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PENSION-DERISKING: LONGEVITY HEDGING AND BUYING OUT

'Engaging in longevity hedging and buy-outs and developments in the sector effecting pension schemes and their corporate sponsors'

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March 2011

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UNDERSTANDING LONGEVITY HEDGING AND BUY-IN/OUT TRANSACTIONS TO DATE

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Interview with **Andrew C. Reid,** European Head of Pensions Origination, Capital Markets and Treasury Solutions, **Deutsche Bank**

The state of the longevity hedging market place and a providers perspective on setting your strategy to transact?

Clear Path Analysis: With funding levels of corporate sponsors being squeezed so tightly, why is it so important that there is sufficient availability of cheap risk on the other side of a bulk annuity trade?

Andrew Reid: It's relevant for both bulk annuities and for unfunded risk transfers where a pension scheme doesn't pay its premium up front, it pays it throughout the life cycle of the contract. The reason why it's so important is quite straight forward: the business model of providers like ourselves is often one of intermediation, so we take the clients risk and put it onto our own balance sheet. Then we pass the risk off to investors who actually want to invest in the type of risk our clients seek to remove. For example there is quite a big investor base who would like to invest in longevity risk. This may seem difficult to believe to pension schemes or funds that are looking to transfer this risk.

CPA: Who are those investors that you're passing the risk off to?

Andrew: Let's put them into two categories: the first are reinsurers in which half a dozen have taken longevity risk from the pension schemes. These investors have taken most of the risk so far from pension scheme longevity trades. If you consider the dynamics of these reinsurers, they often have a large book of mortality risk whereby they suffer a lot if a large number of individuals die unexpectedly. A way to offset this risk is to diversify by investing in longevity. The other main category of risk takers sit in the capital markets. This route has not been fully developed yet but it's a very exciting one because if we can crack it, it gives us scale that we won't have through just using insurers. If you're a fund investing in capital markets, longevity may be an attractive asset class because it's a diversifying risk and in our view has very low correlation to anything else you might be holding. In effect, someone else is paying you a premium to transfer away their risk. Many of these funds have substantial cash holdings looking for investment who are facing zero rate returns, so something that offers them a higher return and that isn't particularly volatile could be quite an attractive investment for them.

It's certainly wider than insurance linked security funds. This sort of investment for diversification purposes will appeal to sovereign wealth funds, multi-asset hedge funds, mutual funds, possibly private equity, private wealth, banks, insurance companies and anybody who wants a diversified or uncorrelated investment. This is alongside the specialist hedge funds and insurance linked security funds.

> ***"the business model of providers like ourselves is often one of intermediation, so we take the clients risk and put it onto our own balance sheet"***

CPA: What is the typical capital that capital markets takers of longevity risk would need to put up?

Andrew: It's a small fraction of the value of liabilities that will be hedged. If a pension fund has £500 million of liabilities it needs hedged, the investor may only need to put up £25 million pounds worth of capital. The market appetite is driven by the final risk takers. The reinsurers might have a total capacity for the next few years of £10 - £15 million annually, as measured

in terms of the value of liabilities. The potential for the capital markets is huge, it could easily be double that, probably a multiple of it.

CPA: How much has been taken on already by the capital markets to date, have there been any significant transactions?

Andrew: Capital markets have not taken on much UK longevity risk to date, with only relatively small transactions happening so far. The challenge with capital markets has been structuring the risk in a format that is acceptable to them and acceptable to the front end pension scheme investor. We would expect, over the next year or two, many billion pounds worth of liability risk to be transferred to the capital markets.

CPA: What are the counterparty risks that need to be considered?

Andrew: Pension schemes should focus very strongly on counterparty risk. Using Deutsche Bank as an example, the pension scheme will trade with us, or if it's a contract of insurance, with Abbey life, our wholly owned insurance subsidiary. The pension scheme should see us as strong counterparties based on our credit worthiness and how well we manage the risks. Pension schemes would also look very closely at the terms of the trade and how the contract may vary in value over the life of the trade. As the value changes, both the pension fund and the bank counterparty would require security in the form of collateral. Some clients also prefer counterparties with a diversified business model (rather than a monoline longevity or annuity provider, for example).

> ***"The pension scheme should see us as strong counterparties based on our credit worthiness and how well we manage the risks"***

CPA: You've mentioned the importance of both the strength of the counterparty and the posting of collateral. How else do providers give security to pension schemes over the long term?

Andrew: Choosing a strong provider and using collateralisation are the key issues and we find that other issues are secondary to this.

An alternative option could be that a pension scheme could insist that their provider in an annuity trade has a segregated fund or sticks to a particular investment policy. Again we would consider that secondary compared to the strength of the counter party and making sure that the contract is adequately collateralised. In the trades that have occurred to date, the main security conversations have been have been around collateralisation and strength of counterparty.

CPA: You mentioned a pension scheme being able to insist on segregated accounts with the counter party. Is that common practice that pension schemes can have that type of control over how the counter party manages the risk?

Andrew: Not really, with that comes additional administration burden and it restricts investment policy. This option would be for an annuity trade and that all feeds through into higher costs for the client, so generally clients are quite content to fall back on the strength of the counterparty and collateral that might be posted.

CPA: What is the level of market interest for longevity hedges, buy-in and buy-out transactions?

Andrew: There's huge interest at the moment, driven by trustees wanting to discharge their duties and to secure benefits for their members. From the sponsor or company side they can remove some of the risks that are inherent within defined benefit pension provision. In terms of our "serious" pipeline where a client is devoting significant resource to investigating a trade, we are probably looking at about 30 potential situations, of which a significant number are likely to trade. In addition, we've got about 70-80 that we've had discussions with over the last year or so, but they're not currently seriously considering thinking of trading imminently, so we would expect any trades from them not to happen.

CPA: What proportion of trades do you anticipate will come to fruition from that pipeline?

Andrew: A third to a half.

CPA: Considering two-thirds to a half won't trade, what do you encounter to be the most common hurdles or issues that stop them?

Andrew: It's important to get all stakeholders involved, and agreed to the project early in order to make sure they reach completion. It's typical to have a lot of different stakeholders, including the trustee, the company, investment consultants and actuaries, lawyers and so on that are involved. They all need to be comfortable with the plan and have the tools to do the required analysis. Without that, getting longevity trades done can be difficult.

CPA: Ensuring the transaction can go through quickly is helpful; I presume this has to do with price changes if the transaction is drawn out for significant periods?

Andrew: It can be, depending on the funding position of the pension scheme and how well-matched its investments are to the risk management products it's taking out. However, longevity expectations don't change on a daily basis so we find we can often hold a price for as long as six months if necessary. The issue is more one of momentum. As with any trade, momentum is important so stopping delays is a great way to minimise the risk of the price changing.

CPA: How does longevity fit in with other de-risking activities?

> ***"If they think the market is attractively priced for longevity risk and can be hedged, why not do so?"***

Andrew: Typically a pension scheme runs a number of risks. It may run a value at risk analysis by asset liability modelling, then map out its risk on some form of risk register – estimating its value at risk, the 1 in 20 worst case loss they would see over a year mapped to each risk. Some believe that this traditional risk model does not fairly capture longevity risk, as it is more of a long term trend or drift risk rather than a mean-reverting risk. In this case, other risk measures will be looked at e.g. value at risk over much longer time periods, scenario testing, etc.

Then there's the qualitative features. There are lots of views on longevity, but what is clear is that the situation is uncertain and that by hedging the longevity risk, you gain certainty on this risk. Clients have been affected by this a number of times over recent years, increasing cash funding requirements and balance sheet liabilities. A life expectancy increase of say 3-4 years seen over the last 5 - 7 years, leading to a 10% plus increase in liabilities, is not uncommon. Clients are very concerned that this could happen again. Another issue is what some call "unrewarded risks". Some clients divide risk into what they call unrewarded and rewarded risk, the latter being one they expect to be paid a premium for taking over the long term. Interest rates, longevity risk and inflation would not be seen as rewarded risk, they would be seen as unrewarded risk, so with everything being equal clients would choose to hedge them, as they don't expect to be paid a premium for taking those risks. If they think the market is attractively priced for longevity risk and can be hedged, why not do so?

CPA: Considering hedging longevity risk is part of a wider de-risking strategy for many schemes, what is the effect on an end buy-out price if you have a longevity hedge included in the scheme? Does it restrict you in terms of the providers that you can use as a pension scheme or does it make the resulting buy-out more attractive to a counter party?

Andrew: We don't believe it restricts the pension scheme. If you take out the longevity hedge with a provider like us who also have an insurer attached who can write annuities, then you would expect the provider to look at that longevity hedge quite favourably if it were pitching for an annuity. If you wanted to take out an annuity with a different provider, then subject to a few considerations like credit appetite of the longevity hedge provider and the annuity writer, you could expect the longevity hedge to novate to the annuity writer. The annuity writer would take on the trustees obligations under the longevity hedge and that might be quite attractive to them because it's one less risk they have to worry about. If that doesn't work then contracts do have liquidity so the client could cash in its policy.

CPA: Thank you for your time Andrew, it was most appreciated your insight and explanation of the current state of the longevity hedging sector.

By **Rita Powell,** Founder and Managing Director, **Inside Pensions** and former Group Head of Pensions, **DP World (formerly P&O)**

Reflecting on hindsight – what are the most important lessons for other schemes considering a buy-in/buy-out transaction

Reducing risk in a pension scheme is a journey not a single transaction. Good planning and investment in good data can save millions along the way, but not all journeys live up to expectations.

In this article I focus on the reflective elements, using experience of the P&O enhanced transfer value exercise and £800m buy-in in 2007 as an example

Most journeys benefit from a degree of pre-planning: where do you want to get to? does it matter when you arrive? is the best price more important than the fastest journey? how much baggage do you want to take with you? what about protection against tropical diseases? do all the family want to go and who will feed the dog whilst you're away? At the end of a journey we tend to reflect on its success or otherwise. Was there enough attention to detail in the planning? Did the destination live up to expectations?

All of these things can be translated into equivalent steps on a pensions risk reduction journey. Where do you want to get to and by when? As at 30 September 2006, the P&O Pension Scheme had assets of £1.3bn and c.21, 000 members, 95% of whom were deferred and retired members.

What was the objective?

The objective was to reduce pension risk over time at an affordable price to the principal employer.

This journey had started in 2003 with a data cleansing exercise and improvements in management information to better understand the profile of the liabilities. Corporate activity in 2003 to 2005 resulted in some risk reduction when certain non-core businesses were divested and pension rights for members associated with those businesses were also transferred. We also agreed and implemented a gradual shift out of equities into bonds, which worked well in a rising equity market.

> ***"The only thing to do was to make an offer to everyone but tell them at the outset that it may not be the right option for them."***

The objective itself clearly indicates that the actual destination and time of arrival had to be flexible as the cost of the journey was important. However, in order to work within this loose framework, we had to spend our time wisely. This meant making sure that we were 'packed and ready to go' as soon as a suitable destination and price became available. The data cleansing and the gradual switch out of equities and into bonds were therefore important, whilst we were keeping a constant eye on the new possibilities emerging for pension risk reduction.

Did the Journey live up to expectations?

