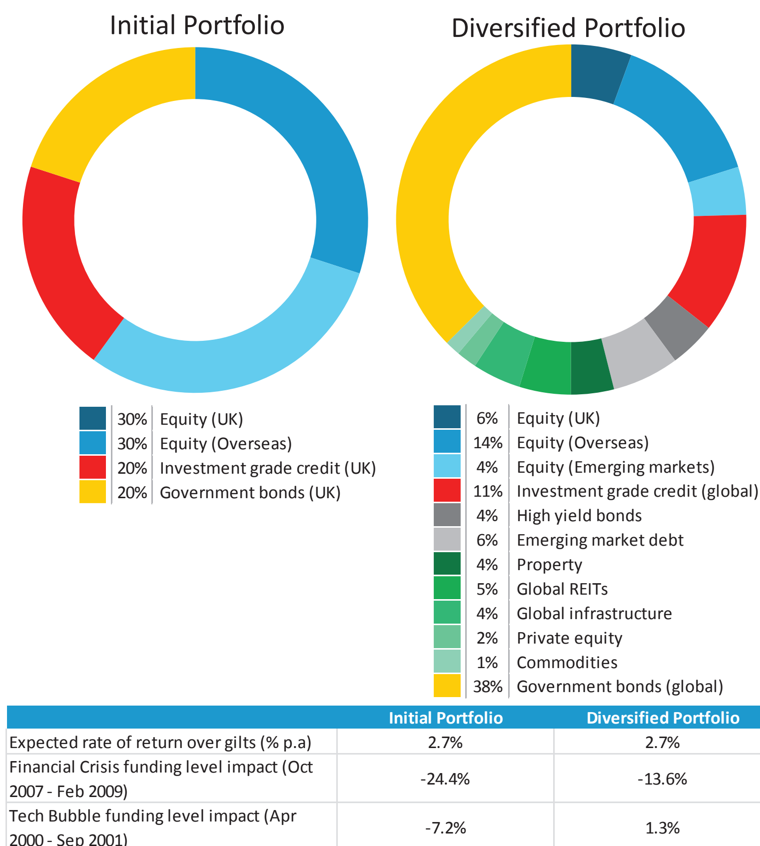
Managing risk in turbulent times

2018 will probably be remembered as the year volatility returned to the market. We believe there are a number of tail risks on the horizon that could cause this to continue. In this article we summarise some of the simple, low governance tools defined benefit pension schemes have at their disposal to assist in navigating through volatile times

Predicting the timing and return impact of episodes of volatility with any great certainty remains the panacea for investors. Pension schemes that are large enough can employ protection strategies to reduce the impact of these volatile periods on their portfolio, however their long-term success often remains a function of good market timing and pricing. Investing can be like an endless game of 'whack-a-mole'; as one risk is removed, another can come to light.

Many pension schemes that require returns from growth assets to reduce deficits also face the challenge of shortening time horizons. We believe that we are now late in the economic cycle and many market participants are predicting a challenging outlook for growth assets over the coming years. Removing all exposure to growth assets would go a long way to immunising a portfolio against short-term market volatility. However, this would likely lead to an increase in the long-term risk that the scheme doesn't meet its liability payments as they fall due.

Figure 1: Risk reduced while maintaining expected return



	Initial Portfolio	Diversified Portfolio
Expected rate of return over gilts (% p.a)	2.7%	2.7%
Financial Crisis funding level impact (Oct 2007 - Feb 2009)	-24.4%	-13.6%
Tech Bubble funding level impact (Apr 2000 - Sep 2001)	-7.2%	1.3%

Source: LGIM. Initial funding level is assumed to be 80% on a gilts flat discounting basis

Four simple steps pension schemes can take to reduce the impact of market volatility

Here we outline four simple steps pension schemes can take to reduce the impact of market volatility without damaging the long-term goal of meeting pensioner payments.

