



Update on Longevity Risk Transfer in the Netherlands

Longevity Swaps are the most common instrument to transfer longevity risk. The first Longevity Swaps in the UK were executed more than 15 years ago. Notwithstanding the increasing number of countries in which longevity risk has been transferred, most longevity reinsurance transactions are still executed in the UK.

Although the number of longevity risk transfers executed to date in the Netherlands is small compared to the UK, the size of some of these Dutch transactions is very substantial compared to those in the UK.

The longevity risk transfer market in the Netherlands has seen some interesting developments. This article details some of these developments. It further describes some recent features that have been included in Longevity Swaps. Finally, we zoom in on the increased interest of Dutch insurers in extending longevity risk transfer with asset performance risk, referred to as Asset Intensive Reinsurance, and how this may result from the changes in pension regulations as currently debated in the Netherlands.

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FROM DERIVATIVES TO REINSURANCE

Over time, insurers in the Netherlands have accumulated sizeable portfolios of pension obligations that are subject to longevity risk. Figure 1 contains the longevity risk transfer transactions implemented by insurers in The Netherlands¹. Each bar corresponds to a single transaction and the size of the bars refers to the underlying reserves.

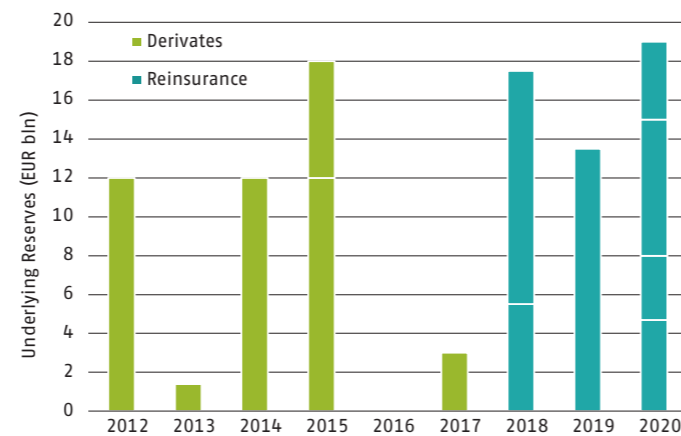


Figure 1. Longevity Risk Transfer in the Netherlands

Figure 1 shows that the first longevity risk transfer transactions implemented in the Netherlands were longevity derivatives². These longevity derivatives are based on the mortality risk of the general Dutch population, as opposed to a specified portfolio of insured beneficiaries. In addition, these longevity derivatives are structured to transfer more remote (out-of-the-money) longevity risk over a limited term and the benefit (claim) under these longevity derivatives is capped at a pre-defined amount.

Compared to longevity reinsurance, longevity derivatives require only a limited set of data to be shared with the risk takers and impose less due diligence requirements on the ceding company compared to a reinsurance transaction. On the other hand, it is more challenging to determine the reduction in Solvency Capital Requirement (SCR) under Solvency II (SII) resulting from these derivatives because there is no perfect fit between the longevity risk transferred and the longevity risk of the insurance company.

Figure 1 also shows that over time Dutch insurance companies moved from longevity derivatives to longevity reinsurance, referred to as Longevity Swaps. Despite the term “swap”, these transactions are indemnity reinsurance transactions, based in the insurer’s liabilities for a specified portfolio of insureds. These Longevity Swaps do not have a maximum term and no maximum benefit.

As Longevity Swaps transfer all the longevity risk of a specified portfolio of pension obligations over their full remaining term (which can easily be more than a few decades), these transactions are more expensive than longevity derivatives. On the other hand, because these reinsurance transactions exactly match the underlying liabilities of the

insurance companies, these instruments allow insurance companies to fully release the SCR for the corresponding longevity risk.

There are different reasons for the move from longevity derivatives to longevity reinsurance in the Netherlands. One of these reasons is the introduction of SII in the European Union in January 2016. SII has an explicit SCR for longevity risk which resulted in clear capital relief from longevity risk transfer transactions. This was not the case under the prior regulatory regime.

