Longevity risk, the chance that people will live longer than expected, is now increasingly at the forefront of employers’ minds. As a result, there is now a growing awareness of the importance of mitigating such risks, which has led to a new market with innovative market-based risk transfer solutions to emerge.

In July 2014 the British Telecom Pension Scheme (BTPS) entered into a seminal £16 billion transaction to transfer a quarter of its longevity risk to Prudential. In order to transfer the risk to Prudential Insurance Company of America, BT established its own ‘captive’ insurer (a Guernsey-based incorporated cell company - ICC), allowing it to access the reinsurance market directly without paying a bank or insurer to act as an intermediary.

The deal was significant, both in terms of its size and in the innovative use of an ICC structure. While still very much in its infancy, the BT deal indicated how far the pension longevity risk transfer market has come since the first transactions were completed by Babcock International in 2009.

“What the scheme was really looking for and the trustees were looking for was a cost-effective and robust transfer of the risk,” explained John Coles, head of operations at BTPS, at a longevity risk masterclass hosted by Guernsey’s insurance sector at the end of last year.
“They obviously knew what the risk was, they wanted it to go away, and they wanted it to go in a way that was reasonable, because ultimately the pensioners would be paying for it. We do love our pensioners dearly and we do wish them a long and happy retirement, but if they live longer than we expect, then there is a strain on the assets required to pay their pensions. So, it sort of feels a bit odd hedging out when people die, but it’s worth it.”

Guernsey was the perfect place for BTPS’ longevity risk transaction, explains Coles.

“It was important for the trustees that they felt comfortable with the jurisdiction and Guernsey has a good legal framework and a good regulatory environment. Guernsey has some very experienced and talented people, with both insurance and captive knowledge, and they have been very adaptable and flexible in helping us to land what was quite an innovative transaction for the scheme.”

“Most are not there yet but they’re building a plan to get to that position.”

“Defined benefit plans have been closing. So these funds are maturing and don’t have new membership to bring new duration into the plan.” he adds.

For many schemes the primary concern was to de-risk asset portfolios and exposure to rates and inflation, but increasingly longevity has risen up the agenda, says Aley.

“As they (pension schemes) have sold out of some equity and managed their inflation risk, the longevity risk has become more of a dominant feature.

For some plans we talk to, longevity risk is now their largest risk because they have progressed so far down that de-risking journey.

A combination of factors has meant longevity risk - the risk that people are living longer into retirement - has become a growing burden, particularly for closed defined benefit (DB) schemes, or final salary schemes. This includes the financial crisis and low interest rate environment, in addition to the de-risking process many schemes have undergone over the past few years.

“Most pension funds - the UK is at the forefront of this - where they have defined benefit liabilities have been planning a journey to either completely de-risk and pass the liability to an insurer or get to a self-sufficient state where they don’t feel they need to rely on their sponsor for further contributions,” explains Ian Aley, senior consultant at Towers Watson.
“If you hold a high proportion of equity you are assuming a high return because you are investing in higher risk assets,” he explains.

“Then longevity risk, which is a slow emerging risk over time, gets discounted away. But when you remove equity and you’re discounting at a lower rate, even if longevity risk hasn’t changed it is proportionately higher because you’re not able to use investment performance to discount it away.”

“So it’s an evolution of removing risk which brings two things. Longevity becomes more prominent and it’s going to bite more because you’ve removed the prospect of asset performance.”

Companies with underfunded DB pension schemes will need careful risk management and are particularly vulnerable to fluctuating conditions in the Eurozone over the next two years, according to rating agency Standard & Poor’s. The fall in long-term bond yields, means DB scheme liabilities increased by between 11% and 18%, or €57 billion (£41 billion) and €93 billion (£66 billion) in 2014.

S&P analysed the funding position of the 50 European companies that it rates as most exposed by their pension plan deficits. At the end of 2013, this group had pension fund liabilities totalling €527 billion (£373 billion). That, compared to assets of €356 billion (£252 billion), meant that on average they had a funding deficit of just over 30%, the agency said.

“Reinsuring both mortality and longevity risk provides us with diversification from a capital perspective,” explains Andy McAleese, head of annuity transactions at Pacific Life Re.

The natural home for longevity risk transfer is the reinsurance industry - the wholesale organisations that insure life insurance companies. With significant portfolios of mortality risk, longevity risk offers the perfect hedge as well as capital efficiency.

“Having a wide range of life risks that move independently or in opposite directions to one another helps us to manage the risks we’re running and makes our pricing more attractive for people looking to hedge that risk because we pass on the benefit of diversification in our portfolio.”