It soon became clear that buying out all of the benefits in the Scheme was not an affordable option as the buy-out deficit was around £400m at the time. Most of the deferred members had a statutory right to a transfer value, but few took up the option. Enhancing the amount payable out of the Fund and providing independent advice for members to help them decide whether it might be the right choice for them seemed like a sensible option to explore. We recognised that some might want something different from the fixed package, which included benefits such as a contingent spouse's pension and a five year guarantee.

TPR's current view in relation to Enhanced Transfer Values (ETVs) is that we should start from the position that it is not in members' interests. We certainly took the view that it would not be in the interests of all members, but that it would be right for some. We couldn't

possibly know their personal circumstances so it was not right to 'pre-judge and filter' who should receive an offer. The only thing to do was to make an offer to everyone but tell them at the outset that it may not be the right option for them.

What about the rest of the family?

By asking the right questions we found that covering pension liabilities with an annuity policy was affordable, but there were legal obstacles to actually buying them out of the Scheme altogether and securing individual policies, and at the time buying out pensioners was counter culture too. Not to be deterred, when the price was looking affordable we pushed the boundaries of normality a bit and the now well utilised term "Buy-in" was born.

By this time the quality of our data was much improved and the planned gradual change in asset allocation to reduce equity risk had progressed well too. The percentage of assets in the bond portfolio had been increased such that they were largely sufficient to cover the pensioner liabilities. A very high percentage of the actual bonds held were also generally acceptable to the annuity providers in the market place at the time, which meant that we were in a good position to transact when we were ready and an in specie transfer would help to reduce costs?

This was another big project and throughout the whole period we had to make sure that business as usual did not suffer, so a strong administration team and thorough automated calculation and payment routines had been essential.

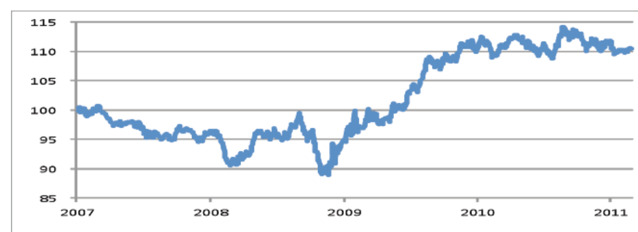
Was there any excess baggage?

We were advised that the bulk annuity price could be reduced if we further improved the data by significantly increasing the number of spouse dates of birth held on the database and made sure all of the post codes were present and in reportable fields. This looked like another time consuming and costly exercise and initial thoughts were that the data had been good enough for managing the scheme on an on-going basis and for valuation purposes so where was the problem. However, once we realised the 'excess baggage' charge for these gaps in the data could be up to 5% - that is up to £40million -resourcing another data cleansing exercise was just common sense as it was clearly an investment and not a cost.

Conclusion

Buy-in policies are considered fairly common place in the pensions industry now. Pioneering is never easy, and you never know at the outset whether the journey is going to be worthwhile or not, but if others follow and improve the process along the way then it must have been. With hindsight, 2007 wasn't a bad time at all to have travelled on this journey but the cost of following in these footsteps now will make it prohibitive for many.

The chart below is an approximate annuity pricing index adjusted for changing credit default reserving assumptions, for a pensioner-only portfolio,



So, with hindsight, what problems did we avoid by good pre-planning of this journey and which could we have been avoided with more experience or more anticipation? Let's start with the positives first:

These exercises were successful for the sponsor, the trustees and the members. It resulted in reduced risk for the sponsor and reduced liabilities in the Scheme. The members who transferred got a financial package that suited them better and were able to make decisions in a supportive environment of independent financial advice. There were no negative aspects for members who stayed in the scheme, and many wrote to say that they felt better informed about their benefits as a result of the process. The pensioner buy-in benefited everyone, as the risks in the whole scheme were reduced.

Over 3,000 deferred members accepted the ETV option and several hundred decided instead to take an early retirement pension from the Scheme. The key to its success was:

- the investment in a thorough data cleansing exercise,
- a gradual reduction in the exposure to equities
- a well formulated and executed project plan,
- on-going collaboration between principal employer and trustees
- involvement of appropriate lawyers, actuaries and independent financial advisers
- clear and honest communications with deferred members - stating clearly that an ETV may not be the right option for them
- adopting a 'do as you would be done by' approach to the supply of information meant that all deferred members rights and options and the related contingent rights were communicated at the same time
- Keeping HMRC, the Pensions Regulator and the FSA well informed as the ETV project plans developed.

When we started out we didn't know where we'd end up or when. But by looking both internally and externally at the same time, and being prepared to be early movers, we minimised the regret risk. Perhaps if we'd waited a couple of months we might have got a better price, but that is with the benefit of hindsight. We were very aware that the market could have gone the other way too. So, the moral of the story is: clean data and an appropriate asset allocation could allow opportunity to knock on your door and lead to a safe and secure journey – at the right price.

Interview with **Jerry Gandhi,**
Group Pensions Director,
RSA Insurance Group

Where do the most common knowledge gaps exist and what 'value' does a longevity hedge add to the post-hedge investment portfolio?

Clear Path Analysis: Thank-you for joining me in this interview Jerry. The first question I'd like to ask is, why has it taken so long for the pensions community to truly feel comfortable with longevity hedging transactions?

Jerry Gandhi: I would respond to that, I'm not sure it has taken that long a time. It's more the way the market is evolving. It's also that it's the right time now rather than necessarily the slow pace of the market. The focus early on has been on the more tangible risk elements of pensions, ones that are easier for Trustees to understand meaning use of LDI strategies which have been an easier medium to take out inflation and interest rate risks. It's also been more about adopting strategies that trustees can easily understand.

The other part to the story is that, if a scheme is ongoing the longevity hedge is spread over a much longer period and a working population with fresh and younger members. As schemes have closed down, most of which no longer have new members joining the age profile of the schemes are increasing. Therefore the longevity aspect is now becoming much more mature and likely to be a bigger impact as things evolve with ever diminishing contribution flow as we go forward.

CPA: Within your own scheme Jerry, why did you choose a longevity hedge over other types of de-risking exercises? Did you face any obstacles in your own team feeling comfortable with the structure?

Jerry: We found incredible numbers of challenges throughout the process because we were ahead of the game, or leading edge may be the right term to use. Our longevity hedge transaction is not just the longevity hedge; it's the total suite of interacting contracts. This means we've taken out the entire risk for some of our pensioner liability. We've effectively given up a chunk of our assets in favour of cash flow certainty for a proportion of our pensioner liabilities across two of our schemes. For us, that was a good end point.

The other aspect to bear in mind is that traditional providers of these products had difficulty dealing with our size. For RSA our pensioner liabilities of c£3bn and population of c18,000 has meant that the traditional insurance route don't work because of the concern over counter-party [risk] and default, plus of course pricing because the insurance sector has a pricing model that did not make it viable to do what we needed to do. Ultimately the structured (or synthetic) buy-in, as we would prefer to call our particular deal, includes the longevity aspect and became the one that worked for us, albeit at tremendous efforts by our trustees with the support of RSA.

> ***"the longevity aspect is now becoming much more mature and likely to be a bigger impact"***

CPA: What were the biggest fears of your trustees and other stakeholders to your longevity de-risking transaction and how were they overcome?

Jerry: Our largest concerns was the risk of the counter-party defaulting and this of course was a concern for the trustees and the company, the trustees in their own right would be able to get rid of the risk but in event of default, it would come back to the scheme, which would then sit back with the company. So the structured deal that we executed involved the allocation of assets to an asset leg which paid for the "premium" to the longevity leg, which gives us the required cash flow back to meet the relevant pension payments that the schemes had to pay. What was quite critical for us was that in the event of the counter-party default, those assets and the collateralised part of longevity that came back to us would put us back to where we would have been had we not done the deal. That was a quite

crucial part of the requirements we set to be able to execute the deal..

In conclusion the biggest fear was the risk of counter party default, the transaction falling apart at some future point and the assets used no longer being available to the scheme to allow it to meet its obligations, this is a deal needs to survive for a very long time.

CPA: Were there other types of de-risking structures you were looking at in conjunction with a proposed longevity hedge, which you might say were a 'close call' to have progressed with instead? Or was it very clear from the outset that the structured buy-in, as you call it, was the only appropriate model for you?

Jerry: Our key focus was taking out the longevity risk. There were options with the traditional insured route, the traditional buy-out route and we did explore those. As highlighted though, counter-party risk and pricing didn't work. Bolting on a pure longevity leg was also quite problematic, because again when we were looking at that deal, having that collateralised was quite difficult for most of the providers in pure longevity arena at the time our deal was executed. So for us after exploring all those other avenues, the deal we did which as said was a structured buy-in, ticked all the boxes, albeit with massive complexities within the deal to allow it to meet all our objectives.

CPA: Considering it was a structured buy-in, did you focus pre the transaction on the buy-out value of the hedge, and if so did you feel it would weigh negatively or positively in that eventual scenario?

Jerry: We did focus on the buy-out of the pure longevity side as a transaction but the pricing that we were seeing in isolation made it difficult to deliver without an increase in our scheme funding deficits. That was something the company was not very keen on naturally! The structured deal meant that we were able to leverage the asset we held. Again, we were fortunate to hold significant amounts of gilts and swaps which were all capable of being traded into the asset leg of the deal. The market dislocation meant that we could do that broadly cost neutral to the scheme funding. The asset leg was then able to feed the premium to the longevity leg of the transaction which in turn delivered the required pension payments. Overall the package worked, the legs individually would have been problematic.

CPA: Did you feel comfortable that come the point of the complete buy-out of the scheme, i.e. all of its risks and passing it across to a provider, did you look at the value of the longevity hedge in that scenario?

Jerry: We did. The complete buy-out is a package of all assets including longevity. The concern there was of course the counter-party risk. We were looking at close to £3bn of pensioner liability; the premium requested for the longevity risk being taken on was at a level that was not palatable to the trustees and the company. It was, we believed, well above the price we could justify.

CPA: Did you feel that at a later date in time, having the longevity hedge as part of the scheme when you are considering eventual buy-out options, that it would add extra 'value' in that scenario?

Jerry: Every pension scheme would need to work towards that scenario of complete buy-out and the structure that we have for the proportion that we've managed to hedge facilitates the option to move from a buy-in to a buy-out at an appropriate pricing where most of our risks are covered. That is definitely something in our long-term view that will be required and I believe what we've achieved will allow us to have that flexibility for the proportion of our liabilities that are effectively now already insured.

> ***"the biggest fear was the risk of counter party default, the transaction falling apart at some future point"***

CPA: So you believe the hedge gives an element of flexibility coming into a scenario of a complete buy-out? It could in fact add a level of value when you're talking with buy-out providers about taking on all of the scheme.

Jerry: Yes certainly, that's part of our equation and part of our deliberations – the longevity leg will be continually updated and our risk will be managed against actual mortality experience and projected longevity risk of the population covered.

CPA: How did you quantify the value of the longevity hedge both short and long term?

Jerry: We needed to look at it as an overall package. We worked out what we thought was the liability, the longevity risk and the projected value of that within our schemes. We then assessed the effective longevity assumptions underpinning the terms on offer. As these matched what we considered were our expected risks going forward it made the package work for us on what we considered to be broadly cost neutral terms.

CPA: Do you or the trustees have any regrets overall, or any aspects to the hedge you wish you could have structured differently, or elements you wish you have included in the structure?

