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VIEWPOINT

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How active multi-asset allocation can boost long-term returns for Local Authority Pension Funds

- With the move to “British Wealth Funds”, asset allocation decisions will remain in the control of each administering authority.
- By setting a given appetite for volatility associated with their funding targets, each administering authority can choose a mix of assets that best places them to deliver risk and return objectives.
- Schemes should employ active asset allocation to target stronger risk-adjusted returns.
- Asset price correlations are volatile. Asset allocation managed dynamically to adjust to changing correlations and current market conditions provides opportunity for better risk-adjusted returns than strategic asset allocation alone. Dynamic Growth Funds can perform this dynamic role, even for the largest of “British Wealth Funds”.

When the existing 89 English and Welsh local authority pension funds aggregate to form a smaller number of ”Wealth Funds”, economies of scale should reduce costs. Forming larger pools could also enable the use of more sophisticated strategies for hedging risks and matching liabilities. However, the asset allocation decisions will continue to be the responsibility of the individual administering authority.

The importance of asset allocation in driving investor returns is well established. In 1986, Gary Brinson, Randolph Hood and Gilbert Beebower conducted a study to determine the effect of asset allocation on pension fund returns. Through reviewing the performance of 91 US pension funds between 1974 and 1983, they concluded that asset allocation, as opposed to stock selection, was responsible for 93.6% of the *variation* in returns. Furthermore, in 2000, Ibbotson & Kaplan found that asset allocation accounted for around 100% of the *absolute level* of returns.

Choosing a suitable asset allocation cannot be done passively. Indeed, it is likely to be the biggest active decision any investor will make. It relies on actively determining both the likely return of different asset classes and the correlations of asset prices over the long term (for strategic asset allocators) or medium-term horizon (for dynamic asset allocators).

Approaching strategic asset allocation

In the 1950s, Harry Markowitz established “modern portfolio theory”, and with it the “efficient frontier” as a concept. An efficient frontier serves to show the highest expected return for a given level of risk, or the method of achieving the lowest level of risk for a specified return target, and the construction of an expected efficient frontier is usually the first stage of strategic asset allocation.

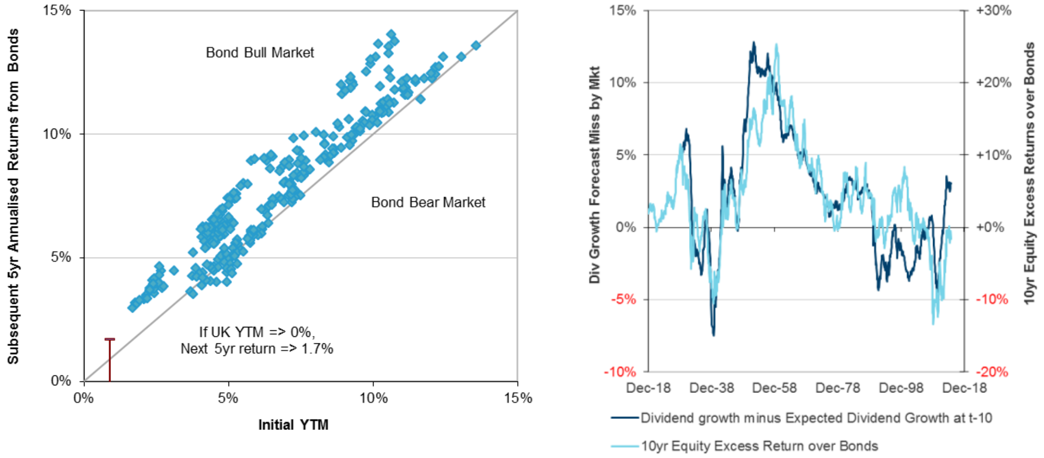
Strategic asset allocation relies on the notion that asset price returns in different markets are not perfectly correlated, and that better risk-adjusted returns can therefore be achieved through investing in a combination of asset classes, rather than one asset class alone. By setting a given appetite for volatility associated with your funding target, you can choose a mix of assets that best places you to deliver returns. Alternatively, you can set a return target, and use strategic asset allocation to decide the least risky way to achieve that goal. That’s the theory anyway.

