

A LOWER RISK FUTURE

Developments in the Pension Risk Transfer Market

The international pension risk transfer marketplace is experiencing remarkable growth, with more than \$240 billion in transactions completed since 2007. In the United Kingdom, United States and Canada, hundreds of companies have transferred pension risk to insurers and reinsurers, with at least 35 pension funds executing transactions over \$1 billion. Each of these transactions fulfills and secures the lifetime benefit promise to plan participants, while achieving significant corporate finance benefits for the plan sponsor.

Today, pension risk transfer is:

- Increasingly global;
- Employed by corporations of all sizes and industries;
- Flexible and customisable; and
- Aimed at achieving a lower-risk future.

A number of recent high-profile transactions reveal the strength of the global de-risking trend. Industry icons like General Motors, Rolls-Royce, Verizon, British Telecom, Bell Canada, Motorola Solutions, Bristol-Myers Squibb, GlaxoSmithKline, Kimberly-Clark and AkzoNobel have all completed pension risk transfer transactions. Each firm varies in resources, constraints, strategic goals and definitions of success. Accordingly, each deal was tailored with features to meet the company's unique needs, and reflect a broad range of transaction sizes, with agreement amounts up to \$27.7 billion. They all share the common objectives of securing the benefits promised to members, and achieving a lower-risk future for the sponsor.

By employing effective de-risking strategies, plan sponsors and fiduciaries can:

- Minimise the risk around plan contributions;
- Improve consistency of financial results and realise corporate finance benefits;
- Allow greater focus on the firm's core business; and
- Enhance retirement security for employees and retirees.

Plan sponsors and fiduciaries who proactively manage or transfer pension risk can fund their pension obligations with certainty, and gain a considerable advantage over those who don't.

GOING GLOBAL – FOLLOWING THE TREND IN THE UK

Universally recognised as the global leader in pension de-risking, the UK has seen over \$167 billion in liabilities transferred between 2007 and 2014. The UK is also the global leader in innovation, with pioneering products and approaches that enable pension funds to tailor de-risking strategies.

In recent years, North American plan sponsors have watched UK developments with growing interest. In 2012, the landmark General Motors and Verizon transactions transformed the US market, modest since the 1990s. Despite these and many other agreements, the US still trails the UK with only \$62 billion in transaction volume between 2007 and 2014. Canada is a distant third with \$11 billion over the same period.

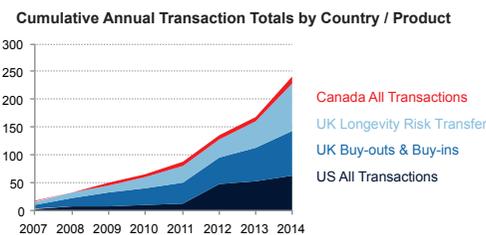
The collective transaction activity in the US, UK and Canada between 2007 and 2014 is reflected in Exhibit 1. All transactions in the US (shown in dark blue at the

bottom of the graph) have been pension buy-outs or buy-ins; holistic solutions whereby the insurer assumes all asset and liability risk. Canada, shown in red, has experienced modest transaction volume, and through year-end 2014 all of its transactions have only included pension buy-outs and buy-ins.

Momentum in the UK market is apparent. The volume of buy-in and buy-out transactions (shown in medium blue) exceeds all US and Canadian volume combined. The UK activity is notable considering the country's relative size, and today momentum is accelerating because of competitive pressure in every industry peer group. The same pressure to de-risk may emerge in the US and Canada within five years.

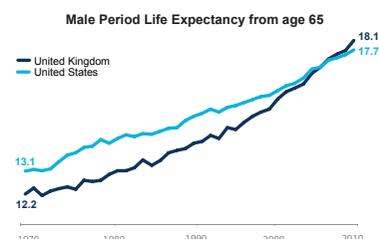
While the volume of buy-ins and buy-outs in the UK is striking, that country boasts an additional market segment for longevity risk transfer (shown in light blue). This sizeable market segment reflects transactions covering longevity risk alone – the risk of annuitants and beneficiaries living longer than predicted.

Exhibit 1: The UK Leads the World in Transaction Volume and Innovation



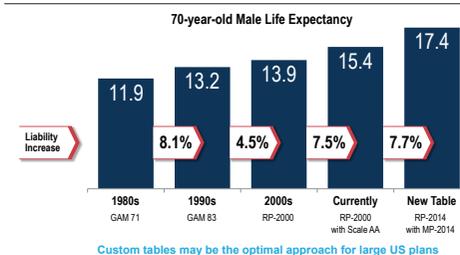
Data in USD billions. Sources: LIMRA, Hymans Robertson and Prudential analysis, YE 2014

Exhibit 2: Retired Lifetimes for US and UK Males Have Increased Significantly



Sources: CDC, OECD, Aon Hewitt Global Longevity Tracker
For financial or institutional plan sponsor use only.