Jerry: Overall the trustees and the company are satisfied with the transaction and the impact on risk it will have going forward. Our concerns now are to consider how we move from a pro-rate level of protection to over time take out the remaining risk that still sits with the schemes – that we expect will be via bolting on additional protection over time. We think we've managed our risk on the element of longevity risk and are in a good place to extend the coverage when the right assets are available and the market pricing works for us.

> ***"Our concerns now are to consider how we move from a pro-rate level of protection to over time take out the remaining risk that still sits with the schemes"***

Key learning points for us have been, being better prepared. It took us about 14 months from initial idea to completion. There's a lot of education needed and it is an incredible complex deal but then for a deal which is new and worth £1.9 bn that really is to be expected.

Overall we are satisfied but the effort and learning curve was quite painful for us but I suspect there's a lot of learning there that will make it easier for us and others going forward.

CPA: Because you were one of the early transactors of such a structure, have any surprises arisen since the deal was complete?

Jerry: Certainly being prepared to work long and hard and being prepared to be challenging with whomever you're dealing with and actually spending real time evaluating all angles of risk is probably the key learning point I would give others to take away.

If the work is put in ahead to set your objectives and cover off all potential risks and plan for future eventualities then there should be few material surprises – so far most things are going to plan and the real collaborative way we are working on managing the deal has been very refreshing.

CPA: On the point of it being particularly complicated, do you feel that the transactions are overly complicated and that there are ways they could be simplified?

Jerry: There will be, yes. Because we were leading edge, there were many aspects we had to work through to understand. Both sides were learning what the implications and the questions needed to be asked were, and what the downsides were. Having gone through those hoops once I believe it makes it more repeatable. There is a lot of legal documentation involved, the processes and contractual aspects in the main remain confidential but many of the principles are very much in the public domain. Having gone through the process the parties in the transaction now have a lot more knowledge of the issues they need to place on the table to help trustees through the process. I suspect the advisors who are involved would also have a lot more information that will support their clients getting through the knowledge and 'pain barrier' come their own transaction.

CPA: Do you think there is potential for a standardised transaction process to be put in place much as there is in other swap markets?

Jerry: Yes there will be, but that will come after there have been a few more similar transactions being completed. This should allow the establishment of some template documents which will lay the foundations for deals going forward. But as ever, the specifics of the scheme, the nature of the contract and the relationships you want to build will vary those, but probably lessen the work we and others will need to do to get future contracts drafted in the first place.

I would add that as a transaction process there is scope for standardisation as there is for managing inflation and interest rate risks. For longevity, however, the terms and processes adopted need to be very much tailored to scheme specific experience – that may be a little harder to establish simple standard processes for.

CPA: How many transactions will we need to see before this will happen, or how long away in time do you expect it to be until the 'out of the box solution' exists?

Jerry: It's a few years away I think, how many I wouldn't dare to predict because there are so many different providers potentially with their own particular style. It's possible that in say 3 – 5 years time, maybe earlier there will be framework documents which most of the lawyers will have seen and they'll all be starting to work together to co-ordinate and simplify.

CPA: Thank-you very much for your time Jerry, it's been very insightful and of interest to our readers I'm sure.

Interview with
Kelvin Wilson,
Director,
Grant Thornton

DIY Buy-out: Combining a pensioner buy-in with an index-based longevity swap

A pension annuity buy-in remains the most popular insurance based solution employed to de-risk defined benefit pension funds in the United Kingdom. Similar to a pension annuity buy-out, a buy-in hedges the main risks in defined benefit pension funds, namely investment, interest rates, longevity and inflation risks. Unlike a buy-out (which sees all the pension fund's liabilities transferred to an insurance company, the fund wound up and the trustees and employer discharged of their obligations to the fund) a buy-in is an insurance policy purchased by trustees of the pension fund to cover some of the fund's liabilities (usually pensioners in payment).

A buy-in requires a lower premium than a buy-out and is, therefore, more accessible to pension fund trustees an sponsoring employers. It is a partial de-risking solution, covering risks associated with only a portion of fund liabilities. It does not usually hedge the risks associated with deferred, non-retired pension liabilities.

Dealing with non-retired members and longevity swaps

A common approach taken to deal with risks associated with non-retired member liabilities are liability management exercises. These include, closing the fund to new membership, ceasing future benefit accrual, enhanced transfer value exercises and pension increase exchanges. A liability driven investment (LDI)strategy is also employed to mitigate the inflation and interest rate risks attached to these liabilities. None of these solutions, whether used in isolation or in combination, will replicate a buy-out in achieving full de-risking of the pension. However, it is possible to get to a de-risked position similar to a buy-out through combining a pensioner buy-in and an LDI strategy with the recently developed longevity swap solution.

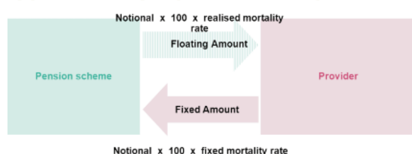
In June 2009, the first longevity swap for a UK pension fund was written. Before this, the only way pension funds could manage their longevity risk (the risk that the fund had to provide benefits to its members over a longer period than expected) was by purchasing a buy-in or buy-out. There are two types of longevity swaps - indemnity-based (or customised) swaps and index-based swaps. An indemnity-based swap involves the pension fund paying a series of fixed cash flows (based on a longevity assumption) in exchange for receiving the actual pension payments the fund makes to its members.

"indemnity-based swaps are not currently seen as a cost effective solution for pension funds with pensioner in payment liabilities below £300 million."

An index-based swap (see below) ties the swap payments to a mortality index, based on published national longevity statistics of the general population. It protects the pension fund against observed improvements in general life expectancy over the period of the swap (usually 10 or 15 years). It can also be structured to protect the fund against changing expectations for future improvements in life expectancy beyond the period of the swap.

Until recently, all longevity swap transactions involving pension funds had been structured on an indemnity basis. These transactions, like buy-ins, principally covered pensioners in payment. Unlike a buy-in, indemnity based swaps do not cover investment risk and usually do not cover inflation risk on the pensioners. Additionally, indemnity-based swaps are not currently seen as a cost effective solution for pension funds with pensioner in payment liabilities below £300 million.

An index-based longevity hedge provides protection against future increases in longevity, but only based on the general population and not the specific pension scheme membership.



1. A hedge against systematic longevity risk based on observed trends in a national population
2. It does leave residual basis risk, but solution can be calibrated to minimise this risk
3. Similar in concept to hedging a basket of equities with a FTSE 100 equity forward contract
4. Can hedge all pension scheme members, but particularly cost effective for deferred members

1. The pension scheme purchases a forward rate of mortality at, say, 1.2000%, based on a national population index, for a notional liability value of, say, £100m, for a 10 year maturity
2. After 10 years, the realised mortality index might be at, say, 1.1000%, suggesting that people have lived longer than the forward rate had implied ten years earlier
3. The pension scheme would receive a payment of :

Fixed Amount - Floating Amount

[£100m x (1.2000%) x 100] - [£100m x (1.1000%) x 100] = £120m - £110m = £10m

In February 2011, JP Morgan completed the first index-based longevity swap deal with a UK pension fund by entering a swap contract with the trustees of the Pall UK Pension Fund. The swap covered the longevity risk associated with the pension fund's active and deferred member liabilities. It is felt that index-based hedges are well suited to hedging the longevity risk of pension funds with significant deferred and active members.

find index swap contracts more transparent, easier to understand and easier to standardise than individual, indemnity-based contracts that references a specific pool of pension members.

The largest indemnity based transaction to date stands at around £3 billion (Abbey Life/BMW UK Pension Scheme, Feb 2010). It is unlikely that we will see a single transactions in excess of £10 billion, unless current market capacity increases for insurers (capacity £12 billion pa) and re-insurers (capacity £20 billion pa). To increase capacity and facilitate multiple swap transactions for longevity liabilities in excess of £5 billion, an index-based structure will need to be utilised.

What about basis risk?

Basis risk, in the context of pension fund longevity risk, is the risk that the population from which a longevity index is constructed may have a different longevity experience to that of an individual pension fund. This basis risk can be reduced by calibrating the hedging index to reflect different age, gender, geography and socioeconomic class. It is believed that calibration can allow an index-based longevity swap to hedge up to 85% of a pension fund's longevity exposure. Generally, the smaller the size of the hedged portfolio (or pension fund), relative to the hedging portfolio, the larger the mismatch or basis risk. When deciding on whether to hedge any risk, it is necessary to understand what costs are saved as a result of implementing the hedge. This saving should then be compared to the cost of implementing the hedge. The same is true for hedging longevity risk through the use of an index-based solution.

> ***"It is believed that calibration can allow an index-based longevity swap to hedge up to 85% of a pension fund's longevity exposure"***

Longevity de-risking through the use of an index-based hedging instrument can have a number of benefits for pension funds and the wider pension and insurance de-risking market; (i) an index-based solution is currently the most practical option for companies and pension fund trustees who are looking to hedge longevity exposure on deferred and active fund members; (ii) some pension funds are too large for it to be financially attractive for them to hedge their entire longevity exposure using an indemnity-based swap or annuity structure; (iii) having a standardised index to reflect longevity exposure creates the potential for greater liquidity in the market, whilst lowering the cost of hedging; (iv) new investors (a source of greater liquidity and increased market capacity) will

Collateral and terminating the swap

Collateral is used as security between the swap counterparties, protecting each party should either default on their payment obligations under the swap contract. It is also important that the parties agree terms for terminating the swap. At some point into the future the pension fund might wish to execute a buy-out or transfer into another pension fund arrangement. In these circumstances it might be necessary to novate the swap or convert it into an annuity policy.

> ***"An index-based longevity swap structure might be the best vehicle for increasing the de-risking market's capacity"***

Combining index based longevity hedging with LDI and pensioner buy-ins

Employers and trustees investigating a pensioner buy-in should combine this strategy with longevity de-risking on their non-retired liabilities to achieve a more holistic de-risking outcome. If the pension fund has implemented an LDI strategy, then the fund could be in a situation whereby all risks associated with its retired pensioners' are hedged (through the buy-in), up to 85% of longevity risks associated with its deferred liabilities are hedged (through the index-based longevity swap) and a significant proportion of interest rate and inflation risks are hedged across the fund(through the LDI strategy).

The de-risking market is familiar with the notion of a "DIY buy-in" - where a pension fund combines a pensioner indemnity-based longevity swap with a LDI strategy to achieve a position that is deemed to be close to a pensioner buy-in. In a similar way, a pensioner buy-in can be combined with an index-based longevity swap and an LDI strategy to achieve de-risking of the pension fund that is close to a buy-out position – a DIY buy-out. A DIY buy-out is likely to be appealing to pension funds for the following reasons: (i) it will achieve a higher risk reduction to cost ratio than a DIY buy-in (as it addresses the risks associated with non-retired, deferred members); (ii) apart from posting of collateral, the index-based longevity swap is unfunded, requiring no payments from the pension fund or the employer; and (iii) combining a pensioner buy-in and an index-based longevity swap with an LDI strategy on deferred member liabilities will be cheaper than executing a full buy-out and settling the liabilities with an insurance company.

