



## Whitepaper

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## The Hidden Risks of Pension Superfunds

### Introduction

As defined benefit pension funds become more mature and reach their eventual end-game, their funding positions are increasingly exposed to volatility. Sponsors and trustees continue to seek innovative ways to reduce their risk exposure. The desire to reduce risk has driven the development of several risk management techniques and exercises, some of which have proven to be controversial.

This paper looks at one of the more recent innovations, the pension superfund and considers what this development means from a risk perspective.

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## Existing options for the pension end-game

As pension funds mature, their funding positions become more volatile. Typically funding volatility increases as benefits in payment become a larger part of the total pension liability. At the same time active membership dwindles, so there is less contribution income. It is not surprising that many defined benefit pension funds look at more creative ways to reduce and manage their risk.

Actions such as closing to new members, closing to future accruals and limiting pension increases help to stop a fund's risk exposure increasing. Other options can reduce a fund's financial risk, at different levels of complexity and cost.

Below, we look at how different risk reduction exercises change the risk exposure of the various parties involved. Some of the options reduce the market risk to the pension fund, but transfer it to a third party or create new risks.

### Risk transfer under existing options

Pension funds use three main approaches to reduce their level of risk, and the choice of approach depends on the nature of the fund's cash flow obligations and the risks that they want to reduce. Often, these exercises introduce new risks, and funds need to consider that when they plan their risk reduction exercises.

#### Member option exercises

These include offering members an option to exchange their benefit entitlement for one where the risk is easier to manage. For an index-linked pension benefit this might mean offering a flat pension at a higher initial level, or the option to take a transfer value on enhanced terms to encourage take-up.

These involve a group of members consenting to the transformation of their entitled benefits into a form that carries less market risk to the pension fund. In some cases this is more useful to the individual pension fund member.

There are new risks.

- » A risk around quality (or absence) of advice. If members accept revised benefits and are worse off as a result, the exercise will come under scrutiny and might lead to the pension fund requiring to pay compensation.
- » A risk around selection. Some benefit restructuring such as an enhanced transfer value offer is more likely to be accepted by impaired lives, meaning that offering a conversion based on the fund's overall expected experience might not be equitable.
- » A risk to the security of the benefits remaining after a cohort of members leaves – although the exercise might mean a reduction in the amount of deficit in cash terms, this might represent a larger proportion of assets under management.

#### Investment-based derisking

Pension funds can use investment strategy to reduce the volatility of their funding position. Portfolio construction techniques such as liability driven investment (LDI) reduce risk by ensuring that assets and liabilities have similar exposure to interest rate and inflation movements, meaning that the funding position is stable as fixed interest markets move. Other approaches here include using glide paths to reduce investment risk as funding levels improve, or purchasing an annuity to back some or all of the pension benefits.

These scenarios leave the member benefits unaltered – so the liability risk remains the same and the pension fund remains responsible for payment. However, there can be an element of outsourcing. For a buy-in, this is obviously an insurance contract, but many LDI mandates are outsourced, and the pension fund is reliant on the effectiveness of their asset manager.

- » Where responsibility for matching or insuring obligations is being passed to a third party this clearly generates counterparty risk.
- » There is also an opportunity risk. By adopting a low risk investment strategy, the fund is protected against adverse market experience. Typically, this also restricts the opportunity to take advantage of beneficial market experience which would strengthen their funding position.

## Liability transfer exercises

Pension funds have the option of transferring responsibility for all of their liability obligations to an insurer, usually known as “buying-out” the pension obligations. The insurer is then responsible for ensuring that benefits are paid.

The insurer is taking on the risk of the pension fund, and therefore this can be seen as a risk transfer rather than a reduction (although from the point of view of the pension fund and sponsor, the risk is eliminated). However, insurers have stringent requirements to demonstrate solvency, which factors in to the cost of buy-out. Additionally, insurers are under no obligation to accept a particular pension fund and can choose not to accept a fund, or accept it for an increased cost.