RECOUPONING IN LONGEVITY SWAPS

In recent longevity reinsurance transactions an adjustment mechanism has been incorporated that is referred to as Recouping (or Rebalancing). The objective of Recouping is to provide additional protection to the party that is facing a positive value of the Longevity Swap at a future moment during the term of the transaction. Under this mechanism, the fixed leg (the premiums) of the Longevity Swap is adjusted in case its present value has become materially different (either higher or lower) compared to the prevailing present value of the floating leg (the claims).

To illustrate this, consider a simple example of a Longevity Swap between an insurer and a reinsurer with the fixed and projected floating leg for the coming years as reflected in figure 2. At inception these two legs are equal which results in a zero value of the swap (ignoring the cost of the longevity reinsurance). Subsequently, we assume in the fourth year, a material reduction in projected future mortality which results in an increase of the projected floating leg (compared to the original projection). Therefore, the swap now has a positive value for the insurer: the receiver of the floating leg.

If the Longevity Swap is then adjusted based on Recouping, the reinsurer will pay the insurer the prevailing value of the swap, the Recouping Value. In addition, the fixed leg is increased so that its value is (again) equal to the value of the floating leg. Going forward, the insurer will pay the adjusted (higher) premiums as part of the fixed leg. As the present value of these adjustments is equal to the Recouping Value, Recouping can be seen as settling the current value of the longevity reinsurance in exchange for a change in future premiums with the same present value.

Although the objective of Recouping is to provide additional credit risk protection, it is already market practice to include a two-sided collateral arrangement in Longevity Swaps to mitigate the counterparty credit risk between the parties. This is because Longevity Swaps have a long expected term over which mortality can develop materially different than originally projected (in either direction). This experience collateral arrangement is based on a solid legal framework that is widely used in the global financial industry. Although one could argue there is no harm to incorporate additional protection, Recouping results in additional complexity and the need to lock in a discount curve to determine the Recouping Value which would not be required otherwise. Therefore such additional feature needs to be justified by convincing arguments to support it.

ACCOMMODATING A BAIL-IN

Another new feature in Longevity Swaps is accommodating a Bail-In. Bail-In is one of the resolution tools included in the Recovery and Resolution Act for insurers as applicable in the Netherlands since 2019³.

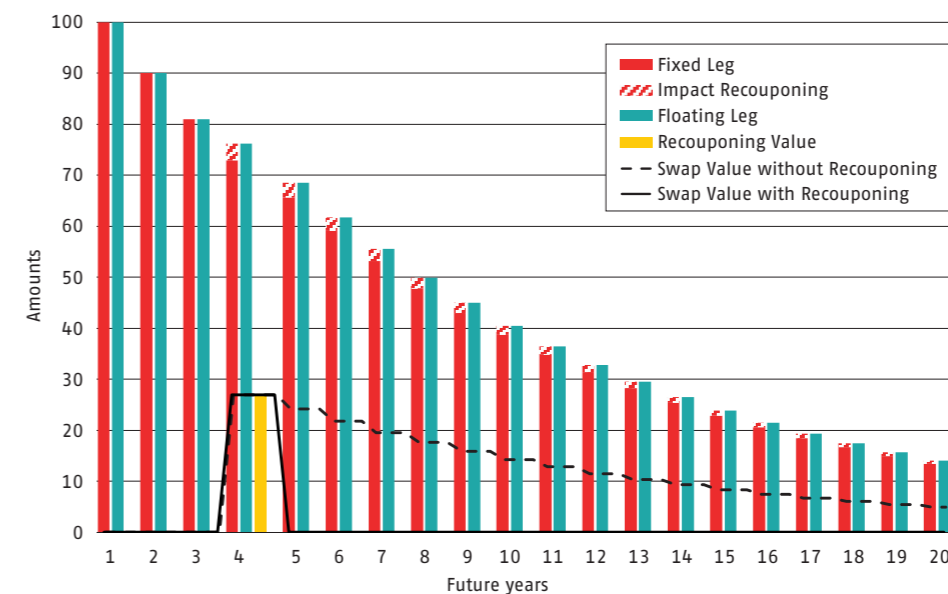


Figure 2. Simple example to illustrate Recouping



In case of a Bail-In, the insurer's pension obligations might be reduced. The purpose of such reduction is to recapitalise the insurer so that its activities can be continued. The objective of the Bail-In wording in a Longevity Swap is to specify the approach on how the reinsurance is adjusted in case the underlying pension liabilities are reduced because of a Bail-In. Conceptually, such adjustment can be considered a partial early termination of the swap, namely for the reduction in underlying obligations resulting from the Bail-In.

