

PENSIONS *matters*

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MANAGING FUNDING LEVEL VOLATILITY

HOW TO CONTROL YOUR INVESTMENT RISK



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Managing investment risk has never been as high on the pension scheme agenda as it is now. Historically, the smaller pension scheme has been handcuffed in its ability to control funding level volatility arising from the investment of its assets, as the “toolkit” available to control this risk has been limited by cost.

However, this situation has changed as new investment technology is now available to the smaller pension scheme. As a result, it is now much easier to control investment risk and smooth the funding level journey. This is of crucial importance to those schemes that are looking to extinguish their pension scheme liabilities in the near to medium term future.

In this edition of Pensions Matters, we explain how the new technology can be used to reduce funding level volatility that arises from changes in liability values. We estimate that this approach could reduce expected volatility by up to 25% compared to current levels of risk, without necessarily compromising expected returns.

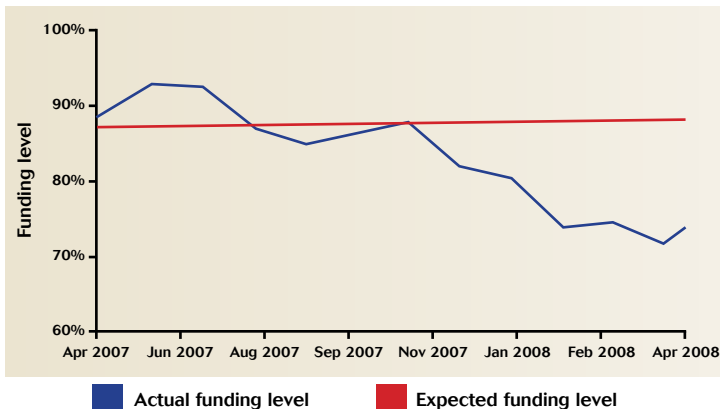


WHY IS LIABILITY VOLATILITY A PROBLEM?

Many trustees think that the only significant investment risk for a pension scheme is how the assets perform relative to the return levels assumed in the valuation cycle. They then measure the performance against a benchmark unrelated to how the liabilities change. However, we should remember that the funding level depends on the value of assets relative to the value of liabilities. Many trustees do not appreciate the extent to which changes in investment markets can also cause significant changes in the value of the liabilities and not just the assets.

The following example case study highlights the impact that volatile liability values can have on pension scheme funding levels. The chart below tracks the approximate funding level (Technical Provisions) for an example client since their most recent valuation to the time when they reviewed their investment strategy.

TYPICAL FUNDING LEVEL PROGRESSION SINCE 1 APRIL 2007



The red line represents the expected funding level assuming the valuation deficit funding plan had been borne out. The blue line shows the approximate funding level based on actual market movements (assuming other factors such as mortality, early retirements etc occur in line with the valuation expectations). In this example, the scheme had 70% equity : 30% bond investment strategy and because of this experienced significant funding level volatility in this 12 month period.

The trustees will have clearly expected some worsening in the funding level due to the negative market impact of the “credit crunch”. But even though the funding level’s sensitivity to gilt yields and asset changes had been made clear in the valuation report, they were unpleasantly surprised when they saw the reality of the impact changing liability values can have on the funding level.

Starting funding level	87%
Asset returns	(5%)
Liability change	(11%)
Deficit contributions	2%
Miscellaneous/rounding	(1%)
End funding level	72%

Nearly two-thirds of the deterioration in the funding level is due to the change in the value placed on the liabilities; this change resulted from a dramatic decrease in the yield available on index-linked gilts during the period. Only about a third of the change would have been attributable to the decrease in global equity markets.



- *Gilts deliver income every year and this needs to be reinvested in the future at rates that are not known to us today. This reinvestment risk reduces the precision of possible liability matching.*

“Synthetic” bond products (see following page for explanation) are designed to overcome the shortcomings of the gilt approach for liability matching. These products can provide a much closer sensitivity match for the liabilities and do not require all the assets invested in the synthetic bonds to provide full liability protection, as these can typically provide £200 of liability protection for every £100 of synthetic bonds held.

For a fully funded scheme, a 50% allocation to these synthetic bond products would typically be sufficient to match changes in the value of liabilities, as opposed to 100% traditional gilt matching approach. The key benefit of this is that there is still a significant proportion of assets available with which to seek higher investment returns.

EXAMPLE OF THE BETTER PROTECTION

In the following example, we show a pension scheme with £10m of assets and liabilities, i.e. it is 100% funded (fig.1). The assets are invested 50% in equities and 50% in gilts. We show the impact on the funding level of a 1% decrease in gilt yields (fig.2), assuming that the value of the equities remains unchanged.