- » There is obviously some counterparty risk, although the solvency regulations mitigate this.
- » There is also a risk around cost, the pension fund and its sponsor must be comfortable with the premium paid to buy-out and that this would not be better spent elsewhere.

Pension superfunds are a new form of liability transfer, where responsibility for payment of pension obligations is transferred from one pension fund to another. In theory, this operates in a similar way to a buy-out but at a lower cost. In practice, superfunds face some of the issues faced in any pension fund merger. They also have their own unique characteristics and their own unique risks.

## A new approach - superfunds

In a typical pension fund merger, one of the key objectives is to reduce costs of the administration. There are significant challenges to doing so. Differences in the form of benefits, the investment strategies, or even the age profile of members can create practical difficulties in combining benefit administration or in diluting the protection offered to members of one of the merging plans.

A superfund approach can escape many of these pitfalls. In particular:

- » A pension fund seeking to manage risk typically targets self-sufficiency or buyout transaction within a particular timescale. Merging two funds with different investment objectives increases the market risk exposure of one fund, unless investment strategies are kept independent. A superfund is effectively the run-off vehicle for funds that have passed this point, investment strategy can assume that the superfund is investing to meet its future cash flow obligations, and can adopt a single strategy across all sections.
- » A pension fund merger is typically between two existing funds with a common sponsor or other link. Benefits can be significantly different, limiting administration savings. A superfund can select which pension benefits it accepts, and can therefore select benefits of a similar structure, simplifying administration and delivering cost savings as a result. It is possible that different superfunds emerge specializing in different benefit structures, led by demand rather than by historical acquisitions by sponsors.

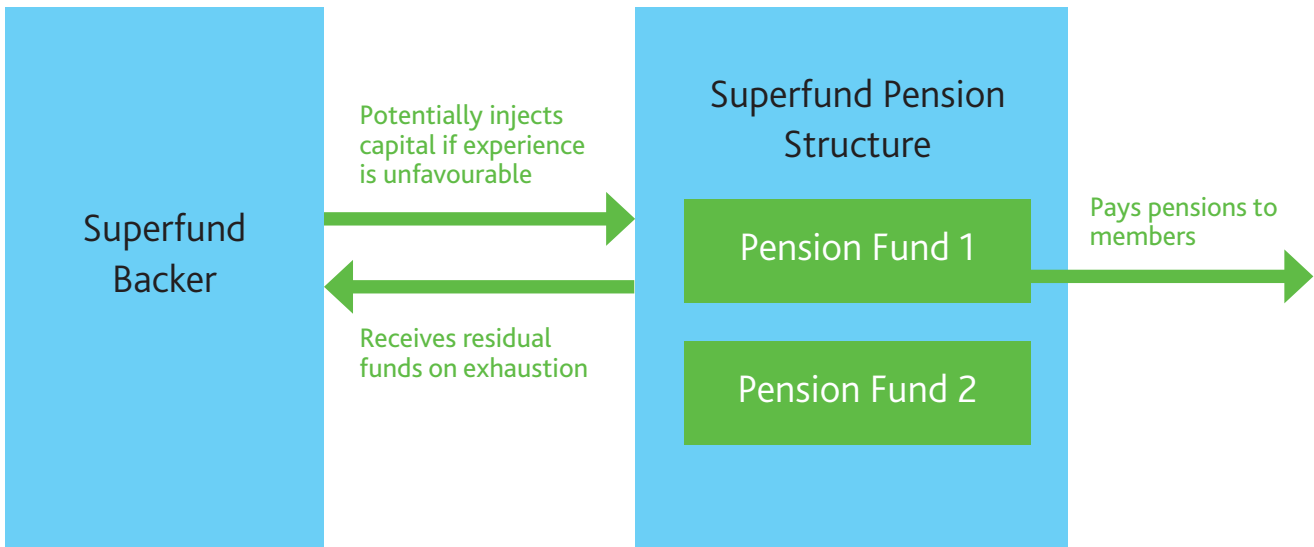
If two funds with different funding levels are merged, benefit parity considerations arise. A superfund can reduce this risk by only accepting new sub-funds that are already fully funded. From the point of view of the pension fund that is transferring benefits to a superfund, there is a key perceived advantage over a buy-out, in that the expected cost to transfer to a superfund is less than for a buy-out, reflecting the difference in the economic capital required to support a pension fund vs an insurance contract. This difference is one of the key factors driving growth in this sector in the next few years.