In order to establish a strategic asset allocation you will need to forecast long-run returns for assets, the volatility of their returns and the correlation of their returns. Typically this is done at a broad asset class level - with forecasts made for equity markets, bond markets and property, as well as commodities and other alternatives.

Forecasting market returns

There is little mystery in forecasting bond market returns. Almost all of the return can (over the medium-term) be calculated as a function of the start yield. Figure 1 shows the historic relationship of starting yield in the Gilt market at subsequent five year rolling returns. Further forecasting nuances associated with medium-term expectations regarding the appropriate ‘normal’ rate of inflation and monetary policy can be added, which – when combined with a measure of interest rate sensitivity (duration) – can lead to a forecast that has been more fine-tuned. Using the past performance of bonds to forecast future returns would be inadvisable; following the 30-year bull run in bonds, yields today are low, and returns are likely to be unspectacular in the future.

Figures 1 & 2: Starting yield to maturity, and subsequent five-year rolling total return for 1-10yr UK Gilts, 1985-2015; Modelled 10-year rolling equity excess returns versus actual equity excess returns 1918-2015

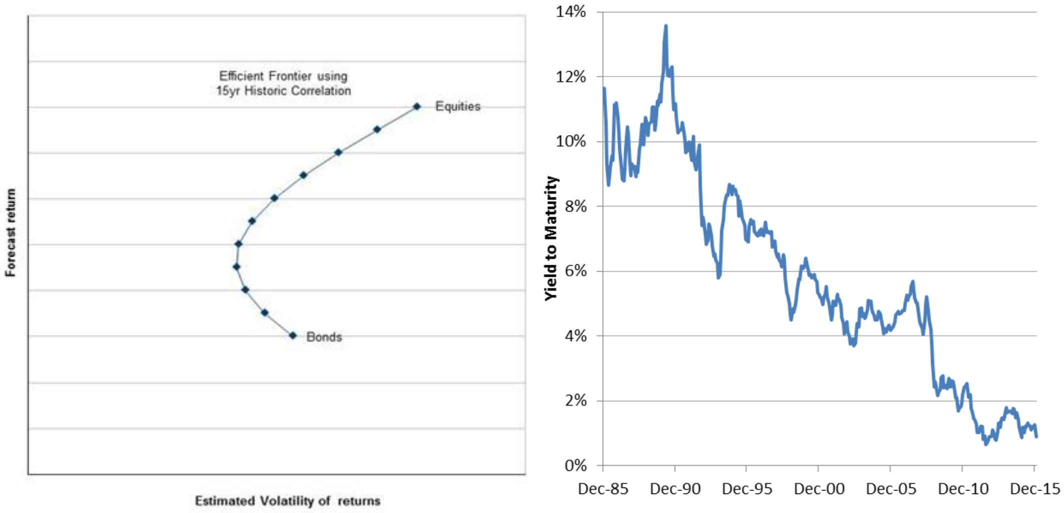


Source: Bank of American Merrill Lynch G5L0 index, Robert Shiller and Columbia Threadneedle Investments, January 2016.

For equities, forecasting returns is more difficult; you need to estimate the future free cashflows and choose an appropriate method of valuation. Most models only work for distinct timeframes, but modelling is still worthwhile as it can provide an expected medium-term equity market return, as Figure 2 illustrates. Still, many opt to take a specific historic period and expect returns to repeat without any reference to current market valuations.

Further forecasting is then required for any other asset classes in the prospective strategic asset allocation. Along with forecast total returns from fixed income and equities, strategic asset allocators typically then take historic trailing volatility and asset price correlation data to construct an efficient frontier such as the one shown in Figure 3 below.

Figures 3 & 4: Hypothetical efficient frontier for different mixtures of bonds and equities, using asset price correlations from 2000-2015; UK 1-10yr Gilt Index Yield to Maturity 1985-2016



Source: Columbia Threadneedle Investments and Bank of America Merrill Lynch G5L0 index, February 2016.