Conclusion

There is a range of de-risking solutions to address different strands of pension fund liabilities. A buy-in, whilst good solution for dealing with nearly all risks associated with retired pension fund members, is not usually cost effective for managing the risks associated non-retired deferred and active members. An indemnity-based longevity swap, whilst protecting specific longevity experience of a pension fund does so only on a portion of the fund (usually the pensioners in payment).

An index-based longevity swap is seen as a good solution for hedging the longevity risk associated with non-retired pension fund members. Basis risk can be controlled through calibration of the longevity index to achieve up to 85% hedge effectiveness. The extent to which this is seen by pension fund stakeholders as sufficient longevity protection will depend on the risk reduction to cost ratio.

"DIY buy-in" is now a common term used to describe how pension funds can replicate the risk mitigating features of a pensioner buy-in through combining a pensioner longevity swap with an LDI matching strategy. Following this principle, a pension fund could go one step further and replicate the risk mitigating features of a buy-out through combining a pensioner buy-in and an index-based longevity swap on deferred member liabilities with an LDI strategy to achieve a "DIY buy-out".

There is over £1 trillion defined benefit liabilities in the UK. Unless capacity to absorb these legacy employment benefits increases significantly, employers and trustees will be left with the unenviable task of managing the risk and bearing the cost of running off these liabilities for well over the next 30 years. An index-based longevity swap structure might be the best vehicle for increasing the de-risking market's capacity to absorb defined benefit liabilities. Through contract standardisation and bringing greater transparency to longevity hedging, it is expected that index-based hedges will be more accessible for smaller pension funds and more amenable to capital market investors. While it is likely that smaller pension funds will experience greater basis risk, the structure will appeal to insurance and re-insurance companies with large portfolios of annuities and pension liabilities. Insurance and reinsurance companies can use index-based longevity swaps to transfer longevity into the capital markets, benefit from lower capital requirements and increase their capacities to absorb more longevity risk from future transactions with defined benefit pension funds.

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Half the board say now, half the board say wait.
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PREPARATION FOR THE TRANSACTION: MEMBER COMMUNICATION, PLANNING AND DATA

Foreword by Kelvin Wilson, Director, Grant Thornton

Start to finish – how can trustees and transaction stakeholders set a realistic cost, time and resources plan to completion?

Comparing longevity hedging, buy-ins and buy-outs and other de-risking options

Factors affecting ageing and why the first person to live to 1,000 has been born

Setting a “Trigger” to act - managing out your liabilities

Foreword by **Kelvin Wilson,** Director, **Grant Thornton**

As pension fund de-risking becomes an increasing desire of trustees and sponsoring employers, it is important that all stakeholder goals and objectives are achieved as efficiently as possible. However, with a vast array of de-risking options available, ranging from liability management to buy-ins, longevity swaps and DIY buy-outs, the key will be to have a good governance framework to underpin to securing pension benefits and effective management of risks.

A good starting point for any de-risking objective is to identify and understand the risks to which the pension fund is exposed. This will include:

i. Investment risk – the risk that the pension fund does deliver the required or expected investment return;

ii. Economic risk – the risk that interest rates fall or inflation is higher than expected;

iii. Longevity risk – the risk that pension fund members live longer than had been assumed

iv. Employer covenant risk – the risk that the employer is no longer able, or willing to underwrite risks within the pension fund

v. Counterparty credit risk – the risk that another party involved in the operation of the pension fund defaults on its obligations to the fund

Although trustees are typically the primary decision-makers in any plans to de-risk, they should seek a consensus among key stakeholders, including the pension fund sponsoring employer. This is to ensure that there is a convergence of objectives. Various factors should be considered, such as risk management, financial and business objectives, funding levels of the pension fund and any additional funding that might be necessary and which is available.

De-risking may be just one of many things on a long and complex agenda of pension issues which need to be considered. With the limited trustee and employer resources available, the ability to execute the most appropriate risk management solution may be restricted for many pension funds unless there is good utilisation of sub committees or working parties to focus specifically on pension de-risking.

The committee would be responsible for articulating the overall de-risking goal – is it to reduce investment risk, longevity risk or to wind up and buy-out pension fund liabilities? The committee should be comprised of representatives from all stakeholders such as the main trustee board, the corporate sponsor, advisers and any relevant union groups.

Once a framework has been put in place, if there is a need for the sub-committee to act quickly, perhaps due to potentially adverse market movements, it would be advisable to put in place a delegated structure that avoids the need to consult the full trustee board at every stage. This can be achieved by allocating responsibility for the key decisions that need to be made. The committee would have an agreed terms of reference in place under which they can act, with appropriate delegated authority.

If you are planning on de-risking your pension fund, you might want to consider doing the following:

- Involving key stakeholders from the outset – A Joint Working Party or Committee is key to ensuring that the process runs smoothly
- Resolve potential issues upfront – anticipate potential issues that might create a delay or increase the cost of the potential de-risking solution, e.g. guaranteed minimum pension equalisation
- Provide accurate data – whether you are doing a buy-in or any form of longevity swap, good quality data will be beneficial in terms of potentially lowering the cost of the de-risking solution
- Document benefits concisely – this will help to save time and ensure that the right levels of benefits are provided and secured
- Assess investment strategy – whether you are doing a buy-in or a longevity swap, it is important that the pension fund has the appropriate assets to transfer to an insurer or to use as collateral in any swap arrangement

Moderator:
Andrew C. Reid, European Head of Pensions Origination, Capital Markets and Treasury Solutions, **Deutsche Bank**

Panellists:
Erik Le Grand, Director, Corporate Pensions, **Nielsen**

Panellists:
John O'Mahoney, Finance Manager, **Santander UK**

Panellists:
Philip Mendelsohn, Managing Consultant and Trustee, **Atkins Pensions Plan**

Panellists:
Martin Bird, Longevity Solutions Group, Global Risk Services, **Aon Hewitt**

Start to finish – how can trustees and transaction stakeholders set a realistic cost, time and resources plan to completion?

Andrew Reid: As an introduction, let's think of pension de-risking from the highest level. It must make sense at the highest level provided it's at the right price, the de-risking provider's solution performs in line with expectations and there is a high degree of security around that solution. It makes sense for the trustee, because it helps the trustees to provide members' benefits securely in accordance with the trustee rules. It makes sense for the corporate too, because it removes risks that can impact on corporate performance, the corporate probably has to spend less time on pensions management issues and is probably attractive for investors as we would suspect most of them would like to minimise exposure to pensions risk when they invest in a particular company.

What this session is going to look at is how corporates and trustees decide what to de-risk and then how to implement it. Corporates and trustees are faced with a raft of pension risks and a lot of ideas on ways of removing these risks. They need to decide which risks to focus on and then which solutions will take away those risks. Once they've decided on removing a particular risk with a particular solution they then need to agree structure and price for that and finally they need to have a robust project plan to implementation. That's what we'll be covering today.

I'd like to start off with one initial high level question in terms of looking and analysing the risks in pension schemes and how to deal with those risks and I'd like to ask that initially to Erik.

Drawing on your experience Erik, how does your scheme analyse pension risks? Does it have a pensions risk register, for example? Does the company integrate its pensions risk management with its overall enterprise risk management? How does it keep abreast of new developments as new information comes in?

Erik Le Grand: At Nielsen we are very de-centralised from origin so there is no overall risk management from the company's perspective so to speak, it's more handled on the specific fund level. It is very dependent on the situation in the different countries. In Holland we have been covering long life risk already for over 30 years, so we are well covered there, but in other countries it's different. In my experience there is no companywide risk management for aspects like longevity risk.

> ***"Corporates... need to decide which risks to focus on and then which solutions will take away those risks"***

Andrew: Do Philip or John have anything to add to that from a corporate or trustee perspective?

Philip Mendelsohn: We as a trustee board do maintain a risk register and we update that regularly and review it. The corporate does manage risk very carefully across the whole of the group and although I don't know specifically, I'm sure they've identified the final salary pension scheme as being part of their risk. One of the interesting aspects is that we were refreshing the risk register a couple of months ago and we've actually adopted the same tool the corporate uses, though obviously our trustees data is private to us, but it seemed sensible for the company and the trustees to adopt the same tools so it is all organised and classified in the same way.

Andrew: Anything from you on this point John?

John O'Mahoney: We're in a slightly different situation from my fellow panellists in that being a bank we're FSA regulated and you're probably acutely aware Andrew of the risk assessments the FSA carries out on pension schemes. We're slightly more focussed than the trustees to keep in line with the FSA, but we also have to provide information for the Bank of Spain being a Spanish owned company. So we do have the overall corporate view on risk in pensions at the group level in Madrid which is filtered down.

Andrew: And to Martin from the adviser

perspective: any comments particularly from the viewpoint of how you take ideas to your clients?

Martin Bird: My main observation having seen the market develop over the last two or three years, is that when you look through the risk registers that trustees and corporate typically have, they typically haven't had longevity risk tapped as one of the big risks. Alternatively, they have had it there but they've struggled to quantify or incorporate longevity risk management into the framework. That's something we're seeing changing quite a lot at the moment. Asset risk has been relatively well understood and it's not uncommon to see value at risk frameworks, trigger based frameworks for de-risking on the asset based side. Trustees and corporates have been grappling with how they think about longevity risk, not least if it doesn't fit neatly into a traditional asset risk framework. There's been a tension there between recognition, partly through experience that longevity can be very financially painful versus the frameworks that are in place that have de-facto lead down asset de-risking. We've seen a lot of development on that side and the multitude of products that are out there, just getting those onto trustee and corporate agendas does help get the juices flowing in terms of what's now possible. The market's developing very quickly now.

John: Picking up on Martin's point on longevity, it is one a lot of schemes don't pay attention to. One of the troubles with it is that it is a risk or a movement in risk that is imposed by the Pensions Regulator over the last couple of years and step changes in actuarial assumptions which are being fed through by the actuarial profession, but don't necessarily reflect the underlying changes in mortality.

Andrew: Have you done some analysis John of your scheme that's lead you to this thought?

John: We've looked at our schemes but my experience over the last 6 or 7 years is that the actual changes are more announcements from the CMI as to, 'here's a new mortality table which they've moved from the life assurance base to the actual pension scheme base tables', but also the Pensions Regulator saying, 'funding has got to take into account tracking on future improvements in life expectancy'. That has been a big step change for in-house schemes, particularly the corporate in how they have to look at the pensions because it has an immediate impact to the funding which may or may not ever come to pass in reality.

Martin: You're right John that in terms of recognition of the change in longevity, it has in the pensions space come on stage in steps or it has been rather lumpy. In reality it's been much more of a gradual drift. The challenge has been that, without stating the obvious, that it's not until people die that you know how long they've lived! It wasn't until the early 90's that there was this golden generation of people who we were expecting to be dying who were still alive and there has been a huge amount of work on all the data that's been coming through to say that the marking of the books hasn't really reflected what's actually happening in the underlying population. I suspect that's come on stream partly driven by the data analysis, partly driven by regulations that is actually saying, 'there's a lot of pension schemes out there who aren't recognising the most up to date information that's available', so there's been a regulatory push. One of the reasons why the market has developed is that pension schemes have caught up, albeit in quite a lumpy way, but now they are very aligned with the insurers or the re-insurers price and trade the risk and in a sense that's what has driven the market.

