQUITY CORRELATION: HOW TO HEDGE THE FREE LUNCH



Source: Getty Images

The relationship between equities and bonds is a central tenet of modern market behaviour. In this article, Portfolio Manager **Natasha Sibley** considers whether investors should continue to take this easy source of diversification for granted.

## KEY TAKEAWAYS

- ▶ For the best part of two decades, investors have relied on the reverse correlation between equities and bonds to build natural diversification into their portfolios.
- ▶ With bonds and equities once again moving into uncertain territory, investors may want to consider alternative ways to build diversification into their strategies.
- ▶ The diversified alternatives arena offers a range of tools that can help to hedge the risks of a fundamental change in the relationship between these two major asset classes, by trading the correlation parameter itself.

## "DIVERSIFICATION IS THE ONLY FREE LUNCH IN INVESTING."

HARRY MARKOWITZ

Nothing lasts forever, whether the subject is a financial market trend or anything else. Take the Earth's magnetic poles, as an example. Since Earth's magnetic field is dependent on its constantly shifting core of liquid iron, its poles are in constant motion. Every 200,000 to 300,000 years or so, they switch<sup>1</sup>. The last such event was around 780,000 years ago, suggesting that we are now long overdue for such a change.

While this reasonably well-known phenomenon has been a favoured subject for conspiracies over the years, the simple truth is that this pattern of magnetic pole reversal has played out many times over the planet's history. But while we may not be teetering on the brink of a dramatic B-movie end to civilisation, the topic does act as an interesting insight into other things we take for granted, specifically when it comes to our understanding of financial markets, and the relationship between equities and bonds.

For the best part of two decades now, correlation between equity markets and interest rates has been positive, influenced by changing monetary policy from the late 1980s onwards. This monetary policy can be loosely characterised as the 'Fed put' – i.e. when markets face a severe sell-off central banks act to buy bonds, lowering rates.

This started with then-Chair of the US Federal Reserve, Alan Greenspan, in the 1987 crash and has continued in the decades since. Over time, this relationship became ingrained in market moves, as anticipation of central bank action had the same effect as the action itself. US Treasuries are considered 'safe haven' assets, and when equities fall, investors rush into bonds, continuing the negative stock/bond (or positive stock/rate) correlation. This negative correlation has given investors a very valuable free lunch, when it comes to easily achievable diversification in a portfolio.

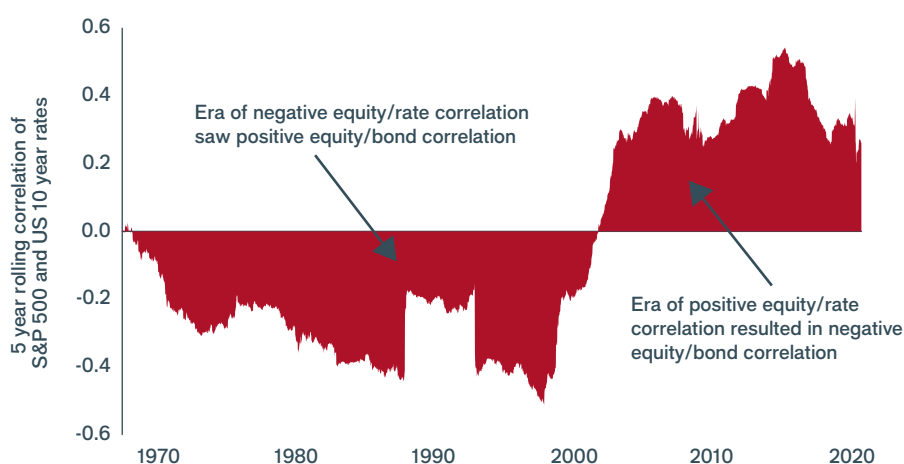
## BOND/EQUITY CORRELATION: HOW TO HEDGE THE FREE LUNCH (cont.)

### REVERSALS ARE THE RULE, NOT THE EXCEPTION

For many, a trend of such duration represents an investment lifetime – it is hard to imagine an environment where the rule of negative correlation does not hold true. However, for many decades previously, this equity/rate correlation was often significantly negative, meaning that correlations between price movements for equities and bonds were positive.

The implications of this, in terms of portfolio construction, are clear. With bond yields currently at very low levels, and the relationship between bonds and equities once again moving into uncertain territory (see exhibit 1), should investors be looking at alternative ways to build risk diversification into their portfolios?