## Risk transfer in superfunds

A key factor in a fund's decision to enter a superfund is likely to be pricing, so getting the cost of entry right is critical.

It is natural to assume that the cost of entry to a superfund is greater than the technical provisions on a risk-free basis, as the superfund must bear the costs of administering the fund, any residual longevity, liquidity, and reinvestment risk. It also seeks some compensation for taking on this risk. A superfund needs a backer to provide security for the members, responsible for making up any emerging deficit, but benefitting from any favorable experience.

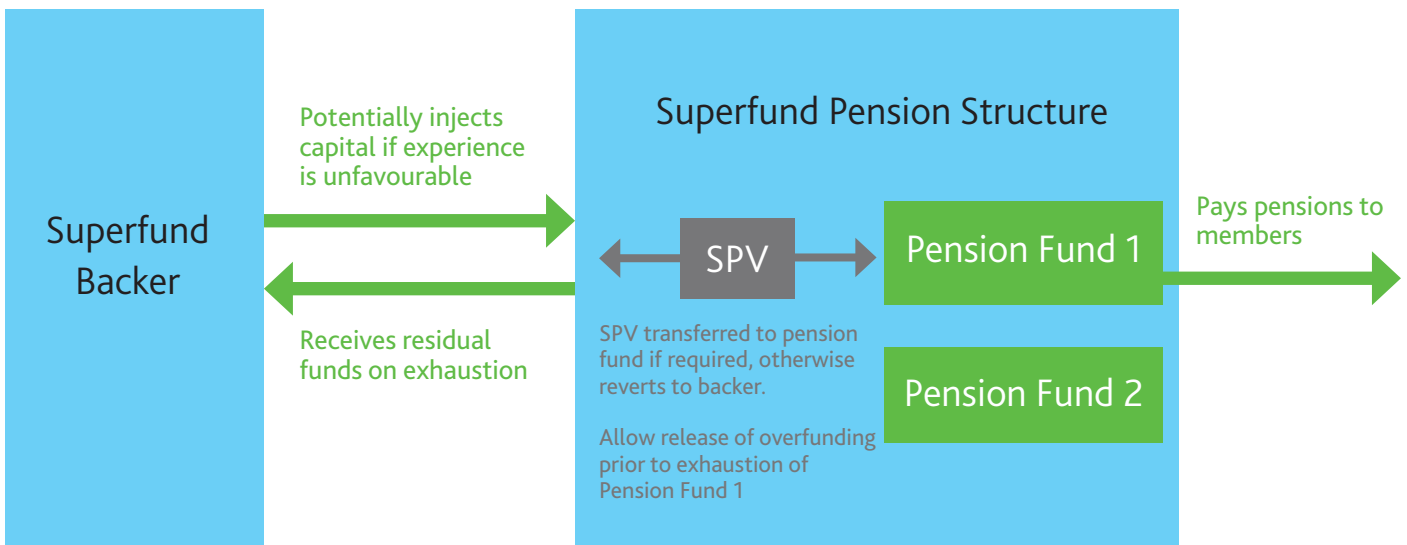
Figure 1: Structure of a Superfund



The risk to the superfund backer here can be reduced by overfunding the individual pension funds, but this ties up capital in the pension fund, and can be difficult to unwind if the fund's experience is strong and funding levels improve.

