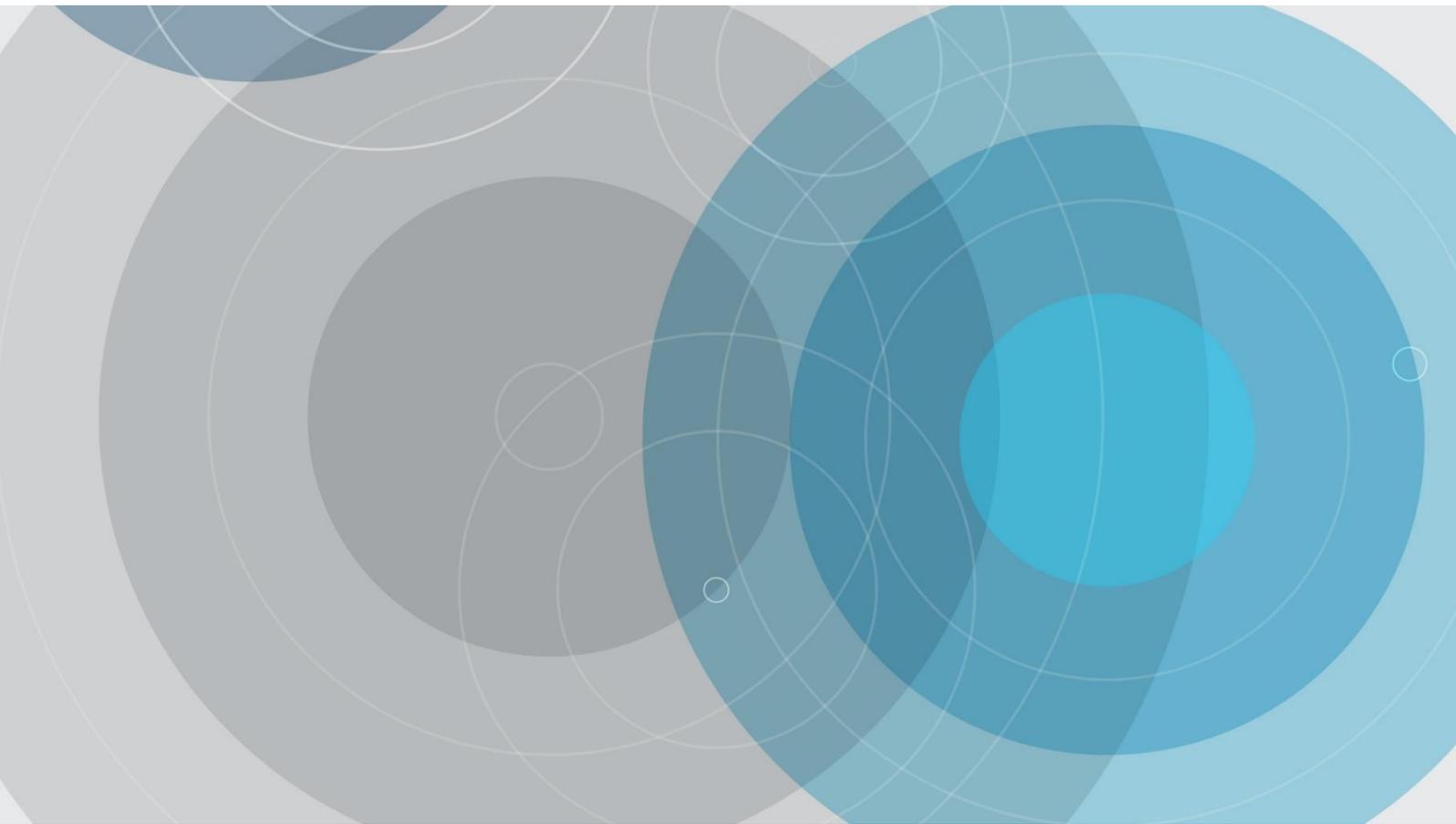


# Re-thinking Risk Management in an Ultra-Low Yield Environment

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## A Focus on Costs

In recent years, there has been a fair amount of industry focus on managing the costs of investment management, from the introduction of the charge cap, the FCA review of the asset management industry, and now the recent FCA value-for-money consultation. Certainly cost is an important consideration to get right, and given the impact it can have on pension savings over the long term, few would argue it is not a valid focus. But the events of 2020 have now also brought the importance of risk management to the fore.

