

Multi-asset class investing and the UK's Local Government Pension Scheme



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The outstanding performance of equities – at just over 14% pa – between 1980 and 1999 led many institutional investors to conclude that the equity markets would always deliver the cashflows necessary to meet their liabilities. This was particularly true of the UK's Defined Benefit (DB) pensions industry, where equities often made up more than 80% of a scheme's total assets. The asset allocation decision appeared to be relatively simple in this world: work out the cashflow required to meet the pension promise to current pensioners and buy a sufficient amount of gilts to generate this cashflow then, with the remaining assets, buy equities. However, the poor performance of equities over the last decade or so has caused many institutional investors to question the earlier return maximisation approach to asset allocation. Furthermore, the pressures on scheme funding over this period caused by the high reliance on equity markets were exacerbated by the ongoing improvement in longevity trends and (at least in the private sector) the introduction of marked to market accounting practices. Both of these factors caused the estimated value of liabilities to rise at a time when equity portfolios were performing poorly.

The focus of asset allocation has now rightly shifted from a policy of *return maximisation* to one of *return maximisation along with risk minimisation*. One of the most effective ways to do this is via diversification, which is one of the only free lunches in finance. The basic diversification proposition is that overall risk can be reduced by combining risky investments that are imperfectly correlated with one another. By doing this investors can diversify away unsystematic risk from their portfolios¹.

Over the last few years, the UK's DB industry has been gradually diversifying its claims on the economy, away from publicly traded equities towards more alternative claims. The Yale University endowment fund provides an excellent example of the potential benefits of such diversification. Over the ten years to June 2009 the Yale fund had produced a net return of 11.8%pa, over twenty years to June 2009 it had

produced a net return of 13.4%pa. In contrast, a passive investment in a 'traditional' sterling equity/bond portfolio would have only produced a gross annual return of 1.6% and 6.7% over the ten and twenty years to June 2009 respectively.

So how did the Yale fund achieve this impressive performance?

The Yale endowment fund has adopted a very diversified approach to investing. In total, asset classes that together often comprise close to 100% of traditional institutional allocations comprise at most 21% of Yale's allocation. Instead, the Yale fund favours alternative asset classes. Its investment in private equity (25%) dwarfs its investment in publicly traded equity, and is testament to the Yale investment committee's belief that private equity fund managers can “*exploit market inefficiencies*”. The endowment also has 32% of its assets dedicated to real assets that embody “*inflation hedging properties*” including for example, investments in real estate, oil and gas, and timberland. Here they argue that they can also earn an illiquidity premium. Arguably over 80% of the Yale endowment portfolio is invested in illiquid assets and over the last twenty years, these assets have earned far more for them than liquid assets. For example, since inception their private equity investments have generated a return of 30.4% pa. In their view, they are long term investors and so can afford a certain illiquidity in their fund that might eventually enable them to earn a premium.

But what happens when liquidity dries up?

September 2008 to March 2009 represented the Yale fund's most testing period as liquidity in the world's financial markets dried up. The poor performance of the fund over this period was blamed on the illiquidity of its investments and its use of leverage. The availability of cheap leverage encouraged the fund to borrow to invest and the consequence was a sharp fall in the value of the fund. Moreover, though even naive diversification (the simple spreading of one's investments across a wide range of assets) can

eliminate unsystematic, or idiosyncratic risk, it cannot eliminate all risk. What is left behind is systematic, or undiversifiable risk. The shock that the financial markets had to deal with was systemic. It was a major shock to global growth and to the real economy. The only way to diversify away this risk is to invest in the uncorrelated financial assets available on other planets! In our view diversification does work, it's just that it cannot eliminate all risk at all times.

There is no doubt that the illiquid nature of much of the Yale portfolio would not be suitable for some mature UK pension schemes that may be cashflow negative – those schemes that have been closed to new entrants or new accruals for some time. A further barrier to adopting the Yale approach is one of scale. First, the asset classes preferred by Yale's endowment fund arguably require significant expertise to access them, as well as to monitor them over time. Small pension schemes are unlikely to be able to afford such expertise. Second, scale also gives access to the best hedge funds, the best real asset managers, etc. In Yale's case their scale (and expertise) has been sufficient to allow them to seed the very organisations they needed as vehicles for their investments.

In other words, the smaller the scheme, the more mature it is and the more cashflow negative it is, then the less appropriate is the Yale model². It is most suitable for large relatively immature schemes that are open to new entrants and that are cashflow positive. This is a fairly good description of the UK's Local Government Pension Scheme (LGPS). The LGPS is administered locally through 99 regional pension funds, of which 34 are in Greater London alone. The rules governing each participating scheme are common, but some decisions are taken at the

local level, in particular decisions regarding asset allocation. This means that the financial position of each participating scheme can be very different.