Andrew: That's an interesting point. Our experience has been a general acceptance that longevity has been pushing out, but there are widely different views on how much it's been pushing out, which has helped to create the longevity market. There is also an acceptance that there is a prudential regulatory regime that has to be complied with. One of the aspects that has helped push the market along has been that if a corporate observes that it has to reserve particularly prudently, then once that money goes into a pension fund surplus emerging from a prudent longevity assumption would take a very long time to emerge. In that case, if you're having to hold a reserve greater than best estimate, why not take the risk out by de-risking, if that reserve will go substantially towards the cost of de-risking or even meeting it?

Martin: We see that a lot Andrew. A lot of corporates have taken the view that they can take a reserve to cover the risk and they might be comfortable that they're holding an appropriate level of reserve. However, if we look back over the last ten years this has continually been a risk that has gone against us and if we have to swap out that self-insurance reserve for relative certainty of a transaction, then we think the reserve is broadly equivalent to an insurance premium, so why don't we swap out for certainty.

> ***"if you're having to hold a reserve greater than best estimate, why not take the risk out by de-risking"***

On the surplus point, yes there might be a recognition that you're paying away a premium above best estimate, but I guess the reality is that the corporate doesn't see the surplus coming back out of the pension fund quickly and they'd rather lock-into the position now than sit around and wait for 20, 30 or even 40 years for the surplus to gradually unwind. They'll then be a risk along the route that if developments move against them there's potentially a pain and a missed market opportunity.

Erik: I agree on that because it has to do with the horizons the company is taking, so it's short term cash versus long-term de-risking.

Martin: That's the other point, if you look at it through the lens of pure cash funding, at least in the UK because of the funding rate regime driving cash contributions, trustees are forced to hold prudent reserves. If you can

lock out at that level and effectively crystalise the cash position then it would be a very attractive position to a lot of corporates. From a trustee perspective, again if you can take the risk off the table and the corporate is happy with that then why wouldn't you? Obviously subject to being comfortable there's a sensible underlying value for money assessment that's saying it's a reasonable premium to pay for the risk that's being insured.

Andrew: Let's move on now to the specifics of longevity hedging and bulk annuity projects; in particular, when you start off with any project you think about objectives, you hope that those objectives are achieved and you want to make sure that any new issues or problems don't arise by trying to remove some risks. It would be helpful to share experiences on objectives with projects you've been involved with and any fears that they might not be achieved and how you went about mitigating those fears. John, could you please answer that, drawing particularly on the FSA regulatory regime you have to comply with?

Turning to the FSA regime, there's a consultation letter published on the 14th February on their website where they say you do have to demonstrate that you've taken actions in advance of their stress testing which is a 1 in 200 year test. Therefore to demonstrate that you have done something on longevity has quite a lot of impact on the capital required as a bank, an insurance company or even a building society now.

Andrew: Any comments from Philip or Erik?

Erik: I was considering more other risks such as incomplete data and issues like that, plus all the communication and legal issues around a project like this.

We have implicitly been undertaking a de-risking project over a long time because we have a guaranteed contract for longevity with a re-insurer. I question though whether trustees understand everything about such deals including incomplete and wrong data as well as communication and legal issues. This combined with the added factor that our trustees are

"it makes sense due to the majority of corporates being no longer in the business of running pension schemes"

John: From a corporate perspective, I would encapsulate the previous comment that if you're having to fund in accordance with prudent assumptions dictated by the Pensions Regulator and you can cap out the risk around that value, then it makes sense due to the majority of corporates being no longer in the business of running pension schemes. That is the key objective because the experience I've seen over the last ten years is that it's almost like a bottomless pit: you put the money in, three years later the actuary comes back and asks for a little bit more!

based in a different country than the corporate. Those things I see are the biggest fears from a trustee perspective.

Andrew: As a provider, we are very keen to get good quality data and if we are concerned that the data aren't of good quality then we will take a margin to protect ourselves. It is really worth spending the time to get the data quality up.

Philip: The key element here is that an agreed objective is vital. For a joint agreement such as this between the sponsor and the trustee, you need to ensure alignment, so you actually put together the agreement jointly. Trustees are trying to mitigate their risks but at the same time they've got the insurance of the sponsor standing behind them. The sponsor's got a different set of objectives to the trustees. It's about trying to come up with a set of objectives that is right for both sides, so they both sign up to it.

Andrew: Martin, any comments? I bet you've seen a few working parties at your clients!

Martin: Philip absolutely hit the nail on the head there. The common theme in relation to successful projects is about having from very early on a joint working group where both trustee and corporate have very aligned interests in terms of de-risking. The objectives tend to be aligned but inevitably corporates will have a set of parameters that are very important to them, such as accounting issues and cash funding. Trustees will be concerned about security, member interest and funding implications, all of which are generally pushing in the same direction. But it's important to run through and be very clear about how the decision making process will work, what's the evaluation framework, how do we think about value for money, all of those things. The reality is that these are very complicated transactions. Therefore having a very small focus group that diverts attention and resource to actually working through this in a logical way with the right amount of focus definitely leads to success in the long run.

The other observation I would make is the sheer number of advisors that sometimes get involved in these projects. You need to have one lead advisor that almost has license to project manage the whole thing and make sure everyone comes together in a coordinated fashion providing the right advice at the right time.

Andrew: There are a lot of skills needed in-house as well. What sort of in-house skills should you want in your working party?

Martin: It varies by organisation and depending on where responsibility for pensions sits within

an organisation. What you're typically looking for is someone from a finance or treasury perspective, who will have a very hands on role in the transaction. Whoever is responsible for corporate pensions needs to be involved as well. What we have seen on the trustee side is the use of delegated subcommittee arrangements, because the truth is the trustee board doesn't want to know the nit and grit of every transaction, they just want to know procedurally, what are the drivers behind the transaction and have comfort that they really work.

Andrew: Philip do you agree with Martin from your experience?

Philip: Very much so, we use the corporate treasury function which has a strong understanding and we find that to be quite useful. Obviously the corporate has a responsibility for pensions and there's clearly value in pension schemes using the company to manage that well.

Andrew: Any comments from Eric or John, particularly thinking about streamlining the process? A number of comments have been made already, but from our experience as a provider one of the factors that makes a transaction happen more quickly is where there is early alignment between the corporate and trustees regarding what they want to do and the reasons why.

John: One area which I like which was picked up earlier was on the data side, because that could have an impact on data quality issues and can derail a whole project if you're not careful.

Martin: It goes back to what Andrew was saying in regards to quality data. Even for trustees and corporates who are not contemplating a transaction today, it's really good discipline and good governance to get data shipshape now, because when there are market opportunities to lock into a de-risking transaction you need to be ready.

Andrew: Let's think about the pension scheme members. We need to communicate to them what is going on, but we're conscious that a few might have concerns regarding changes, particularly if they're not familiar with the solutions being used, and the last thing we would want to do would be to raise concerns unnecessarily. What are your experiences of involving members and at what time is it right to communicate to them?

Philip: The issue is whether you're taking these measures as buy-ins or buy-outs. In terms of a buy-in, it's really an asset issue as far as the members are concerned. It is the buy-out side that is my main concern as a trustee. If you're going to pass on the responsibility for future payments for pensioners then you have to ask the members. You have to develop an offering before you go public and allow a lot of time for that consultation with members. I haven't got the experience of how you trade these off but a concern I have is making sure you can consult properly.

John: It's unlikely many buy-out transactions are going to take place unless the scheme is closed completely to future accrual and you're just looking at the pensioner population. My belief is that in the UK the majority of transactions are going to be in the buy-in space and given the desire for publicity by the providers and some of the advisors, that has to be handled quite carefully. The transaction does need to be communicated, but given the fact that nothing in effect changes, it can be handled towards the end of the process.

Erik: I agree because I wouldn't like to have a project where you're dependent on the individual consent of all of the participants, it will be a communications nightmare before you know it!

Andrew: John's comments were, I think, in relation to buy-ins and buy-outs. Do the answers change for longevity hedges? There is a lot of client interest in longevity hedging. We as a provider like to offer the full range of solutions from longevity hedges to annuities. In terms of the number of queries we're getting, three to one are for longevity hedging compared with annuity solutions. Is it different for longevity only transactions? Martin?

Martin: I think that's a similar picture to what we see Andrew. The reality is buy-ins and buy-outs are still out of reach in terms of affordability for many schemes, whereas the continued improvement in life expectancy has resulted in schemes being keen to hedge out that risk, if it is affordable and is part of the long term de-risking game plan.

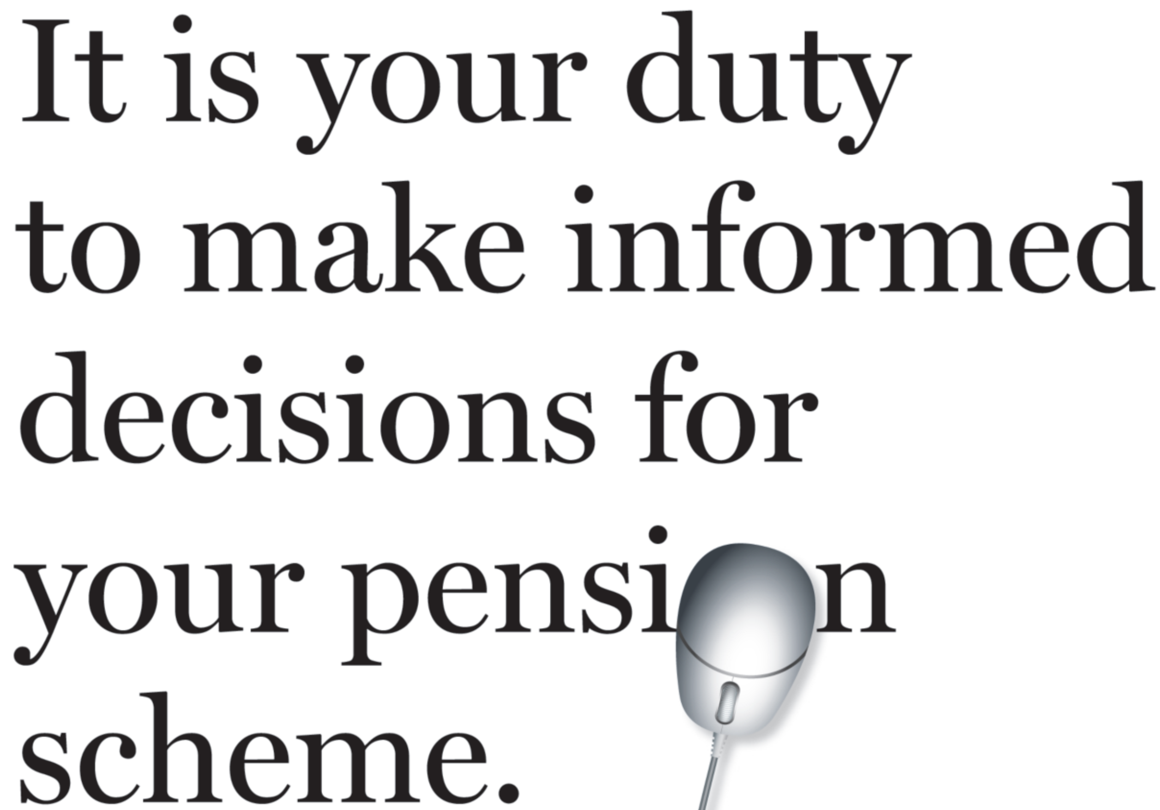
> ***"when there are market opportunities to lock into a de-risking transaction you need to be ready"***

In terms of member communication, all of these transactions are related to de-risking so the question to members is, why are you de-risking the pension plan? One of the main drivers is to increase member security. The motivation for running a pension plan is member security. Pension de-risking transactions are designed to enhance that, therefore I think it's absolutely imperial that once these transactions are put together, they are communicated extremely carefully to the members, because the added security is what members need to understand.