## The Need for Risk Management

To those who were looking to retire in 2020, the market volatility seen in Q1 could have had a significantly material impact on their pension provision and lifestyle over retirement. While markets have recovered, looking forward to future decades, the prospect of drawing an income from a pension pot is a daunting one. Where the world will be with regards to the pandemic next year is far from clear. We now face a world of ever increasing pressures on our environment: finite resources, stretched central bank and government balance sheets. On top of this, we are battling to address the major dual crisis of the pandemic and climate change. Risk is certainly not going away any time soon.

To address both considerations, cost-effective risk management is key.

## Era of Negative Yields

In the past few months, we have witnessed yields on government bonds fall drastically around the globe, as the world continues to grapple with the fall-out from the COVID-19 pandemic crisis. Following extensive central bank intervention and increased borrowing from governments, the yields on sovereign debts of developed nations have entered uncharted territory, setting new lows, and even turning negative in parts of the world. For example, by the end of July 2020 the front-end of the UK sovereign yield curve was below zero for most terms up to 8 years—something that many would unlikely have envisaged at the start of the year. The 10-year gilt yield was a remarkable 0.1% by the end of July.

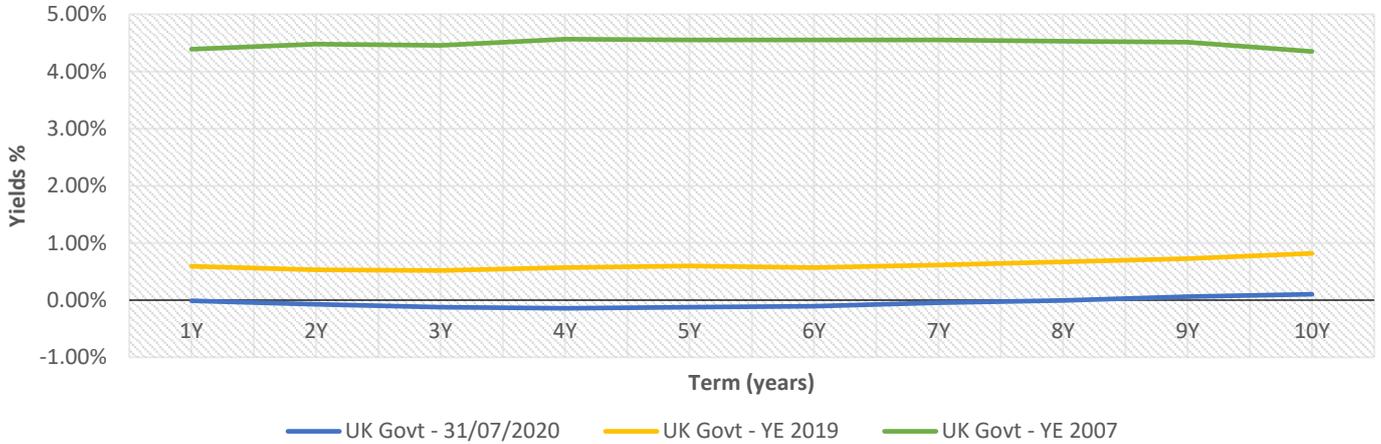
Yield on UK 10-Year Gilts



Data source: Bloomberg

If we look historically to the market environment before the 2008 Global Financial Crisis, yields on UK government bonds were comfortably around 4% and above. Since the GFC, we have been continually adapting for over a decade to a new “norm” of successive new interest rate lows. Negative rates that were previously considered outside the realm of possible and even appropriate to model, are now commonplace – even out to 30-years for some European governments.