One potential technique to mitigate this risk is to use a contingent asset such as a special purpose vehicle (SPV) that tips in to the pension fund in certain conditions around deficit, and otherwise reverts to the superfund. This solution allows the emergence of beneficial fund experience to accrue to the superfund, rather than tying up capital unnecessarily in the pension fund. As a result, this solution can provide members with improved security and improve profitability for the superfund provider.

Figure 2: Structure of superfund with contingent asset



Pricing a special purpose vehicle requires full asset-liability model projections across the lifetime of the liability cash flows. Where a new pension fund is being added to a superfund and assets are pooled, this process becomes more complex, with the pricing needing to consider the interplay between the current and new pension benefits, and allowing for any existing special purpose vehicles.

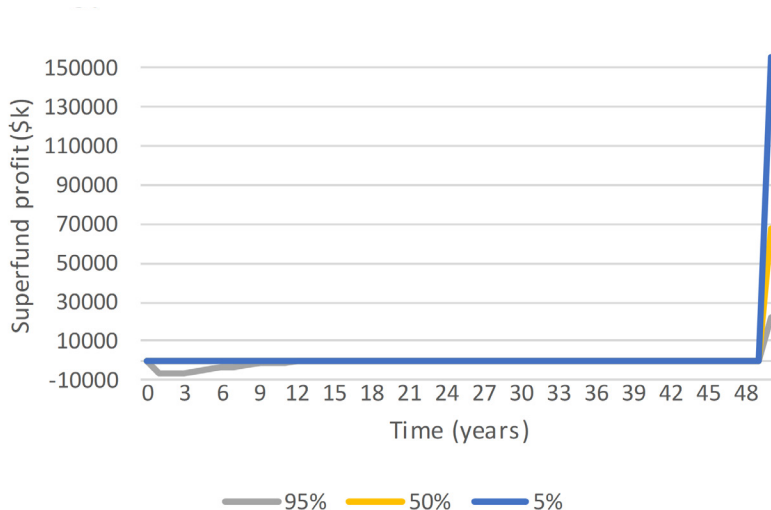
Regardless of how the superfund is structured, there is always a need for an ultimate provider of capital to meet the cost of any residual risk.

So the provider of a superfund cannot avoid risk. They must consider the risk of needing to inject capital and defer profits when deciding on the price at which to accept potential new pension funds.

### Potential superfund risk profiles

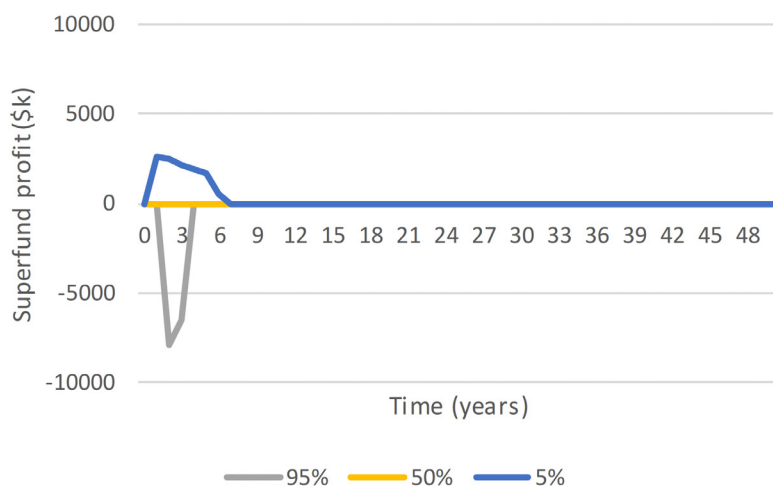
By looking at the cash flows to and from the superfund rather than the individual funds within it, the risk profile emerges. Figure 3 shows the 5th, 50th, and 95th percentiles of the cash flow to the superfund in respect of a sample fund entering the superfund at 105% funded, investing in a low risk portfolio, remaining at a funding level of at least 105% and remaining in the superfund until there are no member benefits remaining. There is a risk of requiring contributions in the short term, but there is a high probability of a release of capital when the fund terminates.