Exhibit 3: New Mortality Tables Create Increased Liability for US Plan Sponsors



Source: Prudential calculations.



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TRANSFERRING LONGEVITY RISK IN THE UK

Because it is the capstone to any pension hibernation strategy, longevity risk transfer is flourishing in the UK. Firms seeking to manage pension risk on their balance sheets can employ Liability Driven Investing (LDI) as an effective means of building asset strategies that match expected liabilities. LDI alone, however, cannot solve the uncertainty around the expected liability, or a mis-estimation by the pension scheme regarding the longevity of its members. To address these concerns, several leading UK plan sponsors have actively transferred their longevity risk to the insurance and reinsurance community.

Many of the largest and most risk-savvy pension funds in the UK have chosen to combine LDI and longevity risk transfer for an effective "hibernation" strategy on some or all of their liabilities. BMW, Rolls-Royce, Aviva, British Airways and British Telecom have all embraced this approach. Since 2013, greater choice has arrived in the UK market with respect to structuring longevity risk transfer transactions. The British Telecom Pension Scheme and the Merchant Navy Officers Pension Scheme have pioneered captive insurance and reinsurance solutions that are more cost effective than earlier approaches, and that promise to become the dominant path for large, sophisticated pension funds worldwide seeking to hibernate pension risk on the balance sheet with a longevity hedge in place.

Bell Canada became the first North American pension fund to complete a longevity risk transfer transaction when it transferred \$5 billion of pension liabilities in early 2015. This watershed transaction was the first longevity risk transfer outside of the UK.

FUNDING LONGER RETIREMENTS

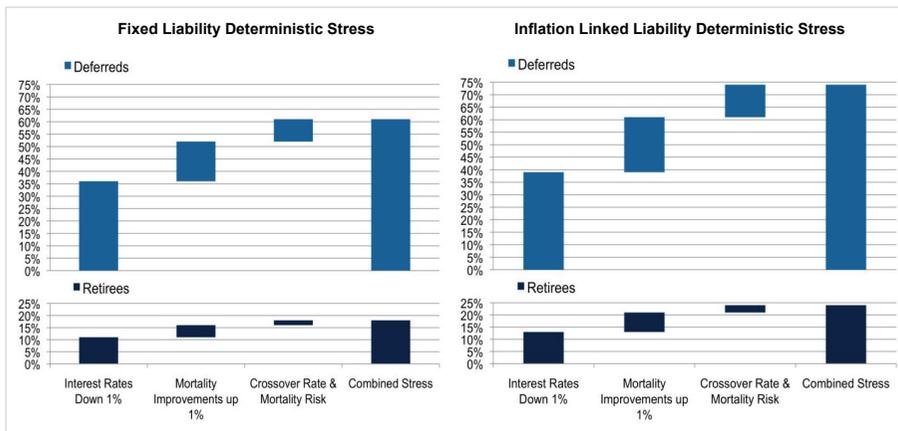
Defined benefit plan sponsors assume the real risk of participants living longer than expected. Exhibit 2 shows the retired lifetimes – or life expectancy at age 65 – of men in the UK and US, and illustrates how these expectancies have evolved since 1970.

Exhibit 2 shows that the retired lifetime of the typical US male has increased 35% over the past 40 years, and men in both the US and UK can expect to spend nearly 18 years in retirement. The graph demonstrates that improvements in life expectancy are occurring

Exhibit 4: Longer Lives Increase Other Risks

Deterministic Stress on Liabilities

(Impact of a 1% Decline in Rates and a 1% Increase in Mortality Improvements)



Source: Pacific Global Advisors

steadily over time. For US pension funds, however, the impact of longer life can seem more like a step function because the pensioner mortality tables have been updated only once every decade, as shown in Exhibit 3. With every update, there has been a significant pension liability increase.

Most plan sponsors have grown accustomed to the investment risk that is inherent to their pension plans, yet longevity risk remains a critical and often overlooked risk that defies management through investment strategy alone. What's more, it is not a risk plan sponsors would typically choose to hold, but one that can be managed successfully through insurance solutions.

LIVING LONGER INCREASES OTHER RISKS

When retirees live longer than projected, pension liabilities escalate, and heightened liabilities have longer durations. As a result, pension funds will be challenged by more interest rate and duration risk, and pension funds with cost-of-living adjustments will have nearly double the exposure. These realities are demonstrated in the deterministic stress shown in Exhibit 4.

The graph on the left depicts fixed liabilities with no cost-of-living adjustments, which are common among US corporate pension funds. Conversely, the graph on

the right depicts inflation-linked liabilities, which are common for US public sector pension funds, and all pension plans in the UK and Canada.