The introduction of Solvency II in Europe, the re/insurance industry’s new regulatory regime, has also offered an incentive for reinsurers to write a diversified book of business. Under the regime’s standard formula and companies’ own internal models, re/insurers stand to benefit further, reducing the level of capital they need to hold to write risks which are diversified.
In addition, reinsurers are comfortable with the long duration of the liabilities they are taking on. The recent deal between Pension Insurance Corporation (PIC), the specialist insurer of DB pension funds, and Hannover Re for instance provides longevity cover for ‘an unprecedented level of non-retired members’.

“Longevity is a long tail risk so the natural home for it is in the insurance and reinsurance market where we are accustomed to writing long tail risks,” explains McAleese.

“For capital markets investors a more typical time horizon might in the 10 to 15-year range.”

Another factor in the growth of the market is influx of capital market capacity into the reinsurance sector in the years since the financial crisis. The attractiveness of non-correlating catastrophe risk to institutional investors - many of them pension funds - and subsequent growth of the insurance linked securities (ILS) market has resulted in high levels of competition among reinsurers and excess capacity.

With prices reducing on many traditional classes of reinsurance business, appetite for longevity risk has grown.

“This is an area where reinsurers can get stable steady returns, where it’s really quite easily modelled,” explains Mark Helyar, partner at Bedell Cristin Guernsey.

“The reinsurance market’s appetite for this type of risk has increased considerably over the last few years, which means the use of the transformer structure, which is typically in Guernsey, has run away with itself in terms of its popularity,” he continues.

Recent deals include Hannover Re’s £2.4 billion longevity reinsurance transaction with PIC, which simultaneously announced the buyout of the Philips UK Pension Fund. Meanwhile Heineken completed a £2.4 billion longevity reinsurance transaction with Friends Life Limited, with Swiss Re providing capacity for an undisclosed portion. And in August 2015, Prudential reinsured £1.9 billion of longevity risk for Legal & General while Canada Life Re provided reinsurance capacity for Aegon’s €6 billion (£4.25 billion) Dutch longevity swap.

“Effectively, reinsurers can manage their risk internally by using blocks of longevity risk to offset risk in other areas,” says Helyar.

“These things are life securitisations in reality because the reinsurers are buying into extremes of premium flow. It’s cheaper for pension trustees to lay off the risk and pay the premia than it is for them to take the risk themselves and try and make enough investment themselves to try and pay for the liability.”

While the majority of transactions historically involved using a bank or insurer as intermediary, the BTPS deal demonstrated how schemes can access the reinsurance market directly.

“The benefit is you’ve a huge range of flexibility because not every scheme has got the same problems and doing this type of transformation means you can get a unique outcome,” adds Helyar.
Longevity risk market comes of age

**THE DE-RISKING JOURNEY**

1997
- **PROTECTED CELL COMPANY**
  - The concept of the PCC is introduced in Guernsey in 1997

1997
- **WHITE ROCK**
  - AON’s White Rock Insurance Company PCC Limited is established as the first PCC in the world

2006
- **INCORPORATED CELL COMPANY**
  - The concept of the ICC is introduced in Guernsey in 2006

2009
- **BABCOCK INTERNATIONAL**
  - The engineering firm completes a ground-breaking longevity swap deal with Credit Suisse - shares in the firm jump 16% following confirmation of the deal

2014
- **RECORD DEAL VALUE**
  - Longevity swap deal value achieved a record £50 billion during 2014

2014
- **BRITISH TELECOM PENSION SCHEME**
  - BTTP entered into a transaction with Prudential Insurance Company of America to transfer a quarter of its longevity risk. The deal is worth £16 billion.

2015
- **RECORD DEAL VOLUME**
  - A record 14 longevity swap deals totalling £30 billion were completed during 2015

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The captive route to market was examined in detail by Coles at the longevity risk masterclass when he explained that given the size of the BTPS’ transaction, it was ‘cost efficient’ to set up a captive rather than carry out an intermediated trade. And he hinted that the structure could potentially be used for similar deals via separate ‘cells’ in the future.

“The captive, once it’s up and running, is relatively inexpensive,” he said.

“There are a number of service providers that need to be paid to support the transaction, but overall the run rate on that – for it will run for a long time – was taken into consideration as part of doing the deal.”

The trend of disintermediation in longevity risk transfer transactions prompted Artex Risk Solutions to join forces with PwC to launch Iccaria ICC Limited, a Guernsey-domiciled facility in February 2015. The facility can act as an intermediary insurer for pensions looking to transact longevity swaps.

“Longevity has been hedged by transferring the risk for many years - the recent phenomenon is using a captive insurer which becomes your own intermediary to access the reinsurance market,” explains Paul Eaton, new business director at Artex.