This efficient frontier shows the hypothetical prospective returns attached to different combinations of bonds and equities on the vertical axis, with levels of volatility for these combinations shown on the x-axis that are derived from historical asset volatility and asset correlations. The bend in the line is important; it illustrates the benefit of diversification: a portfolio consisting of both bonds and equities can be balanced to achieve a level of volatility equal to, or lower than, one consisting entirely of bonds, without compromising returns. This is because there has been a low or negative correlation between the two asset classes. In other words, their fluctuations cancel each other out to a degree. But importantly, the diversification benefit projected in strategic asset allocations by mixing asset classes is typically drawn from asset price volatility and correlations in a specific historical period during which central banks responded to each equity market swoon by lowering interest rates, and bond yields fell from very high levels to very low levels (Figure 4).

While many strategic asset allocators (perhaps with reference to Figure 1) would question the merits of assuming that historic high levels of bond market returns might persist into the future, the same forecasters typically fall silent as to the likely correlation implications of calling time on the bond market bull run. And yet by using historic correlation matrices they are wagering the future of their pension fund's risk-adjusted returns on the likely persistence of historic correlations.

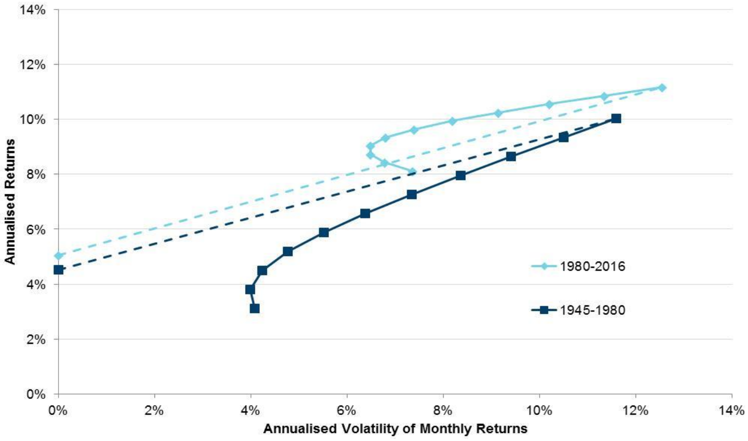
Strategic asset allocation in a changing world

Strategic asset allocation works best when volatility and correlations are stable. However, volatility itself is volatile. Pension funds seeking to maintain a given level of volatility could increase exposure to higher risk assets when volatility is low and reduce exposure when volatility increases. However, this can have the undesirable consequence that you buy when markets are high and sell when equity markets are depressed.

Asset price correlations also vary over time. During the global financial crisis, asset correlations converged as most of the perceived higher risk assets fell in value, reducing the benefits of diversification amongst risky assets. Certain investments did, however, provide protection, including government bonds, and commodities such as gold. More recently, quantitative easing has had an impact on correlations, designed as it has been to influence financial conditions by directly targeting asset prices.

Labour markets can also affect market correlations, as they can lead to interest rate changes, which have an impact on the return from bonds. In the post-war era, for example, as labour markets strengthened and employees grew their bargaining power, bonds lost their benefit as portfolio diversifiers (see Figure 5). And then from 1980 as waves of globalisation brought down the neutral real interest rate in the West so central banks were able to progressively bring down policy rates and bond markets delivered high levels of nominal and real returns. Labour markets look set to tighten again, driven by the world's ageing population, the impact of China's one-child policy and double digit wage growth in recent years. In such an environment, interest rates are likely to rise, putting further pressure on bonds. With yields already at supressed levels, bond market returns are likely to remain low over the next 20 years, and their correlation benefit is therefore likely to diminish – perhaps to post-war levels. Pension funds that operate a strategic asset allocation would do well to consider how to position for such an environment.

Figure 5: Ex-post efficient frontiers between government bonds and equities, and average cash rates, 1945-1980 and 1980-2016