### UK Sovereign Yield Curve



Data source: Bloomberg

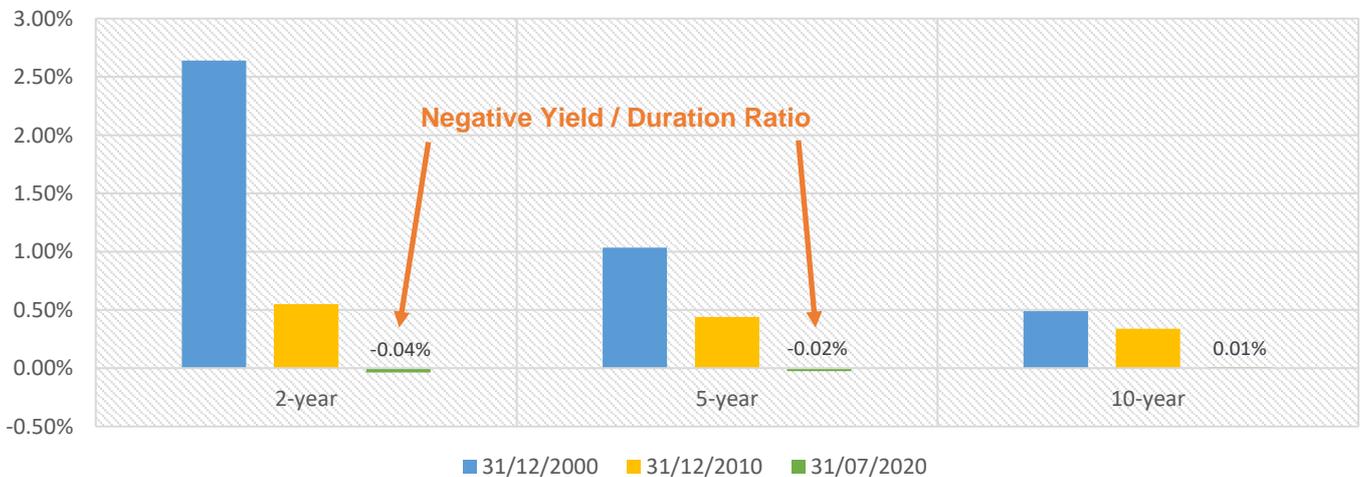
### Bonds as a Risk Management Tool

Government bonds of developed nations are traditionally perceived as less risky or “safe haven” assets, where they’ve been used in portfolios as a way to diversify the risk from equities and other riskier holdings of the portfolio.

If we examine performance during the first quarter of 2020, when volatility in the financial markets spiked and major global equity markets fell between 30-40%, diversification fared well and offered some decent protection. Government bonds were one of the few assets that climbed in value during this time.

However, the cost of such protection is the comparatively low yield that you would earn over time. Looking at the current level of yields, this is now becoming an increasingly expensive form of risk management. To illustrate this point further, we calculated the Sherman Ratio of the UK 2-year, 5-year and 10-year gilts. This ratio measures the yield on a bond per unit of duration, or in other words, the amount of return expected per unit of risk taken. As we can see this has significantly declined in recent years, therefore leading to a deteriorating trade-off of ‘return sacrifice’ per ‘unit of protection’ as a risk management tool.

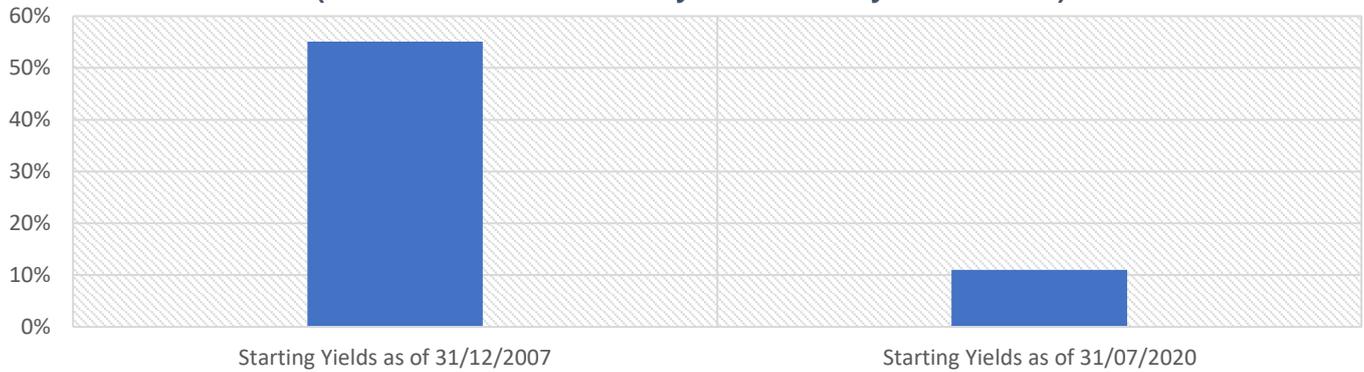
### Yield Per Unit of Duration



Data source: Bloomberg

As well as being more expensive, if we believe that there is a limit to how much further yields can fall, then potentially government bonds could be a less effective risk management tool going forward. For example using the yields as of 31/07/2020, and assuming a -1% floor on 10-year government bond yields and a government bond duration of 10 years, then we can expect a maximum price appreciation of close to 11%. Whereas if we were to apply the same assumptions to yields as of 31/12/2007, we see that such an instrument would have benefitted from a price appreciation of 55%.

