



Pacific Global Advisors LLC

Secretariat of the Joint Forum (BCBS Secretariat),
Bank for International Settlements,
CH-4002 Basel,
Switzerland

17 October 2013

Dear Sir,

Consultative Document Response: “Longevity risk transfer markets: market structure, growth drivers and impediments, and potential risks”

I welcome the opportunity to respond to the consultation document you have prepared on longevity risk transfer (LRT) markets and greatly appreciate your invitation to do so.

First, let me say that I applaud the Joint Forum’s timely initiative to address the various market, risk and regulatory issues surrounding longevity risk transfer. That this is being addressed from a cross-industry perspective is an essential and enlightened approach to a market that, although originating in the insurance industry, has been heavily influenced by the involvement and innovation of capital markets participants, notably investment banks, private equity sponsors and insurance-linked securities (ILS) investors. What is considered best practice in this market is now very visibly a blend of practices originating in these different industries.

I fully support the recommendations for supervisors and policymakers presented in the consultative document. I would also encourage the Joint Forum to promote the following:

1. Adoption of a harmonized view of regulatory capital that is aligned as closely as possible to economic capital.
2. Education of all stakeholders on the characteristics of longevity risk and its very different nature relative to financial risks. In particular, emphasize the importance of avoiding the use of analogies between longevity risk and other financial risks as the basis for analysis or capital requirements.
3. Adoption of a harmonized view of collateralization and margining.
4. The development and adoption of standard principles for the valuation of longevity risk.
5. In relation to DB pension plans:
 - a. Moving plan valuation closer to the economic value of the liabilities.
 - b. Disclosing the buyout valuation of pension liabilities.
 - c. Disclosing the mortality assumptions (mortality base tables and mortality improvements).
 - d. Measuring and disclosing the longevity risk or longevity sensitivity of the plan.
6. Raising the general visibility of longevity risk across the market.
7. Transparency and the sharing of data and models among all participants to a LRT transaction.

The following discussion addresses these key points in addition to others.

Defining the market:

I would like to emphasize two aspects of the LRT market that did not come through sufficiently clearly in the document, but which nonetheless are important.

The first point is that the paper focuses most of its attention on the segment of the LRT market in which the longevity is sourced from defined benefit (DB) pension plans. While DB pension plans are clearly the biggest institutional source of longevity risk, it is essential to also acknowledge the importance of LRT where the longevity is sourced from an insurer or reinsurer. This segment of the market, although of much smaller potential size, is important for three reasons:

- This segment involves a longevity risk hedger (cedent) for which longevity risk management is a core competence.
- This segment can have a significant impact on pricing, as insurers/reinsurers seek to use reinsurance, retrocession or, indeed, capital markets to manage their own longevity risk exposure.
- This segment is the one in which the very first three transactions took place involving capital markets risk transfer instruments (derivatives).¹

Unfortunately, this segment is often overlooked because it does not get the same level of publicity as the pension segment. In particular, it is often completely ignored by pension consultants when they publish their annual reviews of the LRT market.

The second point about the market is that one should not overlook a traditional form of longevity risk transfer used by DB pension plans that is not mentioned in the consultation document. I am referring to a lump sum (or enhanced transfer value) offer, in which pension plan members exchange their pension entitlements for a one-off payment. This transfers longevity risk from the pension plan sponsor to the individual members, and has the potential to create significant socio-economic challenges should it become widespread.

The perception of pension buyouts and buy-ins being expensive:

On page 6 the consultation document states that “The apparent high cost of buy-outs and buy-ins is a result of insurance companies being typically subject to more stringent regulation than pension funds, such as the necessity to hold resilience test reserves in case of extreme scenarios—while pension funds can temporarily run funding gaps (where the discounted present value of their liabilities exceeds the value of their assets).”

These pension “funding gaps” are *not* the fundamental reason for the apparent high cost of buyouts and buy-ins. The true underlying reason is one of measurement methodology. It is that DB pension plans are *not* required to value their liabilities on an economic basis. In particular, the common practices in many jurisdictions of using artificially high discount rates for liabilities derived from corporate bond yields (or in some cases expected returns on assets) and out-of-date mortality tables means that pension plan sponsors and fiduciaries have become accustomed to seeing unrealistically low values for their liabilities. As a result, the gap between their reported liability value and that associated with a buyout valuation is very high, leading to the misplaced perception that these transactions are expensive.

This perception can be best corrected by moving pension liability valuations closer to the economics, which has certainly happened to some degree in the UK over the past several years. An alternative way in which this misconception could be addressed, albeit less preferred, is by promoting the regular disclosure of buyout valuations of pension liabilities.

Advantages of longevity swaps:

There is an important additional advantage of longevity swaps over buy-ins that is not mentioned in Section 2.3 on page 6. This is that both buyouts and buy-ins require that pension plans be funded up to the level of risk transfer. For example, a DB pension plan that is 90% funded on a buyout basis can only annuitize to the level of 90% of its liabilities. However, using a longevity swap it can fully hedge the longevity risk to the level of 100% of its liabilities (whilst still retaining flexibility in investment strategy and risk management strategy). This makes longevity risk management much more powerful and flexible with underfunded pension plans.