Philip: The trustees should have a whole game plan for looking at the whole thing. You shouldn't be looking at these things in isolation, you need to have some sort of strategy in place that ticks these things off, in a sensible order and make sure the funding is available to achieve a strategy in the long term for the benefit of the members.

Martin: There are going to be differences in opinion between trustees and corporates, but the whole industry seems to be moving in the direction of de-risking. It's more a question of when rather than if pension plans will be de-risked. Even if you're not planning on a de-risking transaction right away, going back to my point made earlier, there's a lot of ground work around data that can be done now, it's good preparation and won't be wasted as part of that long term game plan.

Andrew: Thank you for joining us gentlemen.



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Panellists:
Jerry Moriarty, Policy Director, **Irish Association of Pension Funds**

Panellists:
Åmund T. Lunde, Chief Executive Officer, **Oslo Pensjonsforsikring**

Comparing longevity hedging, buy-ins and buy-outs and other de-risking options

Pádraig Floyd: What are your gut instincts as to the quality of longevity hedging and pensioner buy-out transactions to date?

Jerry Moriarty: From an Irish perspective there isn't a huge movement towards buy-outs or longevity hedging transactions, partly because there aren't many providers in the market. Our largest schemes would be small by average UK or Dutch standards. It's not an area people have looked into hugely, though one provider has established a buy-out offering here. As people are moving more towards taking risk off the table, longevity hedging is becoming an area people are beginning to look at, but there isn't any real experience to date.

In terms of whether it is the right time or not now, I believe it is very scheme specific. Not only are the market conditions important but also conditions within your own scheme as well as in terms of where you are and where you want to get to.

Michael Chatterton: You need to look at each scheme's particular circumstances, funding levels, sponsor covenants and understand that if a transaction such as this is conducted you're really exchanging a covenant of the sponsor versus whoever the new counterparty would be. I would also say that new Solvency II regulations are unlikely to make prices cheaper in the long-run. That might point to doing something in the shorter-run. Then fundamentally the considerations are ones of affordability and security.

> ***"if you give away longevity risk then you give away the funds that are required to get the good investment returns"***

Åmund T. Lunde: I come from a Norweigen company and I thus have a Norweigen perspective on pension fund and insurance covenants. We have fairly strict regulations regarding funding levels so you don't have a case of pension funds not having enough funds, and that's with a low interest rate as a discount factor.

I often think that being in the pensions business is being long longevity risk. You are really a buyer of longevity risk and then you're paid to allocate to financial markets to gather some kind of return. In fact if you give away longevity risk then you give away the funds that are required to get the good investment returns. I've therefore only considered the issue of protecting against longevity risk as being to buy a kind of re-insurance to protect against adverse developments in longevity. That's essentially the only way as a pension fund to think of it, you can't just get rid of all your risk.

Pádraig: Considering you come from a very different position in terms of funding compared to our other panellists Åmund, what do you see as the key factors influencing any decision you'd make on de-risking in a scheme? You said you can't get rid of longevity risk, so what are the key factors for you?

Åmund: We've only been thinking about this over a short period and with the arrival of Solvency II all insurance companies and pension funds in the Scandinavian countries will be affected. The interest we would have in such a subject is that the capital required would be increasingly substantially, so we will be going from a position where we're fully funded and have a very good capital position to that of a tight capital position. It will mean we'll either have to look to our sponsor to put in more equity into the fund, or we'll have to de-risk and by that I mean take on less investment risk. That is something we're doing. In thinking about

whether to take re-insurance or whether we take off the longevity risk, then either way takes us down the capital requirements under Solvency II. So it would mean meeting capital requirements that are substantial compared to the ones we have today.

Pádraig: Michael, what are your views on the key decisions that need to be taken on the preferred de-risking vehicle?

Michael: I'd go back to affordability and security. As Åmund said, Solvency II is affecting affordability. Another aspect that's affecting affordability is the way the pension scheme is assessing the reserves that it holds. In the UK we have the second round of scheme specific valuations going on. Typically, scheme actuaries are taking a more prudent view on longevity and this often means insurance products are starting to look more cost effective.

The other piece of security we need to consider is the covenant as said earlier and collateral arrangements that protect the pension scheme should a contract of insurance be affected.

Pádraig: Jerry, you said that longevity hedging and buy-outs are not a big area for your schemes at the moment. Is there anything that might influence greater up take or any factors that might influence more people to look at them?

Jerry: Yes, one of the areas which we've been looking at in Ireland is reviewing our reserving and funding requirements. You have to price your pension liabilities by reference to market annuity rates, so even though large DB schemes will not purchase annuities because they view them as being expensive, they still have to reserve as if they were, because it's a wind up funding standard. Irish annuity rates are priced off German bonds at the moment, so we've been looking at whether there is some basis for pricing them off Irish government bonds, which opens up a new source of funding for the government that they need! Insurers will only do that on the basis that if there was some form of default then they could adjust the annuity. That would lower the price dramatically if annuities lowered the liabilities within pension schemes and open up a new option for trustees who do want to de-risk by buying out their pensioners through annuities.

Coming back to Michael's first point in the first question, it depends on where the scheme is and where they're trying to get to. If an Irish scheme is underfunded at the moment then most of the risk that lies within the scheme is with the active and deferred members, because in a wind up there's a priority order for pensioners. But if for example you were to buy all your pensioners out with a sovereign annuity, then all of the risk suddenly goes across to the pensioners. What you'll probably find is that trustees have this position where they're trying to balance the risk in some way. I do think it is a case again when it comes to assets being quite scheme specific, a case of where you are, where you're trying to get to and the best way of getting there.

Pádraig: That's interesting that you're looking at valuing on the basis of the Irish bonds rather than the German ones. What has your experience been of leading people away from bulk counter party transactions? It is understandable some people will fear having any third party involvement, but insurance companies have survived the crisis fairly well. What do you think the experience of the financial crisis has been? Do we trust larger financial organisations to look after our financial responsibilities or is it irrelevant if the value is apparent?

Michael: If you look at the experience of 2008, it is supportive of the capital markets. In the case of Lehman, the combination of the ISDA agreements and the CSA's that had been put in place for the various client swap transaction that resulted in little or no loss to their pension fund clients.

What the events of 2008 did accomplish was to highlight the need to have additional security over and above the statutory minima, so we're seeing more collateralised structures where each party agrees to deposit funds with the other, as the value to the other counterparty increases.

Jerry: I would agree with Michael, the whole idea of counter party risk has become more apparent, it's a question people ask a lot more than they might have previously. But I think the structures are in place to get past that. If the value is apparent and people are satisfied with the answers that they're getting, then they're not going to be wary of it. Even in the example I gave going back to Irish annuities; it is a question that comes up a lot.

> ***"What the events of 2008 did accomplish was to highlight the need to have additional security over and above the statutory minima"***

Even though they're not available yet, people are asking about the danger of default. I know that some of the annuity providers are looking to mitigate that in some way by blending the products they offer with bonds from other governments, which wouldn't have the same default risk priced in. It's a question people are more conscious of asking, in regards to buying an annuity, how strong is the provider?

Åmund: The financial crisis raised some questions on whether you could really solve all your problems through derivatives. One of the aspects which stood out to me when reading an article on longevity, is that if longevity risk is indeed a problem maybe we haven't charged a large enough premium from our sponsors. You have to get your premiums increased in order for you to pay pensioners for the rest of their lives, and maybe that is an easy way of solving the problem. If you enter into a complex agreement you might think you're getting rid of one risk, but you're really taking on another risk.

Pádraig: In Norway can you go back and retrospectively ask for higher funding from an employer or do you just address future contributions?

"data is perhaps less of a significant issue or impairment to doing a bulk buy-out than it is with an ETV"

Åmund: We can increase future contributions. We have all at one point been allowed to use financial income on the fund to cover an increase in longevity. That is an important part of the contract so you can reduce the amount of risk you're taking on.

Pádraig: The last question is about bulk transactions against single transactions such as enhanced transfer values (ETVs). How do you think they compare as there are many who won't touch ETVs believing they're a miss-selling case waiting to happen.

Michael: Both types of exercise involve a lot of work. Both are an excellent way of reducing risk within a pension scheme and are offered to members as an opportunity to improve their situation.

In relation to an ETV exercise or any other type of liability management exercise such as pension increase exchanges, the Pensions Regulator in the UK has taken a fairly firm view that pension trustees such as ourselves, should start from the view that this may well not be in the best interest of members. Certainly for a trustee to approve a particular ETV arrangement, they need to know that the offer was acceptable and appropriate, that this was supported by advice from an IFA and was very well communicated so that the members can understand it.

The other key difference is sorting the data out. If you're going to do an ETV exercise, you need to have accurate data for all the members – you need to know where everyone lives and so you need to clean your data before you do any of that.

The difference with a bulk buy-out is that the insurer will calculate the price using its 'best guess' based on the data available. Once a particular group has been transferred the insurer will work with you after you have agreed to do the buy-out to sort the data out. Experience in the UK suggests that when that data is cleaned over the next 6-12 months, that the price adjustment is less than 1% percent, so data is perhaps less of a significant issue or impairment to doing a bulk buy-out than it is with an ETV.

Jerry: We don't really have enhanced transfer valuations for lots of reasons. As a general perception, bulk transactions are usually easier than single transactions, but they both require a significant amount of work as Michael says. I wouldn't think that the cost savings are hugely different between one and the other, because there's a fair amount of work that needs to be put in before you can effect a transaction.

Pádraig: Are there regulatory reasons, or is it through common practice in the industry that ETVs haven't been addressed?

Jerry: It's often been common practice. I'm not sure if there are any regulatory hurdles, I can imagine that they will be put there because our fund regulator often takes the lead from the UK regulator.

Pádraig: Åmund what is your position?

Åmund: It's fairly similar in the way that if a company decides to close its pension fund or defined pension plan to new members, or if it terminates the fund then all the risk is transferred to an insurer. That was very attractive in the market until interest rates plummeted. Insurance companies have really been competing to get that kind of business. While if it's a single member then there are all these different types of decisions, the ones who want to transfer and the ones who do not want to transfer. If it's about transactions usually it's actuarially much easier to price it, and the insurance company are quite sure that they get the good risks, not only the bad ones.

Pádraig : More on the investment and asset management side, do you think we will see greater investment by schemes within longevity, in markets like settled life policies?

Åmund: As a pension scheme you are more a buyer of longevity. You can see this maybe more from an insurance company being inclined to buy these types of products. If they use these types of products then they will get a better portfolio so that they can take down their total risk. They could buy longevity bonds or enter into longevity swaps, rather than buying a whole insurance company where they don't know what kind of risks they will take on.

Michael: I haven't seen anything specifically, but UK based pension schemes are looking at more broad based investment strategies; emerging market equity is now a central component of many investment strategies, people are thinking of emerging market debt and commodity investments.