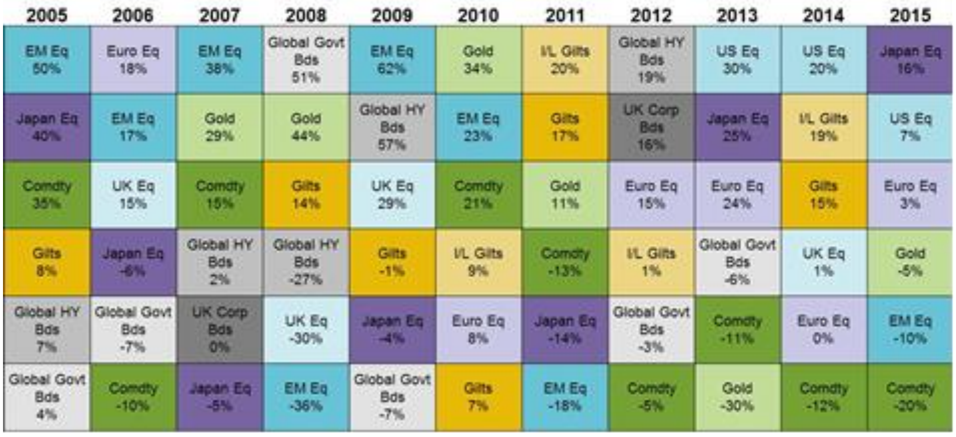
Source: Shiller and Columbia Threadneedle Investments, January 2016.

Dynamic asset allocation

In contrast to strategic asset allocation, dynamic allocation can be used to take advantage of shorter-term market movements. Exposures to different asset classes can be altered to take or avoid positions in attractive or unattractive markets, based on economic conditions and market valuations.

The performance of different asset classes can vary significantly (see Figure 6), even during years of muted overall returns. In 2015, for example, Japanese equities rose 16% while commodities declined 20%. To achieve strong risk-adjusted returns, you therefore need to have dynamic asset allocation investment process in place to determine which asset classes will perform well, and which will perform poorly.

Figure 6: Performance of top and bottom three asset classes between 2005 and 2015

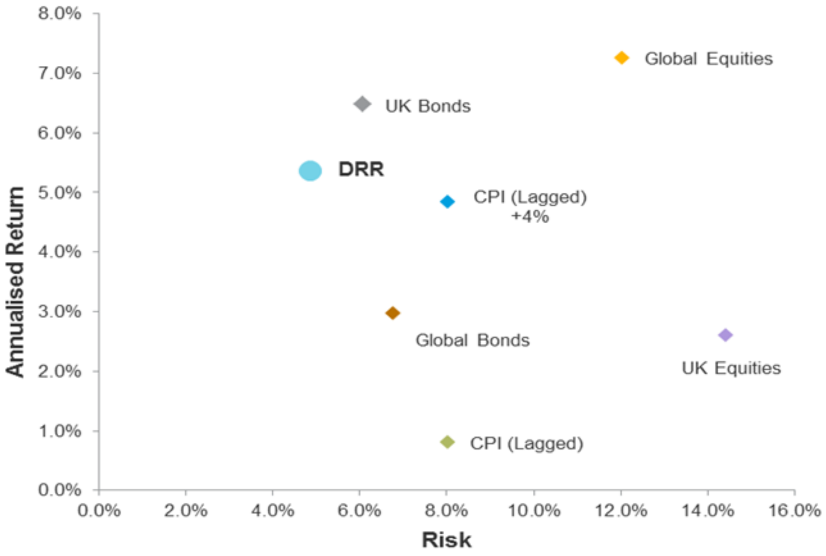


2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
EM Eq 50%	Euro Eq 18%	EM Eq 38%	Global Govt Bds 51%	EM Eq 62%	Gold 34%	I/L Gilts 20%	Global HY Bds 19%	US Eq 30%	US Eq 20%	Japan Eq 16%
Japan Eq 40%	EM Eq 17%	Gold 29%	Gold 44%	Global HY Bds 57%	EM Eq 23%	Gilts 17%	UK Corp Bds 16%	Japan Eq 25%	I/L Gilts 19%	US Eq 7%
Comdty 35%	UK Eq 15%	Comdty 15%	Gilts 14%	UK Eq 29%	Comdty 21%	Gold 11%	Euro Eq 15%	Euro Eq 24%	Gilts 15%	Euro Eq 3%
Gilts 8%	Japan Eq -6%	Global HY Bds 2%	Global HY Bds -27%	Gilts -1%	I/L Gilts 9%	Comdty -13%	I/L Gilts 1%	Global Govt Bds -6%	UK Eq 1%	Gold -5%
Global HY Bds 7%	Global Govt Bds -7%	UK Corp Bds 0%	UK Eq -30%	Japan Eq -4%	Euro Eq 8%	Japan Eq -14%	Global Govt Bds -3%	Comdty -11%	Euro Eq 0%	EM Eq -10%
Global Govt Bds 4%	Comdty -10%	Japan Eq -5%	EM Eq -36%	Global Govt Bds -7%	Gilts 7%	EM Eq -18%	Comdty -5%	Gold -30%	Comdty -12%	Comdty -20%

Source: Bloomberg as at 31 December 2015.