### Potential Price Appreciation of 10-Year Bonds with Falling Yields (assumed floor of -1% on yields and 10-year duration)

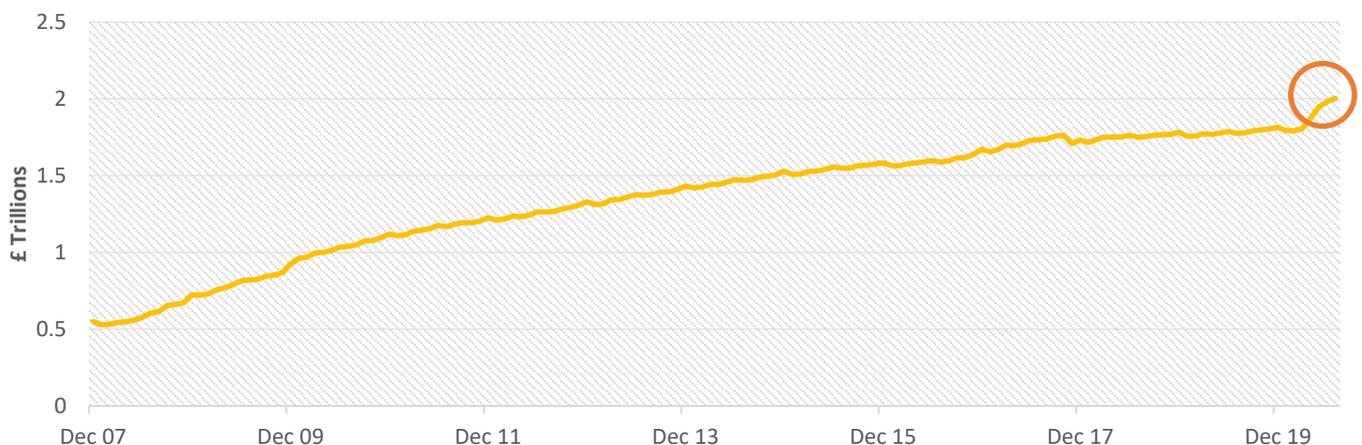


Data source: Bloomberg

It should also be noted that it has not always been historically the case that returns on bonds and risky assets are negatively correlated – for example, in 1994 the FTSE 100 had an annual fall 10%, and the 10-year UK gilt rate rose by 2.61% (implying a fall in government bond values) over the year. Also, if we believe that we may be entering a ‘new norm’, then there are risks that the equity-bond correlation regime may change, potentially undermining the effectiveness of bonds to act as a risk management counterweight to equities.

One other risk factor to consider is inflation. Inflation is currently historically very low given the economic fallout from the pandemic crisis, and is likely to rise again once the economy recovers. Interest rates are the key tool to fight inflation. In the below chart we demonstrate how the UK public sector borrowing has risen above 2 trillion Pounds for the first time in history, and as the government continues to borrow to unprecedented levels during the current economic downturn, it would take a very brave central bank to start raising rates significantly to fight off any spikes in inflation. Therefore, it could be argued that government bonds are now more exposed to inflation risk than ever before. For those that manage return objectives as a benchmark over inflation, large fixed income allocations lead to a less resilient portfolio for meeting those objectives.