Figure 3: Percentiles of the cash flow to the superfund at 105% funded investing in a low risk portfolio



If the fund's strategy is to buy-out with an insurer when it is affordable, the risk profile is different.

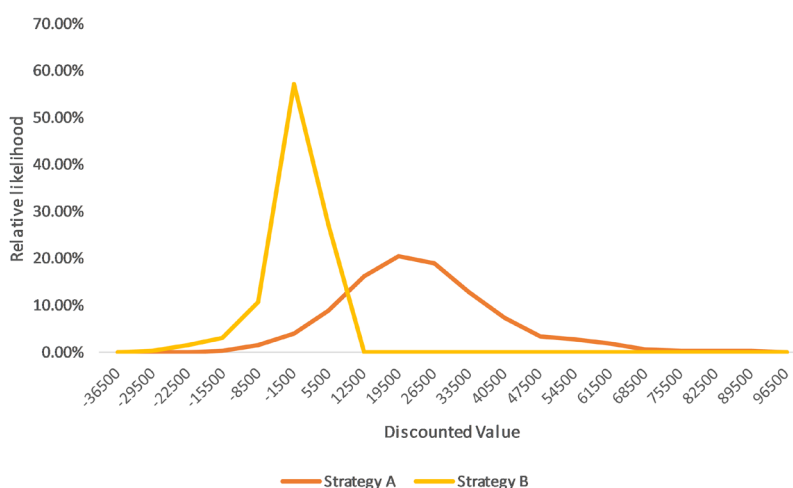
Figure 4: Percentiles of the cash flow to the superfund when fund strategy is to buy-out



Here, scenarios with positive outcomes lead to the fund being able to transfer liabilities to an insurer earlier, releasing margins and realizing profit more quickly. Similarly, downside risks are reduced, but the consequence is that the significant long-term profits do not emerge.

Another way to consider this question is to look at the distribution of the present value of the exercise to the superfund.

Figure 5: Distribution of discounted value of profits to superfund



In this instance, for this particular pension fund, the superfund would expect to make significantly more profit by holding the pension fund for the long term, but there is much greater certainty over the profitability if they transfer liabilities when it is affordable.

It is interesting to note that this sort of cash flow profile and structural consideration is not typical for a pension fund, and this is a key factor in how the superfund market might evolve.

## The superfund end game

Once a pension fund is part of a superfund, what happens next? For at least one superfund provider the objective is to buy-out the pension obligations with an insurer when it is practical and profitable. Others aim to administer the pension funds under their management until the last pension payment is made.

Even so, superfunds as currently envisioned have a finite shelf life. Unless markets change, the number of appropriately defined benefit pension funds is fixed and they are in run-off. Superfunds can grow through adding new funds but ultimately must contract.

At some point, even the largest superfund must consider whether to divest itself of its obligations. A buy-out with an insurer is the natural way to do this, so a superfund will want to know how well it is funded compared to the cost of buying out.

However, there is another reason why the funding level relative to the cost of buying out is important.

The legislation and regulation governing superfunds is relatively undeveloped. Early market entries are using existing pension legislation on the basis that it applies to a superfund in the same way as any other pension fund. However, the current regime has the assurance of a sponsor providing a safety net if funds fall into deficit. The superfund backer fulfills a similar role, but it could be interpreted easily as setting a premium, and underwriting risk.

As superfunds come to dominate the market, they become harder to characterize as different from insurance providers, and this threatens to push up their cost, undermining their key benefit relative to a buy-out.

### In summary

Any pension fund de-risking approach is essentially a transformation or a transfer of risk and there are many options for pension funds to consider, each with their own advantages and disadvantages.

If a pension fund transfers into a superfund, a full understanding of the range of potential outcomes is essential at the point of pricing, otherwise there is a potentially significant financial risk to the superfund provider - and ultimately the security of members' benefits.

In addition to the financial and demographic risks that superfunds are undertaking, there is also a risk that the regulatory framework changes and removes their price advantage and their ability to differentiate themselves from insurers.



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