Figure 7 plots the performance and volatility of returns for the Threadneedle Dynamic Real Return Fund against UK and global equities and bonds. The Dynamic Real Return Fund is invested across a developing range of assets, and highlights the benefit of adopting a dynamic approach to asset allocation, dynamically positioning the portfolio towards markets that we believe will serve the portfolio well over the next 12-18 months and helping us to hit or beat our target of CPI+4% with two-thirds of the volatility of equities.

Figure 7: Volatility and performance of Threadneedle Dynamic Real Return Fund against bonds and equities over the period 01.07.2013 to 29.01.2016



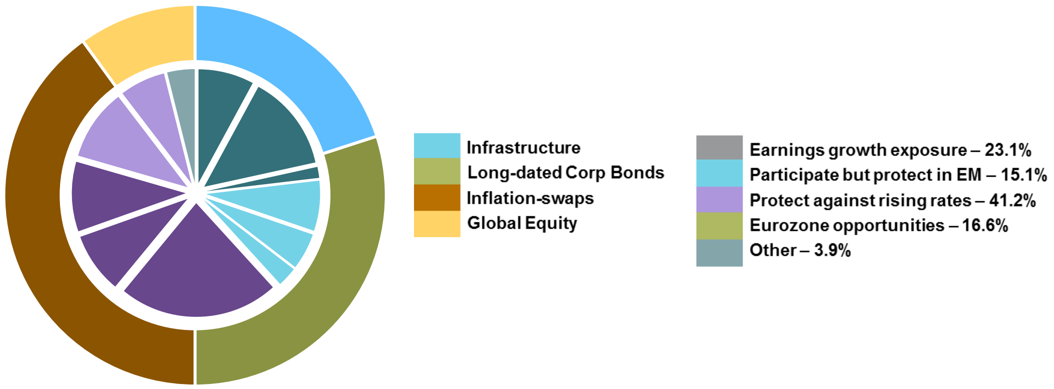
Source: Columbia Threadneedle Investments, January 2016. Provisional performance is in GBP, on an offer-to-offer basis, gross of annual management charges, using Global Close prices. Arithmetic relative. CPI is represented with 2/3 the volatility of global equities. Past performance is no guide to future returns.

The options for implementing your strategic asset allocation

Asset allocation is one of the most crucial decision that local authorities pension funds will take, and the success or otherwise of the decision will largely determine the level and variability of returns enjoyed by each administering authority. For those authorities seeking to so do, active asset allocation can be deployed to target stronger risk-adjusted returns. There are three main options to incorporate active asset allocation within local authority funds under the new regime:

1. Manage the active asset allocation directly using in-house resources. This may suit schemes equipped with large internal resources of experienced investment personnel.
2. Enter into a strategic relationship with professional active asset allocators to design and implement active asset allocation calls using units from the combined pool. This might involve agreeing to minimum exposure to certain asset classes and allocating percentages for managers to allocate actively.
3. Allocate a portfolio of assets on a “go-anywhere” basis, as part of the strategic asset allocation. This approach recognises the individuality of each scheme’s liability profile and plan for deficit reduction, while retaining the abilty to seek strong risk-adjusted returns through asset allocation. This option is depicted in Figure 8 below.

Figure 8: Combining strategic assets designed around scheme liabilities with an active approach to asset allocation



Source: Columbia Threadneedle Investments, January 2016.

To re-iterate, there is no passive route around taking an active asset allocation decision for scheme assets. Authorities can choose to take this active decision once every few years in the form of a strategic asset allocation decision that relies on the strength of periodic forecasts for asset market returns, volatility and asset price correlations, or can choose to take this active decision dynically and so respond to seismic developments in the global economy and the changing valuation of securities markets. But an active decision they must take.

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