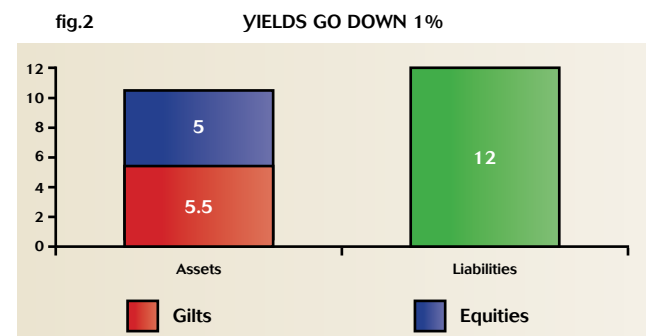
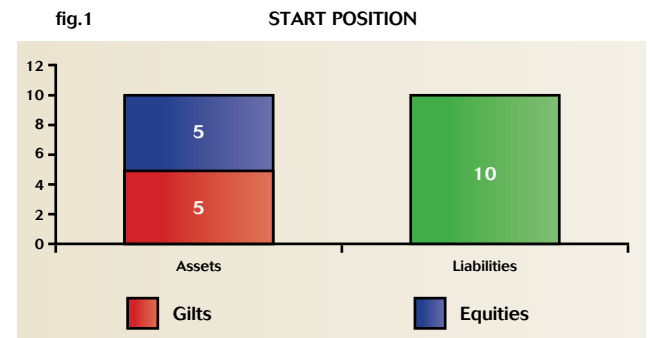
The exact impact of the change in the liability values on funding levels for schemes depends on the expected future pension payment profile, but is likely to be significant.

The good news for all DB sponsors and trustees is that there are new investment tools available for smaller pension schemes to manage the risks associated with adverse movements in the liabilities much more closely.

SO HOW CAN YOU MANAGE THESE RISKS BETTER?

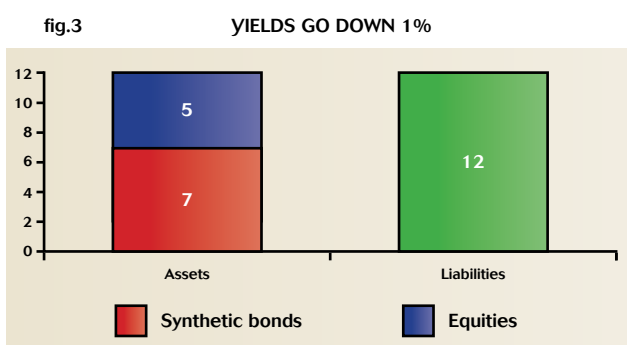
Traditionally, pension scheme trustees have used gilts to provide protection against the movements in liability values. If they wanted to match the liabilities fully, they would have to adopt a 100% gilt strategy, which would lower potential returns in the long term. However, the use of gilts is not a perfect solution for the following reasons:

- *The use of gilts impacts on the ability of the pension scheme to target growth. The more a pension scheme wants to control the funding level volatility associated with liability movements, the more gilts need to be held. This reduces the allocation to growth assets, such as equities.*
- *The gilts do not provide as much protection as one would like, as the sensitivity to changes in gilt yields is lower than it is for the liabilities. Traditional gilt products have tended to typically provide only £50 of liability protection for every £100 of gilts held, i.e. changes in gilt yields could increase/decrease their underlying value at a rate of half as much as the same changes will have on the value of the underlying liabilities.*



Due to the reduction in yield, the gilt assets increased by £0.5m (in capital value) however the liabilities have increased by £2m, (as the future expected return on these assets has reduced). As a result, the pension scheme is now only 88% funded.

We now rework the example assuming that the 50% in gilt assets is invested in "synthetic" bonds (fig.3).



In this case, when yields decrease by 1%, both the assets and liabilities increase by £2m, and the pension scheme remains fully funded.

WHAT DOES "SYNTHETIC" MEAN?

The products we have described behave in a very similar way to bond funds, ie capital is lent initially in return for an expected payment in the future. The "synthetic bond" funds are pooled vehicles that utilise more sophisticated financial instruments called swaps (known also as derivatives). The use of swaps brings two key advantages compared to the use of gilts:

Swaps can be used to target expected pension payments more precisely in the future than other asset classes. For example, if a pension scheme knows it has to pay £1m in 2030, a swap can be used to target that exact cashflow. Under the gilt approach, you would need to buy the gilt that matures in 2035 to broadly target this payment.

The use of swaps allows pension schemes typically to obtain £200 of liability protection for every £100 invested. This allows pension schemes to obtain full liability protection while still having the potential to seek growth. This is not possible if gilts alone are used for liability protection.