In order to see what impact the "Yale model" might have on the finances of the UK's LGPS we have developed a model of the LGPS scheme by amalgamating all of the constituent schemes which allows us to analyse it as one scheme. This model also allows us to test the possible risk reducing benefits that might accrue to the UK's LGPS from adopting a more diversified approach to asset allocation.

Chart 1 shows the model-projected distribution of the LGPS's funding position as at 2034. The blue bars represent the distribution of funding ratios using the LGPS's current asset allocation. On 13.5% of all occasions the scheme is still not fully funded at this point. The green bars in the same chart show the distribution of the funding ratio at 2034, based upon an asset allocation similar to that of the Yale endowment fund. Now on 60% of all occasions the scheme reaches a funding level of 125% or greater by 2034, compared with a figure of 32% with the less diverse "current allocation". Furthermore, by 2034 there are virtually no occasions when the scheme is less than 90% funded.

Chart 2 shows the burden on the scheme sponsor. In our model we assume that the scheme sponsor makes annual contributions equivalent to 15% of gross salary bill into perpetuity, but also that the employer "tops up" the scheme when it becomes dangerously underfunded. The blue bars show the distribution of these additional contributions for the "current allocation". The first blue bar on the left indicates that on 14% of occasions the

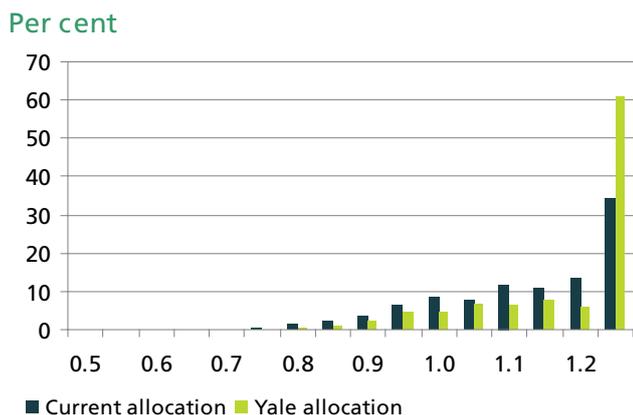
employer makes no additional contribution. The second bar indicates that on 17% of all occasions the virtual employer has to add funds equivalent to 10% of the present value of the assets measured at 2010 prices, etc. The chart also shows that there are some really very bad outcomes. On 14% of occasions the virtual manager has to contribute funds equivalent to more than 100% of the starting value of the assets held in 2010. The green bars in Chart 2 show the equivalent calculations, but where the underlying assets are similar to those held by the Yale endowment fund. Now on 28% of all occasions the employer is not required to make any additional contributions, compared with 14% of occasions with the Current allocation. In general we can see how the distribution of additional contributions shifts notably to the left, with the more diversified approach to investing. For council tax payers, who are the ultimate sponsors of this scheme, this result should be of particular interest.

To conclude, we believe that all long-term institutional investors should consider diversifying their exposures to risky assets and reduce their reliance on publicly traded equities, if for no other reason than it is entirely plausible that major equity markets could continue their sideways progress of the last eleven years for another few years. However, in pursuing a policy that aims to maximise diversification they should also be able to reduce the volatility of their asset holdings over the medium to long term.

This article is based upon the recently published white paper "Multi-asset class investing and the UK's Local Government Pension Scheme", Cass Business School, London.

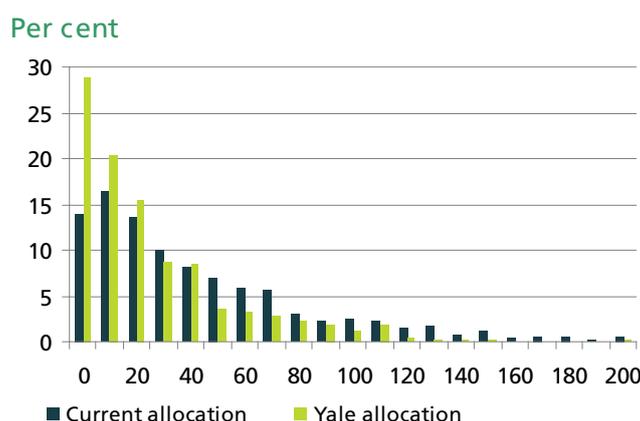
- 1 See A. Clare and N. Motson (2009), How many alternative eggs should you put in your investment basket?, CAMR Working Paper, Cass Business School, London.
- 2 However, this does not mean that small, mature schemes cannot benefit from a more diversified approach to investing, it's just that the challenges to achieving the benefits may be greater, but no less worthwhile once achieved.

Chart 1: Distribution of funding ratios



Source: Fathom

Chart 2: Distribution of additional contributions



Source: Fathom