

Longevity Risk Transfer

VM-22 PROPOSAL

Background

What is Longevity Risk Transfer?



Longevity Risk Transfer (“LRT”) involves isolating and transferring longevity risk that is inherent in a portfolio of pension or insurance liabilities

The typical form of LRT is a (re)insurance contract



LRT transactions began in the U.K. market over 15 years ago but have since been completed in several geographies

The cumulative value of LRT to date is well over \$200 billion, measured as present value of benefits covered



The principal risks covered under an LRT transaction are the different aspects of longevity risk (e.g. as misestimation, volatility and long-term trend) although other, secondary risks (e.g. spousal assumptions, pension benefit form election, benefit commencement, inflation rate) could also be covered

Who uses LRT?

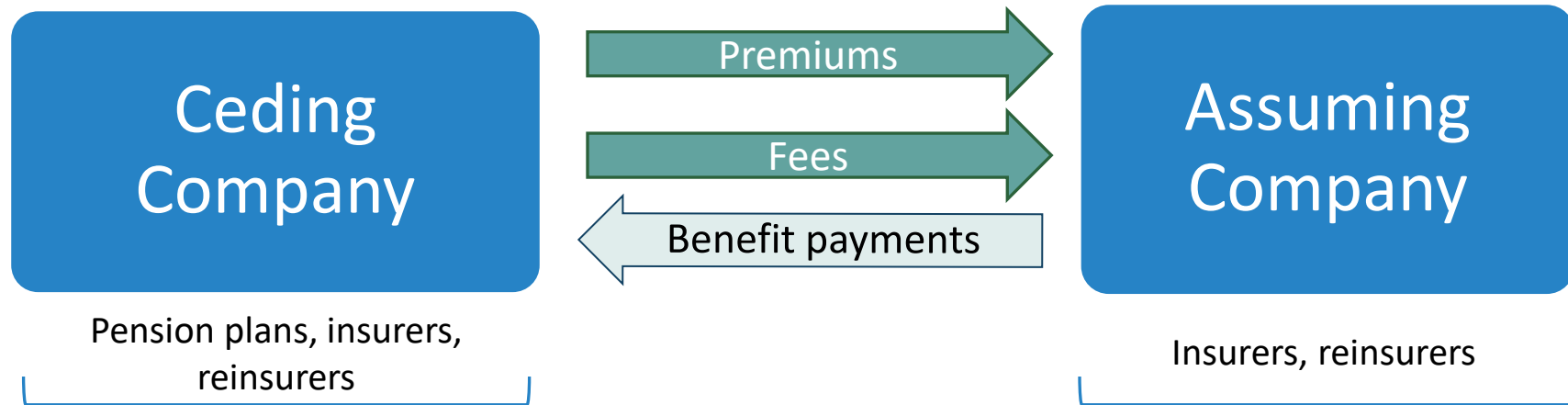
Pension plans looking to reduce exposure to longevity risk

Insurance carriers looking to manage longevity risk and/or optimize capital

Several U.S. (re)insurance carriers offer LRT solutions both **domestically and internationally**

Markets with large, publicly-disclosed transactions include the U.S., U.K., Netherlands, and Canada

How does LRT work?