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Many pension scheme trustees are wary when they hear the term "derivatives" due to the association with speculative hedge funds. However, these types of swaps are purely designed for volatility reduction purposes with none of the speculation usually attached to the more widely held view of hedge funds. Many larger pension schemes and an increasing number of smaller pension schemes are now using such products as they believe the volatility reduction these funds deliver is significant. We firmly believe trustees should give consideration to their use.

BRINGING THE NEW TECHNOLOGY TO THE SMALLER SCHEME

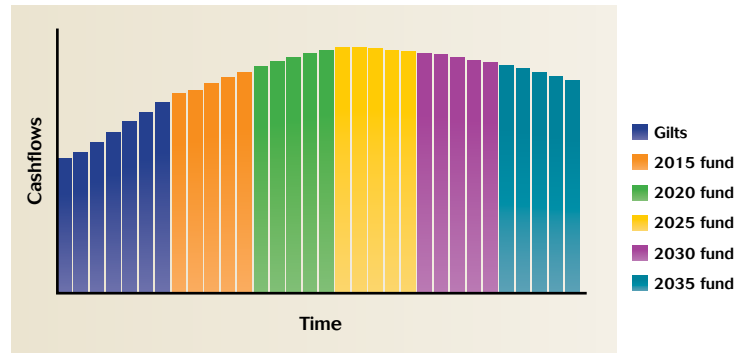
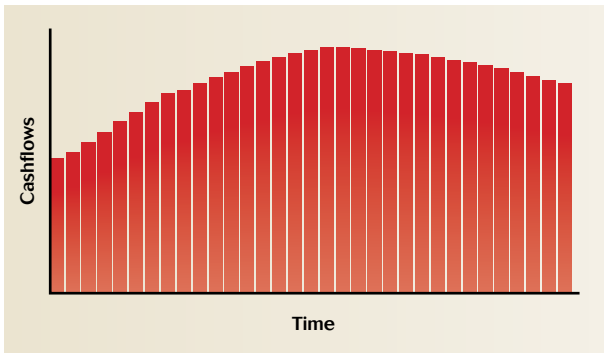
Until recently, smaller pension schemes could not use swaps to reduce the liability volatility due to the fees charged by the fund managers or because of minimum access sizes. This situation is changing with the advent of pooled synthetic bond funds, however there are still minimum asset size problems for some schemes.

At Alexander Forbes Financial Services, we have developed a solution, for all of our pension clients to potentially gain access to these funds through pooled arrangements.



The synthetic bond funds can be thought of as 'buckets' targeting expected future cashflows with 5 year intervals. Trustees can then allocate to each of these buckets to better suit the expected cashflow profile of their schemes. The charts below, with which any trustees who have followed a Horizon matching strategy will be acquainted, highlight how the expected cashflows for a pension scheme could be mapped into these funds:

The risk reducing benefits outlined in this paper are material and as a result, this area requires consideration and action by the trustees and sponsors of all defined benefit pension schemes.



ACTIONS FOR SCHEMES

Current market and regulatory conditions mean that most schemes are in deficit on whichever basis they are measured. Because of this schemes cannot afford the luxury of complete liability matching, which would allow them to reduce the growth seeking investment assets currently held. In addition, the cost of matching the inflation-linked elements of a scheme's liabilities is at an all time high based on historical prices.

Trustees should consider a two stage action plan to take advantage of the better matching that these funds can bring:

Review their current investment strategy and consider switching some or all of the current "protection" assets, held in gilts and bonds, into synthetic bond funds.

Following a review consider increasing the allocation to these synthetic bond funds when, for example, equity prices increase significantly and the funding level of the scheme improves. Markets are volatile and trustees need to plan ahead to be able to capture buying opportunities as they arise. Because of this, trustees may wish to discuss with their Actuary setting triggers for making such changes, (e.g. an improvement in the funding level to 95% from a current position of 80%).

SUMMARY

Pensions Matters 13 has been prepared to outline how pension schemes can benefit from "synthetic" bond funds but there are aspects of both operational detail and further understanding that trustees and sponsors will require before using these investment tools.

Trustees of smaller pension schemes, with the help of their advisers, can now benefit from these risk reducing investments which were previously only available to the larger pension schemes. The risk-reducing benefits outlined in this paper are material and as a result, this area requires consideration and action by the trustees and sponsors of all defined benefit pension schemes.

The next step would be for trustees to talk these issues through with their advisers as part of a meeting focusing on scheme investment alone. Following these discussions trustees can make informed decisions with regard to any investment changes required to their pension fund assets.



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