Jerry: I would agree from an Irish perspective, schemes are looking towards diversification and also to better align their investment strategy with their liability profile. Again funds are looking at investments like emerging markets, they are also looking at countering inflation risk, so I do think it's something that people will be looking at more.

Pádraig: Thank you very much for your contributions; it's been a pleasure talking to you all.

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Special interview with **Aubrey de Grey,**
Chief Scientific Officer, **SENS Foundation** author of ***The Mitochondrial Free Radical Theory of Aging*** (1999) and co-author of ***Ending Aging*** (2007)

Factors affecting ageing and why the first person to live to 1,000 has already been born

Clear Path Analysis: Aubrey thank you for joining us. The subject of this interview is the factors affecting aging, why the first person to live until 1,000 has already been born and how this will affect society. To start us off could you please explain the factors you believe affect the aging process and those that you believe can be targeted?

Aubrey de Grey: First of all, I don't know for a fact that the first person to live till 1000 has already been born; I just think that it's very likely. The nature of ageing is reasonably understood at this point, so my view on that is not particularly controversial. Essentially aging is a side effect of being alive in the first place. Essentially we have to remember that the human body is a machine, even though it's a very complicated machine compared to ones that are manmade. Like any other machine it causes damage to itself, as a normal side effect of its normal operation, and that damage accumulates progressively over time till the damage gets to a level that gets in the way of the normal operation. The specific contributions that I've made and the concept that underlies what we do at SENS foundation is to categorize the various types of damage in a straightforward way. Normally what I do is put them into 7 different categories and the specific classifications that we have adopted, is useful because it has guided the description of interventions. However, we're not interested in stopping these types of damage from happening in the first place, which is very difficult to do because they're very bound up with metabolism itself. Rather, after those types of damage have been created, we should periodically go in and repair these types of damage, at the molecular level and cellular level, so that we can stop this damage from reaching this pathogenic level of abundance, that causes things to go wrong later in life.

CPA: You made the point to me earlier that it's not necessarily guaranteed that someone living to 1000 has been born. Realistically is it possible that these steps that you've identified can be corrected now?

Aubrey: I can say that we have a very detailed specific plan for the development of such therapy. Because these therapies are regenerative and rejuvenative therapies that will actually take people backwards in biological age, which means that they don't need to be applied particularly early in life. Thus, people like you and me who are already alive still have the potential to benefit from these therapies, even if these therapies are around 20 or 30 years from now, which is what we expect to happen.

CPA: How close are we to getting there?

Aubrey: With any technology the answer to that question is impossible to give with any degree of confidence. What I feel is that we have at least a 50/50 chance of developing these technologies within the next 25 years.

> ***"What I feel is that we have at least a 50/50 chance of developing these technologies within the next 25 years"***

CPA: What steps does the medical community need to take to get to that point where this might be an applyable treatment?

Aubrey: Well in the first steps, it's not the medical community. The medical community (people with MD's) is somewhat distinct from the research community, I'm very much on the latter side – I'm the PhD side. The first step is to demonstrate proof of concept in the laboratory, so we have to develop these things sufficiently well so that we can use them on mice. Once we have done this, it will become generally attractive and it will only be a matter of time before we can do the same to humans. So the question is how we go about that. I think that we have a good chance, 50% or more, of getting to the proof of concept in mice, within less than 10 years from now. That is the point where it will get difficult. Opinion formers like Oprah Winfrey are going to start paying close attention to the fact that this is coming, they're then going to say let's do it sooner rather than later to save lives. It will be serious amounts of money. It's

going to be a major pandemonium. it's bad enough if we think about how the world will be when the defeat of aging actually arrives, but that as I just said will be 25 years, the real problem will arrive when this becomes widely anticipated: that's when everyone's priorities and decisions will change and people who are associated with any service, in the financial industry, will need to react. At that time, the people who react the most effectively and appropriately would have done a bit of forward planning to listen to people like me in advance.

CPA: The theories that you are applying to aging, can they be applied to destructive illnesses such as heart disease, cancers etc

Aubrey: Absolutely; in particular, everything that we think of as an age related disease, things that affect older people more than young adults, should be considered as simply part of aging: that's the reason why they are age related. The reason that they happen predominantly to older people is because they are simply aspects of the later stages within this process, they are caused by the accumulation of various types of damage throughout life. These types of damage, because they are side effects of normal metabolism, they're happening all the time, even starting before we were born, and the problem is they accumulate to a level that gets in the way. It gets problematic for our bodies to cope with, which is why we get cancers, heart disease and diabetes.

CPA: Does this also expand to hereditary diseases?

Aubrey: Aging itself in a sense is hereditary, different species characteristically having different life spans, but within the human race there is also certain heritability as to how long you live. People usually say that about 25% of the total variation in longevity is hereditary. Normally when we think of hereditary illnesses, we think of things outside of the normal range, things that will kill people at an early age, but a lot of these things only kill people at a slightly earlier age. There are people that contract diabetes at 30 and die when they are 60. Anything that is chronic that results through a progressive accumulation of damage, is very closely related to anything that happens with aging. So for example there are some family diseases that are called progerias which we're quite interested in; the reason why we're interested in them is not because they affect old age – they are typically fatal in childhood - but they happen mechanistically to have a lot in common with a lot of the old age sicknesses like arthritis.

CPA: In terms of where the medical community is now, are they applying in any form, any of the theories that you have described here? What is of key interest to our readers is whether they need to be reacting now to changes that are happening in the medical community.

Aubrey: No, these therapies do not exist yet; however of course there are reasons why people need to be reacting now, two reasons. Number 1, they need to be doing all that they can do to preserve their own health well enough and long enough, to be able to be around when these therapies arrive. Number 2, they need to be reacting professionally so that they can make money out of these therapies once they arrive, and so that they can pitch the premiums rights for insurance etc. There's also a third reason why: they might be able to hasten these therapies' arrival, therefore improving their chances of making the cut.

CPA: Such as.

Aubrey: Interviewing individuals like myself! There are some major donors to our foundation who are professionals within the financial services industry, they've seen the writing on the wall and they'd like to do something about it.

CPA: So are you typically getting organisations contributing to SENS Foundation?

Aubrey: At the moment it's overwhelmingly individuals, but we definitely want to get organisations as well. The whole thing is very controversial, people tend to get spectacularly irrational when you talk about the possibility of really defeating aging, they're worried about things like overpopulation, how will we pay pensions and dictators living forever, you wouldn't believe the crazy things I have to contend with.

CPA: But on that point, isn't there some merit to these arguments?

Aubrey: Yes there are merits in theory, but they're all fundamentally problems that will result from increases in longevity. What I want to emphasize, that might be counterintuitive from your point of view, is I don't work on longevity, I work on health. I'm interested in stopping people from getting sick and the only difference in what I do and the whole medical profession does, is I think that we're within striking distance of getting so good at stopping people from getting sick when they get chronologically old, that people will get chronologically older; they will have the same chance of dying peacefully in their sleep at 90 as they do at 30, i.e. not a very high risk at all. If that happens, people will be expecting to live longer. But they might not live a lot longer; there might be an asteroid impact. The whole business of longevity is a side effect, a side benefit.

CPA: So what impact do you see it having on society?

Aubrey: I think people will be a lot happier knowing that they're not getting Alzheimer's disease. It's extremely frustrating to me that people are so fixated on the longevity side effect and they quietly forget the fact that they're not terribly keen on getting Alzheimer's disease, so I have to remind them that we have a problem today. Any of these putative problems that we might have in the future are a result of people living a long time. People are only going to get older 1 year per year, we're not going to have any 1000 year old people for at least 900 years, whatever happens.

> ***"people tend to get spectacularly irrational when you talk about the possibility of really defeating aging"***

CPA: As my final question, what time span would you put on it that these treatments are going to developed in the time span that you've outlined?

Aubrey: As I said, I think we have an interesting chance of getting there in the next 25 years, I think we have at least a 10% chance of not getting there for 100 years if we happen to hit problems that we haven't anticipated.

CPA: Thank you very much for that.

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Inside Pensions

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Setting a 'Trigger' to act - managing out your liabilities

Andrew: Thank-you very much everyone for joining this debate. The background to this debate is that once a scheme has decided on a particular type of solution, structure and price; all the documents are sorted out; due diligence is completed or to the extent needed; all parties are engaged, satisfied and feel ready, does the client then just push the button and the transaction goes ahead or does it wait for some kind of trigger to happen? It may even have to wait because the price isn't quite there at the point of signing, or that data needs cleansing, although this could be done in a post trade 'true-up'.

This session is to look at how schemes have such triggers, what they're to be, which risks should be covered and at what stage during a project plan, should these triggers be considered.

My view is that all this mainly applies to bulk annuity transactions, although I'm sure the readership would be very interested in any thoughts or views on longevity hedges too.

If we could therefore start with a broad initial question: what are the reasons for having such a trigger? Could I ask that to Michael first please?

Michael McDonagh: Obviously the main trigger has got to be price and in our case we decided many years ago to work towards a buy-out. We were aware however of the new buy-out companies who had come onto the scene and had as a result got a kind of 'cold' quote from one of them that showed the buy-out basis that we were measuring and the buy-out basis that they were offering were considerably different. As such, the price became affordable. So from our point of view the first trigger was price.

Andrew: Rita, may I turn that question to you?

Rita Powell: I have to agree with Michael on that, but I do believe another consideration around price is whether or not the project is driven by the sponsor or the trustee and whether a top-up is required to meet that affordable price. For most people, once you've done all your due diligence, and got everything lined up, you may still have a funding gap there. That gap as well as the price needs to be tracked as they may have moved differently and the sponsor will need to have been kept informed so that cash can be available at the right time.

Andrew: And Don?

> ***"Price is certainly the primary trigger but I have a fundamental problem with the whole concept because it depends on the size of the fund and its status"***

Don Hanson: Price is certainly the primary trigger but I have a fundamental problem with the whole concept because it depends on the size of the fund and its status. We are a medium sized fund, £300 million and we have a deficit. I'm continually being bombarded with offers of longevity hedging, buy-outs and many other types of de-risking transactions. I cannot for the life of me see why it is worth going to the cost and complexity of even getting into discussing these issues because I cannot see how it is affordable to a pension fund in our particular condition and state coupled with a sponsor who is unwilling to make any additional contribution to the deficit. So this is a rather contrarian view. I have got to be convinced that outside parties can de-risk a pension fund of our size, at a reasonable price and with the type of sponsor we have who has no additional cash for contributions.

Rita: You are right Don. That seems like basic common sense doesn't it? Is that perhaps the people doing the sales not necessarily understanding the other side of the market or the issues for the schemes they are targeting?

Andrew: That's a very interesting point. From a sales or provider perspective, we believe we cover the whole raft of longevity solutions from unfunded to funded, including annuities. A lot of clients, both trustees and corporate, would like to cover off all investment risks with annuities. From a trustee perspective it enables them to discharge some of their liabilities with a very high level of security and from the company perspective it reduces management time; it reduces pensions risk impacting on corporate performance; and it is attractive to investors - do investors want to take pensions risk in a company when they invest? Probably not. The issue with annuities is one of best use of resources and for most schemes and companies a bulk annuity isn't considered to be best use of resources. In those cases they're often looking at unfunded risk management, where, rather than paying the premium up front, you pay the premium over time. That's the idea behind a longevity hedge.