### UK Government Borrowing Excluding Public Sector Banks

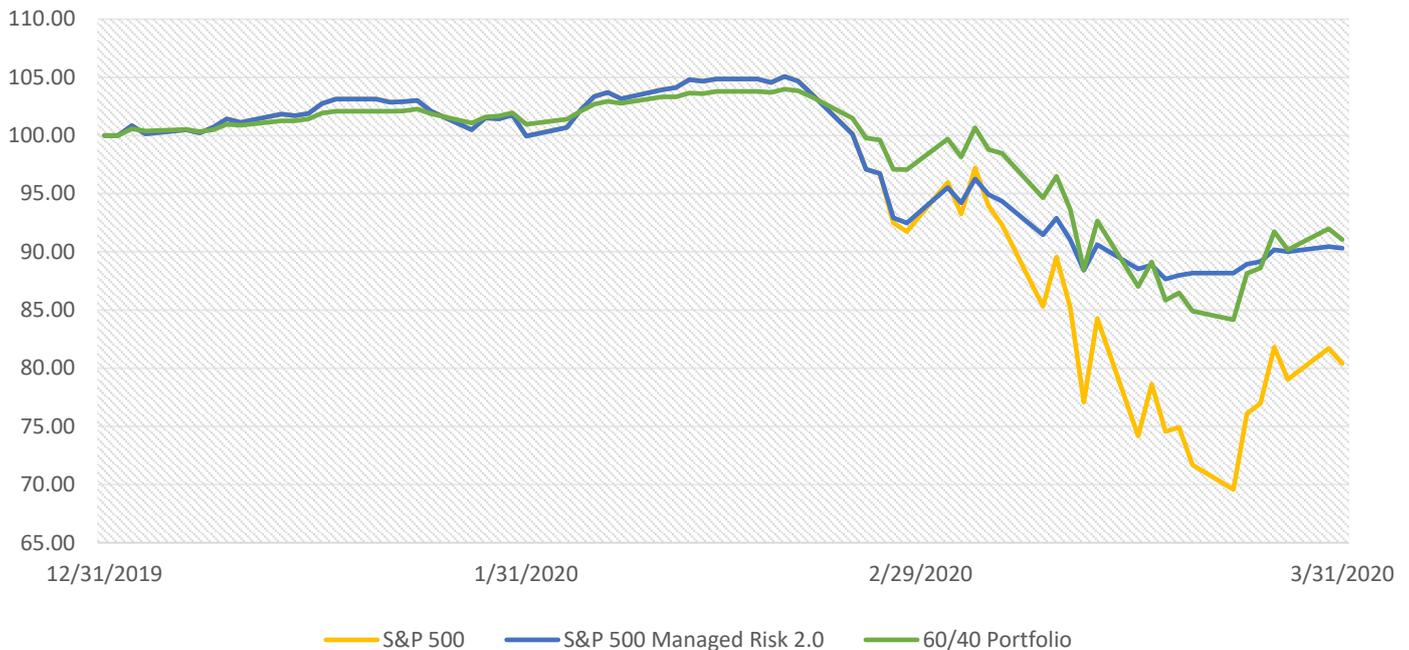


Data source: Bloomberg; ONS

## Risk Management Alternatives

To summarise, government bonds that underpin asset diversification are becoming more costly and potentially less effective. Therefore, there is a greater need to diversify your risk management.

An alternative risk management approach to diversification, is to hedge. There are a variety of ways to hedge market risk, but one of the most cost efficient is that of a dynamic hedge or dynamic managed risk overlay. The chart below shows that in Q1 2020 that hedging was similarly as effective as diversification in providing protection. The following example compares equity with a dynamic hedge (“managed risk overlay”) and a typical 60/40<sup>1</sup> portfolio. For ease of reference we use some publicly available US benchmarks.



Data source: Bloomberg; Barclays (Tickers LUATTRUU, SPXT and SPXMR2)