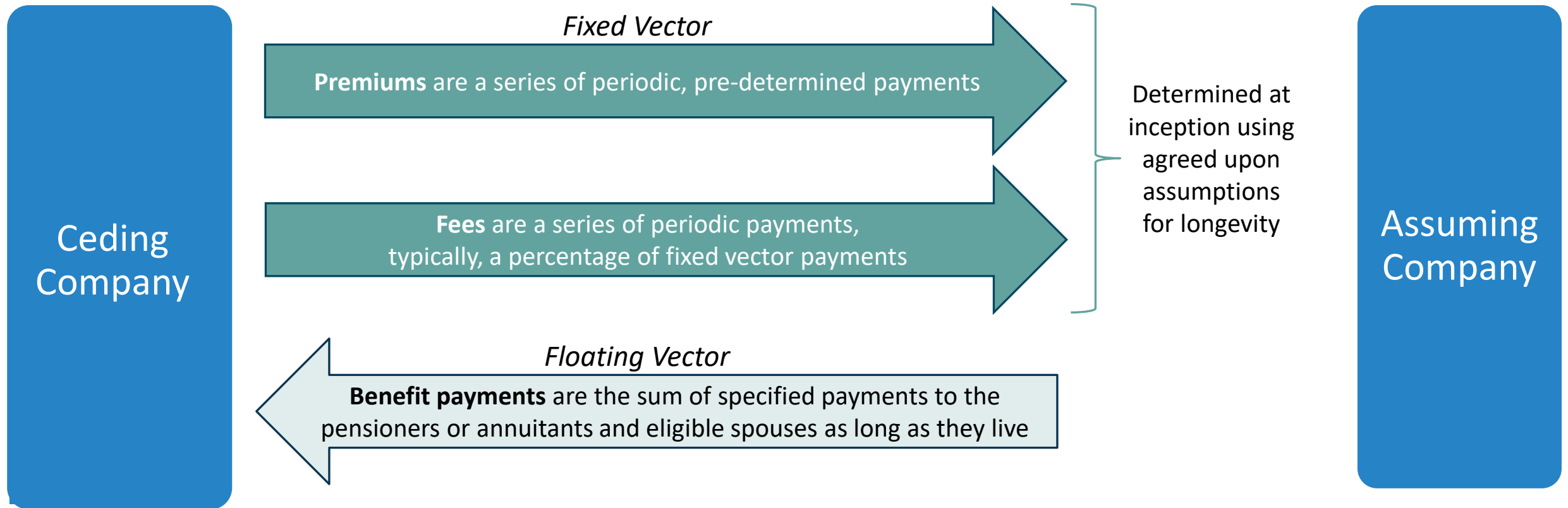


Longevity risk transfer involves an arrangement between two companies

- Main purpose is to transfer longevity risk; does not transfer asset-related risk
- Underlying liability is typically associated with pension schemes (group annuities) or individual annuities

If cedant fails to pay or becomes insolvent, assuming company has a termination right

Cash Flow Exchange



Transactions are settled on a net basis

Underlying Product Designs

Longevity Profile

- Pension schemes (group annuities)
- Individual annuities

Monthly Pay

- Premiums are accounted for monthly based on the Fixed Leg Cashflows
- Fees are accounted for monthly based on specified terms
- Benefit Payments are accounted for monthly based on annuitant profile

Inflation

- Benefits can be tied to inflation, typically variable inflation with Caps/Floors
- Guaranteed Minimum Benefit (minimum average inflation before retirement)
- Actual vs estimated inflation impacts both Fixed and Floating legs in tandem

Commutations/Transfers

- Transfer out for deferred before retirement (Pensions Freedom Act in the UK)
- Partial - Participants can take a X% (varies by country) lump sum at retirement that may or may not be tax free
- Commutation can occur at any point when the PV of a policy is under £30K (UK)

Current Statutory Requirements for LRT

- Statutory reserve follows the principles of the Standard Valuation Law (SVL) using VM-A and VM-C
 - Calculated at treaty level
 - PV of future benefits less PV of future premiums
 - PV of future benefits based on projected floating vector cash flows discounted with interest
 - PV of future premiums based on fixed vector and fee cash flows discounted with interest
 - Reserve is floored at zero
 - Minimum reserve based on SVL interest rates and mortality assumption for US group or individual annuities depending on underlying business by treaty

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Proposed Reserve Framework

Guiding Principles

Consistent with established PBR principles

- VM-22 Principle 2: Should reflect all liability and asset cash flows
- VM-22 Principle 2 & 3: Should use prudent estimate assumptions with appropriate margin of uncertainty
- VM-22 Principle 2: Should align with company risk management practices

Reported statutory reserves should not be negative

- Inconsistent with statutory reserving objectives
- Inconsistent with pre-PBR practices (e.g., under CRVM) and emerging U.S GAAP standards (e.g., FASB Long-Duration Targeted Improvements)

Proposal: Zero Floor at Treaty Level

Guiding Principles		Proposal & Rationale
Reflect all policy cash flows	✓	Gross premiums reflected in the reserve calculation since premiums are determined at inception
Use current prudent assumptions	✓	Prudent assumptions as of valuation date
Align with company risk management practices	✗	Calculating the reserve at the treaty level does not align with how many companies monitor and manage the risk associated with these treaties in practice, but proposed to prevent subsidizing among treaties
Non-negative reported reserves	✓	Longevity Reinsurance Reserving Category floored at zero

Assessment of K-Factor Approach

Guiding Principles		Assessment
Reflect all policy cash flows	✘	Gross premiums in excess of locked-in net premium schedule would be excluded, even though such contractually guaranteed premiums would be available to offset any unfavorable deviations in experience post-inception
Use current prudent assumptions	✘	- K-factor is calculated using the prudent estimate assumptions determined at contract inception - Can lead to unreasonably high or unreasonably low reserving outcomes as actual experience emerges
Align with company risk management practices	✘	Performing a treaty-by-treaty K-factor calculation does not align with how many companies monitor and manage the risk associated with these contracts in practice
Non-negative reported reserves	✘	If credible contract experience post-issue is favorable to the assuming company (e.g., supports higher future prudent estimate mortality than the at-inception prudent estimate assumptions), then locking-in the K-factor at inception may cause reserves to be quite low or potentially negative

Summary of Proposed VM-22 Updates

Section 3: Reserve Methodology

- Add zero floor at treaty level

Section 4: Determination of SR

- Remove k-factor

Section 6: Standard Projection Amount

- Add reference to individual mortality table for LRT on individual annuities

Section 13: Allocation of Aggregate Reserve to the Contract Level

- Clarify N/A to LRT

No changes to sections:

- Section 1: Background
- Section 2: Scope and Effective Date
- Section 5: Reinsurance
- Section 7: Exclusion Testing
- Section 9: Modeling Hedges
- Section 10: Contract Holder Behavior
- Section 11: Mortality
- Section 12: Other Guidance
- VM-V