### EXHIBIT 1: ARE WE NEARING A TURNING POINT IN EQUITY / BOND PRICING CORRELATIONS?



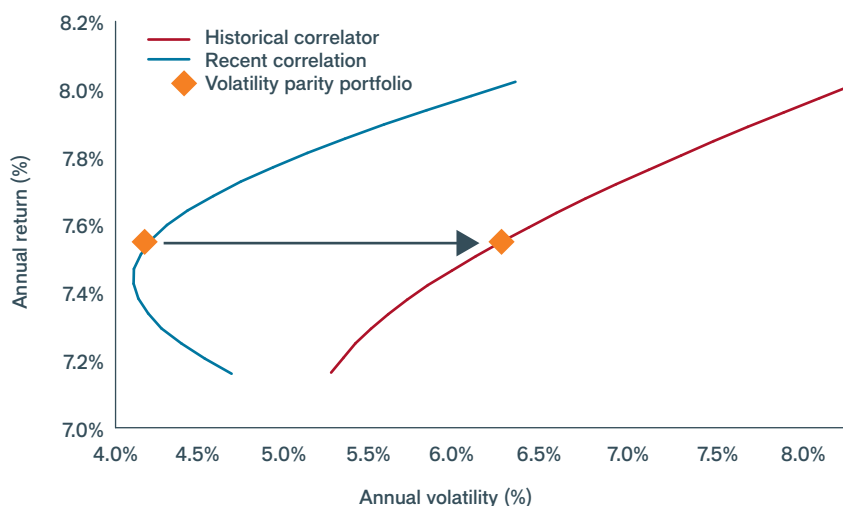
Source: Janus Henderson Investors, Bloomberg, as at 21 August 2020. Chart shows the five-year rolling correlation of the S&P 500 Index and US 10-year rates. When negative, it implies a positive correlation between pricing movements for equities and bonds. When positive, it implies a negative correlation between these two major asset classes.

## BOND/EQUITY CORRELATION: HOW TO HEDGE THE FREE LUNCH (cont.)

### THE ASSET PRICING CORRELATION RISK

The volatility of a balanced multi asset (equities and fixed income) portfolio increases dramatically if the correlation between these primary assets moves from negative to positive, particularly for those strategies that use leverage to augment returns from fixed income (Exhibit 2). Sharpe ratios deteriorate, implying that the potential rewards no longer match the risks taken, and to maintain acceptable levels of portfolio volatility, investors are forced to de-lever, or find alternative ways to reduce risk.

### EXHIBIT 2: THE EFFICIENT FRONTIER OF EQUITY AND BOND PORTFOLIOS



Source: Janus Henderson Investors, Bloomberg, as at 31 July 2020. Historical correlation: 29 April 1977 to 30 April 1997. Recent correlation: 30 April 1997 to 31 July 2020. Note: Equity and bond representations here are the S&P 500 Index and Bloomberg Barclays US Treasury Index.

In April 2020, at the height of the initial COVID-19 market collapse, correlations between the S&P 500 Index and US 10-year rates reached their lowest level since November 2001, before bouncing back. There were earlier signs of this too, back in the first quarter of 2018, when both the S&P500 and the Bloomberg Barclays US Aggregate Bond Indices fell more than 1 percent – just the fourth time in the previous three decades<sup>2</sup> that this had happened. Effective diversification depends on low – or negative – correlation between investments held in a portfolio. A more fundamental shift in correlations between two primary asset classes, perhaps driven by close-to-zero interest rates (leaving little room for central banks to cut rates further), would represent a market-wide shock.

## BOND/EQUITY CORRELATION: HOW TO HEDGE THE FREE LUNCH (cont.)

### THE ALTERNATIVES TOOLBOX

One way to try to protect a portfolio from this risk is to trade the correlation parameter itself. There are various ways to achieve this. Using swaps, conditional options, or a range of correlation-dependent derivatives, investors could have the opportunity to profit from a shift in the correlation regime, potentially cushioning any performance impact that such a shock might have.

Our preference from this range of tools is the correlation swap, a type of derivative that can be used to hedge the parametric risk exposure of changes in correlation. Mathematically bounded, so with a limited maximum potential loss, these securities offer a pure exposure to correlation. These securities are also sensitive to outliers, such as during Black Monday on 19 October 1987 – the biggest single-day percentage fall in the history of the Dow Jones Industrial Average – when the five-year correlation moved by almost 20 percentage points. With the prevailing positive stock/bond correlation regime, an investor could take a short position in a correlation swap, receiving the fixed, positive strike of the swap, and paying the subsequent realised correlation. This position will be profitable if stock/rate correlation drops below strike.

If diversification is the only free lunch, then investors should be wary of the risk of this benefit eroding and consider adjusting their strategy accordingly. As a broad rule, holding a portfolio of uncorrelated assets helps to reduce overall risk. If we do see a risk to the long-standing negative correlation between equities and bonds, investors may want to consider the benefits of adding alternative assets to their portfolio. Correlation trading might be one such tool to hedge against the risk of future smaller lunches.

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#### FOOTNOTES: BOND/EQUITY CORRELATION: HOW TO HEDGE THE FREE LUNCH

<sup>1</sup> National Geographic, 'No, We're Not All Doomed by Earth's Magnetic Field Flip', 31 January 2018.  
<https://www.nationalgeographic.com/news/2018/01/earth-magnetic-field-flip-north-south-poles-science/>

<sup>2</sup> FT, 'New Correlations Spell Concern for Bond and Equity Investors', 1 May 2018.  
<https://www.ft.com/content/7914a096-48a9-11e8-8ee8-cae73aab7ccb>

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