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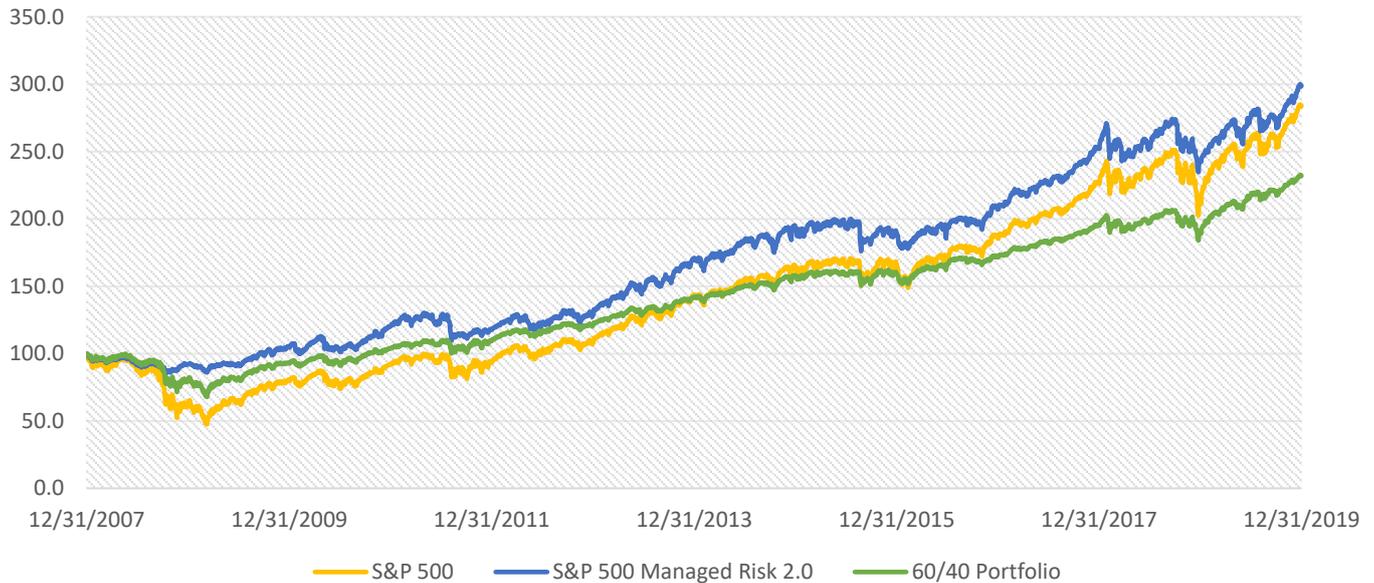
One way to view the cost of risk management, is to look at the comparative performance compared to the underlying equity index – a fair assessment would be to look through a whole market cycle. For the two examples above, we consider the performance relative to pure equity over the period 31/12/2007 to 31/12/2019. We see in the chart below that diversification (i.e. a switch into a static 40% US Treasury allocation) had an underperformance of 1.2% per annum relative to pure equity, whereas the dynamic hedge overlay showed an outperformance of 0.3% per annum, relative to the same equity market (the S&P 500). We do note that this shows results for just one historical period, and that other periods could give different outcomes. However a key reason for this, is that the dynamic hedge overlay approach allowed close to full participation in the equity markets, when market risk was sufficiently low during the bull market years. It then increased protection again during times of market stress.

Importantly, this example also includes an allowance for assumed transaction costs from managing the low-cost liquid derivatives used to implement the strategy. The additional transaction costs are assumed to be 3 basis points per annum<sup>2</sup>, which is based upon estimated transaction costs in the US. The management costs of underlying equity and

<sup>1</sup> Based upon an allocation of 60% to the S&P 500 index and an allocation of 40% to the Bloomberg Barclays US Treasury Index; assuming fixed asset allocations rebalanced on a monthly basis. No fee charges were applied.

<sup>2</sup> This is purely for the bid-ask spread and cash commission for the derivatives contracts used to implement the strategy. Other derivative management expenses would be allowed for in the additional service fee.

bond assets are assumed the same for each portfolio, and have been ignored. Additional service fees for the managed risk overlay strategy are typically of a level that still leads to a margin for outperformance, based upon these example results.



Data source: Bloomberg; Barclays (Tickers LUATTRUU, SPXT and SPXMR2)

The S&P 500 Managed Risk 2.0 Index was launched on January 23, 2017. All information presented prior to the index launch date is back-filled. Back-filled performance is not actual performance, but is hypothetical. The back-filled calculations are based on the same methodology that was in effect when the index was officially launched.

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In the historical examples shown above, we see that the hedging approach provided a similar level of protection in Q1 2020, for a lower level of cost in the preceding years, compared to a static allocation to bonds. While the examples shown are based on US benchmarks, the same techniques can be applied in other markets where there are liquid futures contracts on the equity benchmark – including the FTSE 100 in the UK. The comparative performance between a bond allocation and hedging will vary depending on the market<sup>3</sup>.

## Looking Forward

Given the current level of yields and potential limit to how much further they could fall, bonds are likely to be more costly as a risk management tool, compared to the previous market cycle. Diversification will certainly always have its place in portfolio allocations. However, hedging could be a cheaper and more effective way to risk manage.

Approaches such as the managed risk overlay can offer some clear advantages:

1. When market risk and volatility subsides, and the overlay dynamically increases allocation towards equity, you can earn the equity risk premium instead of potentially negative real yields on gilts.
2. The capacity of such a dynamic overlay to protect does not reduce as yields fall. Whereas with bonds, if you believe there to be an eventual floor to interest rate levels, their effectiveness reduces as rates fall.
3. A dynamic overlay can allow greater equity exposure over time, which may be preferable in managing inflation risk, which given the current environment has likely increased, and for which fixed income assets offer little protection.

<sup>3</sup> In particular, in the US the 10-year Treasury yield fell by 2.1% over the period 31/12/2007 – 31/12/2019, compared to 3.7% for the UK 10-year gilt rate.

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