Appendix

Cash Flow Payment Patterns

LRT transfers specific longevity risk from a cedant to an assuming company and provides the cedant with certainty of the benefits cashflow:

The cedant owes the assuming company Fixed premiums plus reinsurance fees

- Both are determined at inception using agreed upon assumptions for longevity

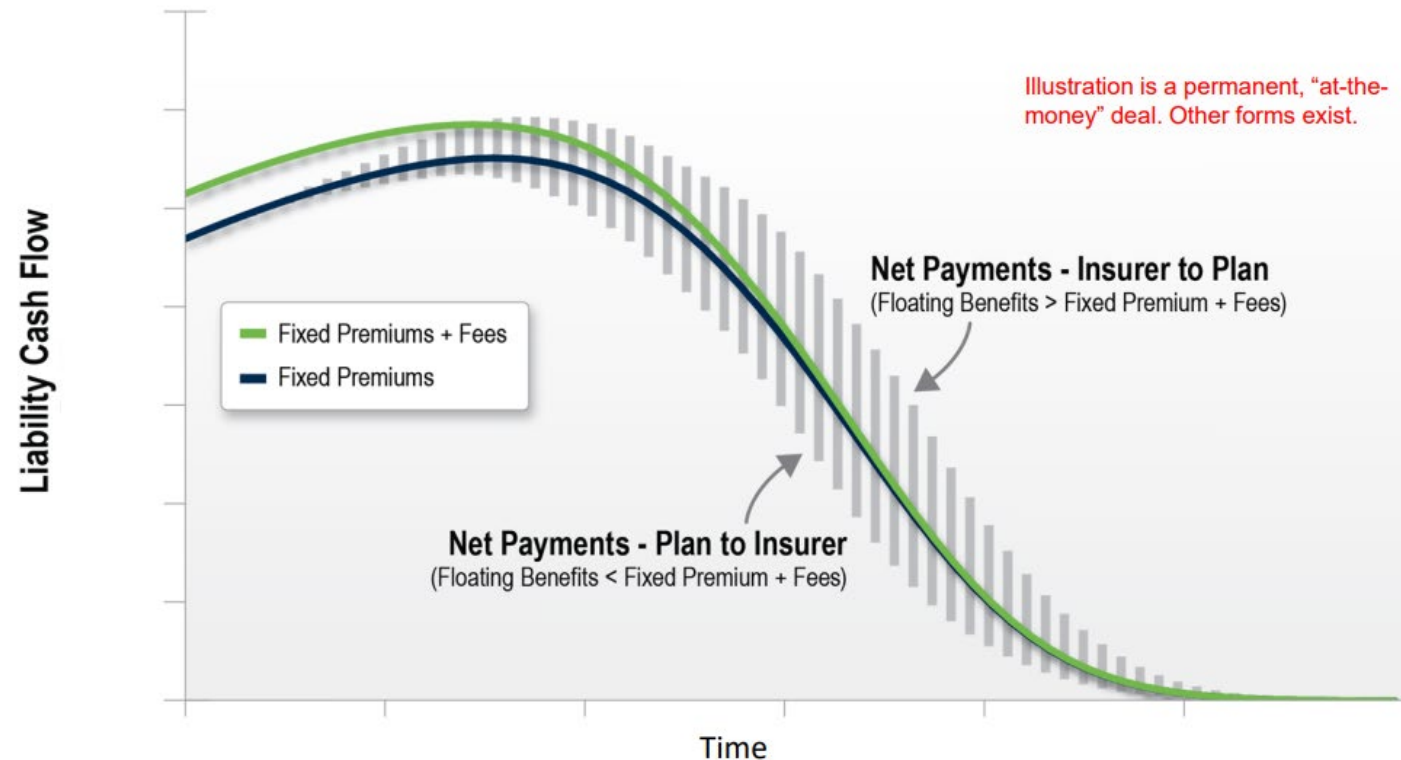
Assuming company owes the floating liability benefits to the cedants

- Floating liability benefits are the sum of specified payments to the pension plan members and eligible spouses as long as they live

Transactions are settled on a net basis

Cash flows usually include:

- Premiums are a series of periodic, pre-determined payments. Sometimes referred to as the “fixed vector” in the industry
- Fees are made in consideration for the liability being assumed by the company. Variations on how fees are defined but typically a percentage of the fixed vector payments
- Benefit payments are based on the actual experience of the lives covered. Sometimes referred to as the “floating vector” in the industry



Source: American Academy of Actuaries, May 2022
https://www.actuary.org/sites/default/files/2022-05/Academy_Longevity_Reinsurance_Presentation.pdf

Additional Refinements for LRT

Clarify that 'Section 13: Allocation of Aggregate Reserve to the Contract Level' is not applicable to LRT

Standard Projection Amount

- Longevity reinsurance mortality should point to group or individual annuity industry tables depending on underlying business by treaty
- Section 6.C.3.h.iv: Add reference to individual mortality tables for LRT on individual annuities