Capital consistency:

The consultation paper rightly emphasizes the importance of “communication and cooperation” between regulators and supervisors responsible for different types of longevity market participants. This not only avoids regulatory arbitrage, but encourages a common understanding, valuation approach and perspective on longevity risk.

The obvious area in which this is essential is in relation to regulatory capital. It would be extremely advantageous for a common set of principles (but not necessarily identical rules) to develop for evaluating the capital associated with LRT transactions. In particular, the treatment of LRT transactions should be agnostic to:

- The legal form of the contract (i.e., insurance based or capital markets based).
- The geographical jurisdiction.
- The industry (i.e., insurance, banking, investment).
- The identity of the regulator.

For this to happen regulators and supervisors need to get on the same page in terms of understanding the nature of longevity risk and how it differs from the other risks with which they are more familiar because of the nature of their industry. In particular, longevity risk has been described as being similar to inflation risk since it is a slowly building, cumulative risk. Other analogies that have been used are with credit risk and commodity risk. While these analogies are helpful up to a point, it is important to understand the differences; for example, that longevity is more of a trend risk than a volatility risk. It is also of a completely different magnitude.

One example of where analogies with other risks break down is in relation to q-forward instruments.ⁱⁱ When using a standard formula for regulatory capital, the first reaction of many regulators in the early days of this market was to base regulatory capital on the q-forward notional. This is problematic because the risk associated with a q-forward is essentially of the size of the volatility of the appropriate mortality rate multiplied by the notional. Because mortality rates for 20-year-olds are vastly different from mortality rates for 90-year-olds, as are their volatilities, the actual risk associated with, say, a 10-year q-forward can vary by a huge amount depending on the age (as well as the other details associated with the mortality rate such as gender, socio-economic status and health). A one-size-fits-all regulatory capital requirement based on notional is clearly inappropriate for this instrument, despite being appropriate for a fixed income instrument.

A modified approach to regulatory capital using the “effective notional,” based on the product of the mortality rate and the notional (similar to the way commodity instruments have been treated in some jurisdictions), is more appropriate, but it is still a blunt instrument that overstates the prudent capital level. The preferred approach is, of course, to set regulatory capital as close as possible to economic capital, which requires a model of longevity (mortality) risk calibrated to the particular mortality rate and the particular instrument. I have personal experience with different regulators who each took a different one of the above three perspectives for the same transaction, with respect to which was very challenging to manage.

Another related area in which the approach to capital is important is collateralization, including the collateralization of OTC transactions and the initial and variation margins, should any of these LRT transactions move to central clearing. An approach to margining that is as close as possible to economic capital is clearly to be preferred.

Risk management challenges:

Section 4.2 cites a number of very real risk management challenges. I would like to comment on two in particular: credit counterparty risk and opacity risk.

In relation to counterparty risk, pension plans engaged in LRT with insurers have increasingly been insisting that the insurers adopt a number of improvements to the structure and contractual terms of these transactions. Collateralization is one such improvement, which is an area in which the insurance industry has been significantly behind best practice. This is now changing as a result of two things. First, buyout and buy-in advisors have become better educated on credit counterparty exposure following the global financial crisis, and second, they have tried to standardize collateralization principles between insurance-based longevity swaps and capital markets-based longevity swaps. Further efforts to harmonize, as opposed to equalize, collateralization practices are likely to be in the best interest of the market.

As the consultative document acknowledges “LRT may lead to opacity risk arising due to differences in the knowledge, skills and expertise of the buyer and seller of longevity risk”. From as far back as 2008, the market has been developing ways to mitigate this risk through explicit efforts to improve transparency. These include the sharing of valuation and risk models, as well as data, between all participants (hedger or cedent, risk buyer or investor and advisor). In my experience this sharing has been most complete and most effective in capital markets LRT transactions in which end investors are involved in taking the longevity risk directly. It should be encouraged in all segments of the market.

Systemic risks under stress scenarios:

Stress scenarios for longevity risk require care to develop because of the nature of the risk and the nature of the various sources of longevity improvement. For example, the discovery of a cure for cancer is a common stress scenario that is mentioned in Section 4.3 of the document. To develop this scenario in a realistic way it is important to understand the process and timescales in relation to how medical advances transition from discovery to approval to widespread use for different socio-economic groups. Then it is necessary to model how such widespread use translates into an impact on mortality rates over time for different ages, etc. for the population in question. Such an analysis leads to the realization that the cure-for-cancer stress scenario has a smaller impact on longevity risk than is initially envisaged on the basis of naive intuition. As a result, I would encourage careful consideration of the construction of longevity stress scenarios.

As a final comment I would like to reiterate my appreciation of and support for the Joint Forum’s initiative in relation to the longevity risk transfer markets.

Yours sincerely,



Guy Coughlan
Managing Director

ⁱ The first three LRT transactions to use capital markets instruments were between Lucida PLC and J.P. Morgan (January 2008); Canada Life UK and J.P. Morgan (July 2008) and Aviva and RBS and Partner Re (March 2009).

ⁱⁱ Note that q-forwards are mortality forward rate contracts (derivatives) that can be used to transfer longevity risk, as well as mortality risk.