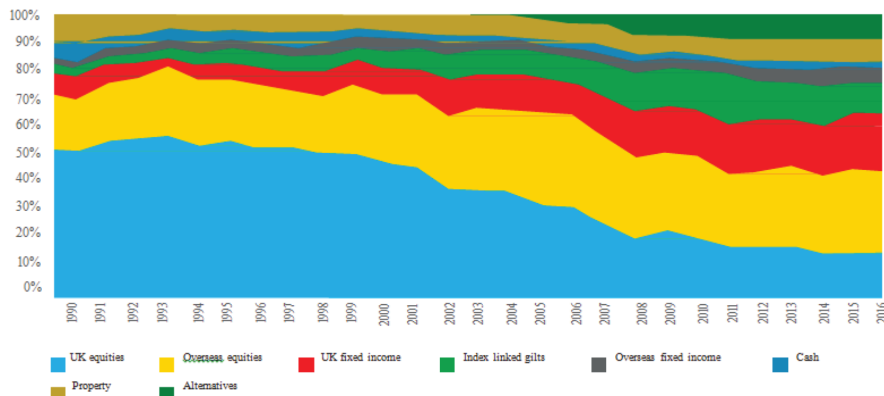
1. Diversify by geography and asset class

In Figure 1 we introduce an example pension scheme and show the effect of diversification on risk.

The scheme's current portfolio is a classic 60:40 split of equity and bonds, which has an expected return of 2.7% over gilts but is exposed to significant downside risk, with a one-year funding level at risk (FLaR) of 13.8%. This means that over a one-year period, in a 1-in-20 event, the funding level is expected to drop by 13.8%. In the right hand portfolio, we have diversified the asset allocation. The expected rate of return is unchanged but the risk (measured by FLaR) has been reduced by c.25%.

Diversification is not a new concept and UK pension schemes have certainly

Figure 2: UK pension scheme asset allocation 1990 – 2016



Source: UBS, Broadridge analysis

made improvements in this area. This can be seen in Figure 2, which highlights the notable increase in allocations to alternatives, overseas assets and property since 1990.

However, we believe there is still room for further improvement. For example, schemes with an AUM of under £10 million still have, on average, 40% of their equity exposure in UK equities. This compares to just 15% for schemes that are over £1 billion. This leaves smaller schemes in a higher risk position where they are more susceptible to UK-centric shocks.

2. Target an appropriate liability hedging level

Trustees face the challenge of balancing required exposure to growth assets with allocating to government bonds to reduce liability risk. This is where incorporating leverage, through swaps or synthetic bonds, can be a vital risk reduction tool. Returning to the example scheme, the diversified portfolio only hedges 35% of the scheme's liability risk owing to the low government bond allocation. However the liability hedge ratio could be increased to 80% by using leverage. This would reduce the FLaR by a further 10%, whilst still maintaining a similar expected return.

3. Collateral and cashflow management

The drawback of leverage is it requires the scheme to maintain sufficient collateral. This requirement for cash has been exacerbated by more and more pension schemes becoming cashflow negative. It goes without saying that ensuring efficient collateral management is a key part of the solution. Additionally employing a cashflow-aware approach can help schemes mitigate this risk. Cashflow-negative schemes can be adversely affected during periods of heightened volatility where they need to liquidate assets to pay pensions. This can be at prices that may have strayed significantly from 'fair value' and so losses are crystallised. Moving towards a cashflow-matched portfolio not only reduces this early sale risk but also reduces re-investment risk.

4. Currency exposure can mitigate risk

A bonus of diversifying assets globally is this leads to foreign currency exposure. Choosing a currency hedge ratio is not an exact science but we believe maintaining some exposure to foreign currency in an important risk mitigation tool. This is because of the exposure to safe-haven currencies such as the US dollar, Japanese yen and Swiss franc have historically been known for rallying when there are market downturns.

There is no panacea… but these simple steps can help

If you were reading this hoping to find the panacea to avoiding volatility, you may have been disappointed. However, we believe the simple steps we have laid out above can help pension schemes manage their risk through future periods of volatility. While growth assets all tend to do poorly in a downturn, there are often relative winners and losers and here diversification is key. Diversifying can also assist in providing natural risk hedges, such as currency exposure. It is also important to prepare for cashflow requirements that can arise to avoid being a forced seller of assets. Last, but by no means least, the impact of changes in interest rate and inflation expectations on a schemes funding level can be greatly reduced through using leverage in the LDI portfolio to target a higher hedge ratio.

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