Each graph in Exhibit 4 illustrates the impact on the liability from a 1% reduction in rates (first bar), as well as the effect from a 1% increase in mortality improvements (second bar). Each graph then combines those stresses in the fourth bar, which is larger than the sum of the two shocks applied individually. The difference (the third bar) is the crossover risk that arises because people lived longer than predicted and the pension liability grew.

Interest rate, longevity and inflation risk compound each other in the pension liability; omitting longevity risk from the analysis underestimates total risk, especially in regard to inflation-linked and deferred liabilities, as their longer durations make them significantly more sensitive to adverse outcomes.

Pension decisions made without considering longevity risk will consistently undervalue the benefits of risk management or risk transfer. To date, only insurance solutions can address the longevity risk in large pension funds, but there are several insurance solutions from which to choose.

ELECTING THE MOST APPROPRIATE SOLUTION

Many plan sponsors have chosen de-risking solutions tailored to meet their specific needs. Exhibit 5 shows the solutions currently available, examples of firms that have implemented them, and transaction activity in the US, UK and Canada between 2007 and 2014.

Buy-outs are common in the US, UK and Canada, and require the plan to pay a premium to the insurer to settle the liability, with the insurer then covering all investment and longevity risk for annuitants.

Buy-outs allow plan sponsors to:

- Transfer risk, including investment and longevity risk, to an insurer, which guarantees payments to participants for life;
- Eliminate administrative, actuarial, and investment management expenses, including guaranty corporation premiums; and
- Remove pension liabilities from balance sheets.

This solution is ideal for plan sponsors seeking to reduce pension liabilities, and can be leveraged in corporate restructurings.

Pension buy-ins enable sponsors to purchase bulk annuities and hold them as liability matching assets of the plan. This allows pension plans to transfer risk today without plan liability settlement charges, and

offers additional advantages for underfunded plan sponsors, including:

- Maintaining funded status;
- Holding contributions steady; and
- Minimising accounting and funding volatility.

Though buy-ins provide plans with the precise amount of income required to make benefit payments for participants' entire lifetimes, this solution is rarely employed in the US, because the liability is not settled. It is more commonly implemented in the UK for pension funds beginning the plan termination process, or taking steps in a phased de-risking program.

Longevity risk transfer is the fastest-growing solution in the UK. The products currently available convert an unknown future liability into a fixed liability cash flow by locking in the life expectancy of the plan participants. Large pension funds find it easier to manage an asset portfolio against a liability when the future obligation is fixed and known. In fact, for many plan sponsors, longevity risk transfer is the last step in a "do it yourself" pension de-risking undertaking.

After addressing funded status and asset risk concerns, longevity risk transfer can serve as the capstone to a pension hibernation strategy, with the sponsor continuing to manage the plan on its balance sheet, with risks and expenses managed within a tight tolerance. Longevity risk transfer transactions will increasingly be conducted via captive insurance and reinsurance strategies, thus ensuring cost-effective execution. Such strategies were pioneered by the British Telecom and Merchant Navy Officers Pension Schemes.

As illustrated in Exhibit 6, longevity risk transfer solutions are most appropriate for sponsors of large pension plans who:

- Hold significant allocations to fixed income;
- Have healthy funded status;
- Choose to retain some risk; and
- Wish to pay for de-risking over time.

Pension funds that don't meet any of those criteria may favour a pension buy-in or buy-out solution.

RE-THINKING PENSION RISK

With recent transaction activity standing as testament, the time for defined benefit plan sponsors to re-think pension risk is now. A number of risk transfer solutions exist, each of which can help plan sponsors:

- Solidify market leadership;
- Achieve more consistent financial results;
- Avoid potential cash calls on the firm; and
- Maximise strategic flexibility.

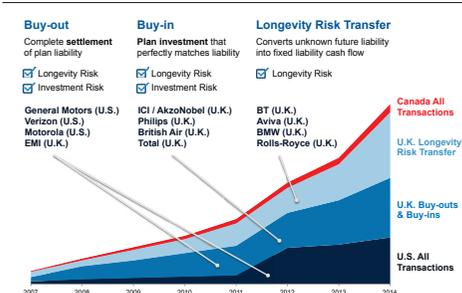
Managing pension risk sets companies apart from their peers. In 2012, when jumbo pension risk transfer agreements first arrived in the market, the question on most plan sponsors' minds was whether or not to reduce pension risk. Today, with customised solutions readily available, the question is, which path will they take to a lower-risk future?

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Exhibit 5: Pension Risk Transfer Solutions



Data in USD billions. Sources: LIMRA, Hymans Robertson and Prudential analysis, YE 2014

Exhibit 6: How Plan Sponsors Choose a Solution



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