> ***"It's possible to "sculpt" unfunded solutions if the client wants that, so the premium is paid more towards the end of the contract"***

To Don's point, the premium would be paid over a long period of time so it certainly isn't an upfront premium. It's possible to "sculpt" unfunded solutions if the client wants that, so the premium is paid more towards the end of the contract.

The main rationale for longevity hedges is that longevity risk is a great unknown and there could be a big swing which could have a huge financial impact. In our experience there's often a client willingness to pay a premium to protect against that downside.

Rita: There are two aspects here. In regards to the risk transfer and the premiums paid over a long period of time, from a trustee's perspective you need to be absolutely convinced about the strength of the entity that you're transferring the risk too, because at any given stage you could be between 2 stalls.

Andrew: Yes, security is all important. Firstly, clients might look at the current strength of its provider. But it's likely to be a very long contract and things can change. The client may want additional security, ideally in the form of collateral, so in the very unlikely case that something happens to your provider, you will be compensated.

To the next question: we raised previously that price was the key determinant in a trigger, perhaps we could drill down a bit into that. Which elements did you look at to get the 'right' price?

Rita: In the last transaction I did, which was a pensioner buy-in, what we did was moved our assets to bonds. Largely those bonds were acceptable to insurers. As a result we had an efficient, good quality bond portfolio which was not an unreasonable match for the pensioner liabilities. Once we had narrowed down the range of providers and we knew we had a generally acceptable portfolio it wasn't too difficult to monitor the price over the period we were looking at.

Andrew: Don, any thoughts?

Don: I'd like to ask Rita a question first in fact: when you went forward with your transaction, did you have a surplus in your fund?

Rita: No, we certainly didn't. We had been collecting deficit contributions for some years but we were fortunate in having a sponsor who was prepared to put money in to minimise the long term risks. So it was effectively a joint solution with the company and the trustees and there was an acceptance that cash was required to get pension risk off the balance sheet.

Don: My first comment is not to take my previous comment as that of a neanderthal who disapproves of outside providers making a profit, I'm all in favour of outsourcing if there's a benefit. The first time we looked at this was when the principal provider was AIG, and that caused us concern later on when they went bust. All the comments that have been made have resonated with me, but the main one has been that unless we can do everything, i.e. outsource all the liabilities which we clearly can't without a big contribution from our sponsors position, then just outsourcing or buying out the pensioners or certain groups will leave the sponsor with a rump of a deficit and a worse position.

The other factor in our situation is that we have what we would regard a strong sponsor, the University of Manchester. However they don't have cash to make current contributions and would be very resistant to this activity which brings us into this question that Rita raises about whether this is sponsor driven or whether it is trustee activity?

Michael: Going back to Don's point about whether it is trustee or sponsor led, when we did our buy-out, we as trustees had moved all our assets to bonds or cash and we discussed with the solution provider the suitability of these actions. We had received a buy-out quotation which priced the buy-out at less than the value of the underlying assets. Our sponsor was keen to mitigate the risk that the assets would not move in line with the underlying buy-out basis. So our sponsor, with input from the trustees' advisers and the solution provider assisted the trustees in obtaining a hedge for those assets to reduce the risk of them not moving in line with the underlying buy-out pricing basis between the time of quotation and execution. In that way the sponsor had a positive influence in helping the trustees hedge the assets. This was one of the ways the sponsor helped the trustees reach their objective.

Don: Can I ask a question and this is to the group as a whole? Can somebody explain to me, what are the market circumstances which mean the outside provider can do better than the actuaries' evaluations?

Rita: It depends what you are trying to achieve and where you are starting from. If you're looking for a sponsor driven solution because the sponsor wants the liability off the balance sheet, the scheme actuary is not going to be able to achieve that. The scheme valuation provides a budgeting framework to decide how much is payable over the next 3 years.

Andrew: A client or its adviser can "back out" assumptions that are used to determine the premium. At the crudest level you might say if experience is worse than those assumptions then those are the circumstances when the scheme would be better off financially in having taken out a solution. But there are other aspects as well, like looking at the last assessment in risk-adjusted terms, and issues like management time, trustee time spent on the project, market perception, and member sentiment as well. Many members I would guess would feel more secure through some sort of specialist provider with strong financial backing paying their liabilities.

Rita: That's debatable from a member point of view. It depends on the organisation; there are still some very paternalistic organisations where the retired employees still feel very loyal to them. If the sponsor organisation has changed considerably then the scenario you set out may be the case. The main consideration from a member perspective ought to be how much risk is taken to secure their future income. I've known more than one circumstance where members have so much faith in the brand name of their old employer that they dismiss any additional financial security that might come with the sort of transactions we are talking about.

Michael: There's a natural aversion to risk or a natural aversion to change amongst everyone, including members of pension plans. In terms of communication, we were communicating with our members about buy-out solutions for 5 or 6 years before we actually did it. Whether that message was taken on board completely, I'm not sure as it still came as a shock to a few people that we'd actually gone down the buy-out route.

Rita: I agree with that entirely, and that's the modern market. But when you consider pensioners liabilities, it is not uncommon for emotional judgements to override other considerations. They rely on trust from their old employer, the modern financial markets are very complicated to them, and if they don't understand things, they're not going to be comfortable with them. But you're right Michael. It's about communication at the right level and positioning at the right time

Don: Rita's hit the nail on the head. The members, including trustees, trade unionists, academics and secretary's in our case, are very confused and regard the University of Manchester as a very solid institution. It will take quite a bit of effort to get them to change their mind, but I get the impression from the others, in most cases, this would be a sponsor driven project.

Michael: Rita I take your point on member affinity to their previous employer, but when you look at a provider versus employer, you will see that a provider has to reserve conservatively and hold capital against those risks. This compares to the fact you wouldn't find many employers who would set aside capital specifically for covering pension's risk. This message can be communicated to members and pensioners in a clear way, and depending on your circumstances it can also be seen positively.

Rita: It is in my experience, particularly if you need some extra cash to do it.

> ***"when you consider pensioners liabilities, it is not uncommon for emotional judgements to override other considerations"***

Michael: In our case it was the aim of the trustees, because we recognised that the sponsor ultimately wanted to remove the pension risk from its balance sheet. The most secure solution for us was through a buy-out. When we came to do the deal, the sponsor was a big driver, and in most respects a useful party in helping to push it through.

Rita: I've done three bulk annuity purchases and the last two were sponsor driven. It's great when you have a willing sponsor with cash but I once had to fight for the cash as a Chair of Trustees and that can be quite a different ball game.

Andrew: Looking at our pipeline, which has 30 cases where there is a good chance of a transaction in the next year or so, a quarter of them are annuities. Most of the projects are sponsor driven. However, in every case we have looked at, there is considerable alignment of interest between the trustees and sponsor. If additional contributions are required, if the sponsor isn't the driver, then it's likely to stop if you don't have the sponsor's buy-in.

Michael: The reality is sponsors are unlikely to want to make any large contributions in any event, unless the outcome can be shown to reduce risk and save money.

Andrew: To ask another question about triggers and how the mechanics work, we've discussed investing in bonds and how a portfolio of bonds might move up and down in line with the annuity price; what about the time scale for the trigger in terms of the closing trade or executing trade? What are the timescales until assets might be transferred? Maybe we can start with you on this, Michael?

Michael: In terms of our buy-out, we moved the pension assets into bonds

over time anyway as we were trying to take advantage of improvements in our fund levels. As we knew we were approaching the buy-out period, we put our portfolio into cash and bonds. At the point of execution, for what was a £400 million pound deal, we had about £200 million of that in bonds and £200 million in cash which meant we could transfer within a few days.

Rita: That sounds like a similar transaction to the last one I did, which was for £800 million. We had a considerable amount in acceptable bonds - corporate bonds and index link gilts. There was one small bond portfolio that was being actively managed and this took a couple of goes to unscramble it, but aside from that we managed to move everything very quickly.

Andrew: So the group's experience is of a very short time scale from closing the trade to asset transfer.

Rita: Yes provided that you have you assets lined up.

just that and that saved several million pounds!

Andrew: That point really resonates with us because as a provider lots of data is more likely to enable us to become comfortable with the assumptions we have to make. If we don't have sufficient comfort then we need to take a margin. It's really worth doing data cleansing before or as part of this exercise if you haven't done it already.

The other aspect that strikes me is that our prices are based on a combination of corporate bonds and gilts. We're therefore quite willing to say, 'this is how the price is determined and over a certain period, here's an index of corporate bonds and gilts and ok, we've got to allow for inflation too, but provided those are all within certain tolerances compared with now, if you invest in a certain way your asset portfolio should move closely in line with our premium'.

Don, have you any points to add to this?

"It's great when you have a willing sponsor with cash but I once had to fight for the cash as a Chair of Trustees and that can be quite a different ball game"

Michael: On the issue of executing the asset transfer, we had obviously our solution provider, our bond manager and our custodian knowing what we were trying to do and they were all supportive of the dates and deadlines of transactions.

Rita: It can be a very different story though if you've still got money in equities or even property and assets like that. For me, the two aspects that pull a transaction together and make it do-able are having the assets lined up and ensuring that the data is clean.

I had a situation whereby a transaction didn't look affordable until somebody suggested that enhancing certain data aspects on the system, could improve the price by around 5%. We did

Don: Given that the communication period would be quite lengthy, I have no doubt that we could get our assets into the right form. We're largely very traditional, largely equities and bonds on a 50:50 basis and also largely passive so it's not difficult to streamline. Once you start the deliberation to go this route, and start the communication to get feedback and sponsor buy-in, then I would assume you would start simplifying your investment portfolio and moving into bonds and gilts. I don't see that being a particular problem but we have a very slow moving decision making body. It's a large organisation and they take a long time to come to any decision but I'm sure this is true of many other pension funds.

Rita: We had been de-risking in various ways for some years prior to even thinking about buying annuities and well before the name 'buy-in' was invented, so we weren't necessarily leading up to a transaction. We had been gradually moving out of equities and into bonds in a very quiet way. The rate of movement was something like 1¼ per cent a quarter, providing there were no contra-indications. A large fund wouldn't just want to suddenly move out of equities into bonds unless there were particular financial conditions to capture. Gradual de-risking seems to be on the agenda for many schemes these days, regardless of whether they intend to do one of these transactions, but no-one wants to lock in a deficit to do them.

Andrew: We're drawing to a close now. Does each participant have a final comment on the trigger process or a 2 line summary please, starting with Michael?

Michael: Each scheme is different and really it is all about the long term objective and looking at your own situation and what you want to do. Everyone's interest is to reduce risk and there'll be different solutions for different schemes.

Andrew: Rita?

Rita: Standard solutions need to be adaptable to suit different schemes requirements and characteristics and the trigger will be different depending on where you are starting from and whether it's trustee-driven or sponsor-driven. Once the assets are lined up so that the price can be tracked, perhaps the trigger could be related to data integrity and quality and the completion of a data cleansing exercise. I never understand people who say, 'we'll pay the premium for incorrect data because that can be sorted out later'.

Andrew: And Don?

Don: I fully agree it must be a bespoke solution to each situation, not only the situation of the fund but also the situation of the sponsor.

Andrew: Thank you very much everybody for your time and joining me in this debate.

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