To illustrate this, consider the same example as before including a material reduction in projected future mortality in the fourth year of the Longevity Swap but without any Recouping (see figure 3). We then assume a Bail-In happens in the seventh year resulting in a reduction of the underlying obligations. Subsequently, both legs of the Longevity Swap are reduced accordingly and the reinsurer pays the insurer the value of the swap corresponding to the reduction in obligations, referred to as the Bail-In Value, and the Longevity Swap continues based on the remaining (reduced) fixed and the floating leg.

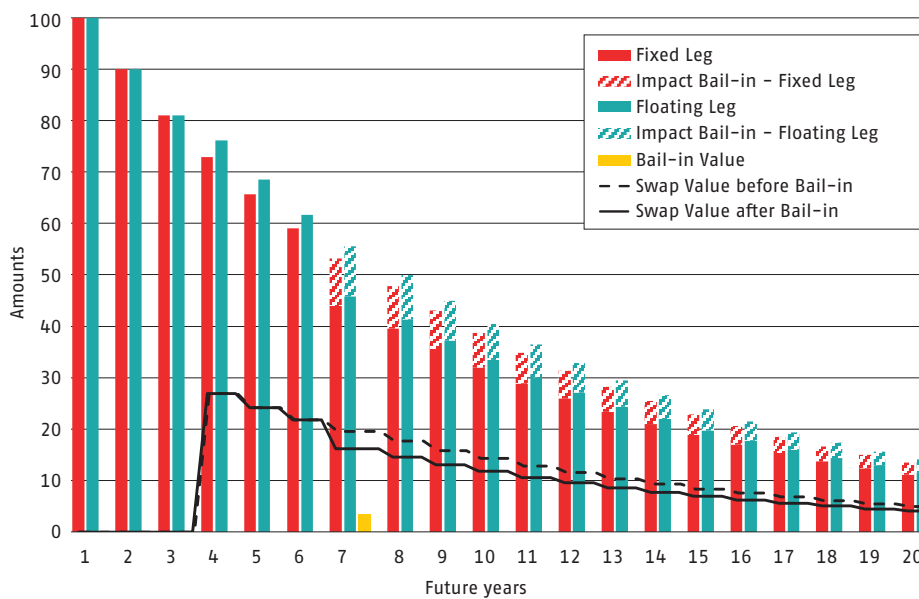


Figure 3. Example to illustrate Bail-In in a Longevity Swap

EXTENDING LONGEVITY REINSURANCE WITH ASSET PERFORMANCE RISK

A few years after the emergence of a longevity risk transfer market in the UK, asset performance risk was incorporated into the reinsurance. Such reinsurance is referred to as Asset Intensive (AI) Reinsurance⁴ and nowadays both Longevity Swaps and AI Reinsurance transactions are transacted regularly.

Dutch insurers are showing increased interest in AI Reinsurance. Conceptually, AI Reinsurance could be considered as a Longevity Swap whereby the present value of the fixed leg is paid at inception. To mitigate the counterparty credit exposure of the insurer on the reinsurer resulting from this initial settlement, a collateral arrangement forms part of AI Reinsurance. Under this collateral arrangement, the reinsurer is responsible for maintaining a portfolio of assets within pre-agreed investment guidelines and restrictions.

A driver for this increased interest in AI Reinsurance in the Netherlands, is the potential increase in pension buy-outs resulting from the new Dutch pension regulations that are currently in the making. As asset performance risk is very capital intensive, Dutch insurers that are actively managing their capital position, are considering to also reinsure (some of the) asset performance risk resulting from these pension buy-outs. Such an approach might give them the opportunity to also offer very large pension buy-outs that they might otherwise not be comfortable executing because of the substantial capital implications. ■

1 – Source: Longevity swaps and longevity risk transfer transactions on Artemis – www.artemis.bm

2 – These longevity derivatives are also referred to as “index transactions”.

3 – More information on: <https://www.dnb.nl/en/sector-information/resolution-sector/resolution-of-insurers/resolution-tools-for-insurers/>

4 – Asset Intensive Reinsurance is also referred to as Asset Reinsurance or Funded Reinsurance.