“Historically commercial insurance companies or banks would be the intermediaries and they in turn would access the reinsurance market to find capacity. What’s happened over time is the loading intermediaries applied to the transaction have led some schemes to look for a more cost effective way of reaching the reinsurance capacity, and this is where establishing your own insurance company comes into play.”

The ICC has become the structure of choice. Each ICC has a core which is owned by the sponsor of the ICC, and surrounding the core are a potentially unlimited number of cells, each of which can be set up for separate captive-type business and owned, or licensed, by other parties.

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The preference for ICCs has been led by the reinsurers in the transactions requiring absolute certainty there is no contamination risk between cells,” explains Eaton.

“Pension schemes are also aware they may require additional longevity transactions in a number of years’ time, as their portfolio matures, so it helps to have a vehicle that is already in place to which you can add further cells.”
The benefit of going the captive, or ICC route, rather than using an insurer or bank to access the reinsurance market also makes it easier to do business with just one reinsurance counterparty, explains Towers Watson’s Ian Aley.

“If you are a commercial organisation with multiple product lines that expects to write more business in the future, you probably want to spread your credit risk limits thinly across a number of reinsurers. “But if you’re a pension scheme hedging your longevity risk to a reinsurer, you’re very comfortable to take an acceptable level of credit risk with any one reinsurer, and the same applies in the other direction,” he explains.

“One of the advantages of the captive is you can access the most efficient reinsurance price without having to take an average of three to six - which bumps the price up.”

However, there is a question mark over how many reinsurers have the necessary scale to participate as a solo player in transactions as substantial as the £16 billion BTPS deal. There is a finite universe of so-called tier one reinsurers and at some point in the future their ability to take on longevity risk will diminish.

But Pacific Life Re’s McAleese thinks appetite will remain strong in the reinsurance market for the foreseeable future.

“I Don’t Think Anybody Knows What The Overall Capacity For The Longevity Market Is. We’ve seen additional capacity come to the market each year and it continues to be an area in the insurance world that’s growing and that seems to be creating a lot of interest amongst companies not currently involved. The individual reinsurers may change over time but there is a lot of capacity out there.”

The future could lie in the capital markets, although at present the most competitive pricing is found in the reinsurance market. And there are other obstacles to overcome for capital market investors, including the lengthy duration of many schemes’ longevity liabilities.

However Dutch insurance, pensions and investment firm Delta Lloyd and Reinsurance Group of America (RGA) have shown how a more liquid market might be created in the future. In two €12 billion (£8.5 billion) longevity swaps, described as longevity replication derivatives, the transactions were carried out using Dutch population mortality data.

“The market needs more deal flow soaking up capacity or to be transacted using indices, or in some other way to provide liquidity,” explains Steve Evans, owner and editor-in-chief of reinsurance and ILS publication Artemis.

“There is an exchange-based longevity index at Deutsche Bourse, but it’s hardly been used as reinsurance capacity is now so cheap.

“While many reinsurers are saying they can just keep underwriting longevity, it’s unlikely to get broadly syndicated enough to need liquidity at the moment,” he continues.

“Mortality is a buy and hold and so is longevity for these re/insurers, and when they’re hedging the two they are unlikely to want to trade it. However, I’m still convinced that eventually the capital markets will be needed on longevity, as the exposure is so huge. But until we start to see the traditional capacity coming under pressure it’s hard to see investors getting much of a look in.”

"I don't think anybody knows what the overall capacity for the longevity market is "

Andy McAleese
Head of annuity transactions at Pacific Life Re
Guernsey is Europe’s leading captive insurance domicile with more than 800 international insurance entities (captives/PCCs&ICCs/cells) and premium written in excess of £4.9bn (US$7.2bn).

Approximately 40% of the leading 100 companies on the London Stock Exchange and 95 of the Global 1500 companies have captives in Guernsey. In addition to UK companies, a number of firms in Europe, USA, Middle East, Asia, South Africa, Australia and the Caribbean have established captives in Guernsey.

The growth of captive insurance on the Island has been fuelled since 1997 when Guernsey pioneered the Protected Cell Company (PCC) and subsequently introduced the innovative Incorporated Cell Company (ICC).

Guernsey hosts a range of providers from the major players such as Aon, Artex, Marsh, JLT and Willis to independent operators such as Alternative Risk Management (ARM), Hepburns, Kane and Robus.

This white paper was produced in conjunction with freelance journalist Helen Yates. Formerly the Editor of Global Reinsurance, Helen specialises in insurance / reinsurance, risk management, natural catastrophe risk and financial services.