RISK MANAGEMENT IN LIFE INSURANCE

ASSAL 2015

Regional Training Seminar for Insurance Supervisors of Latin America

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SVS SUPERINTENDENCIA VALORES Y SEGUROS ASSAL IAIS INTERNATIONAL ASSOCIATION OF INSURANCE SUPERVISORS

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Risk Management in Life Insurance

Agenda

I. Tough times for the industry

II. Solvency II impact

III. Risk/Capital Management Solutions through Life Reinsurance

Is Europe getting close to Japan?

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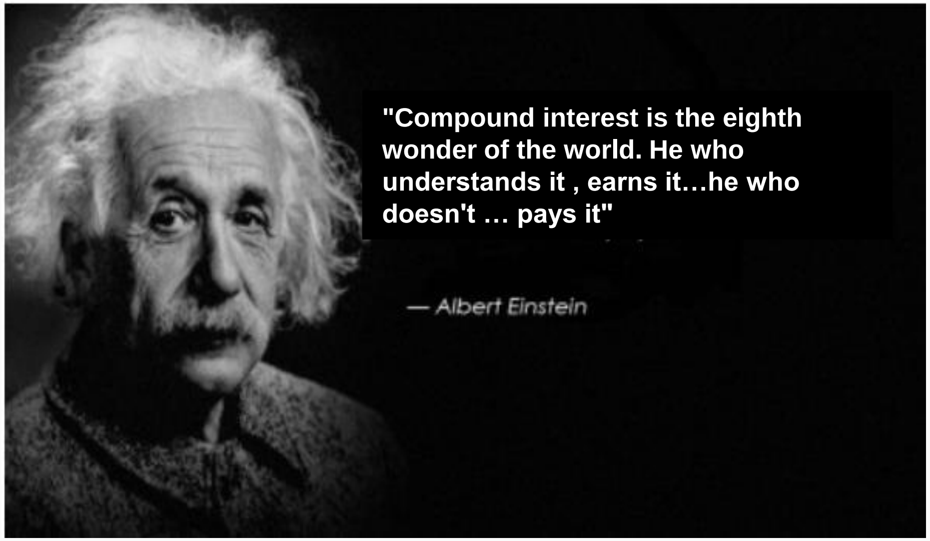
It was not a compound interest, but a drop in the interest rate in Japan triggered relevant consequences

- Companies could not reinvest mature bonds into new assets with rates as high as before
- Investment return of insurance companies were lower than policy interest rate
- It took more than 20 years and the failure of 8 insurers to lower its guaranteed rates and shorten duration mismatches
- Japanese companies have to be more than 10 years absorbing losses form saving business
- Asset mix was conducted to a lower exposure on stock Exchange



Christine Lagarde (IMF) showed her concern about the impact of low interest rates for European insurers

The serious concern of the low rate of interest

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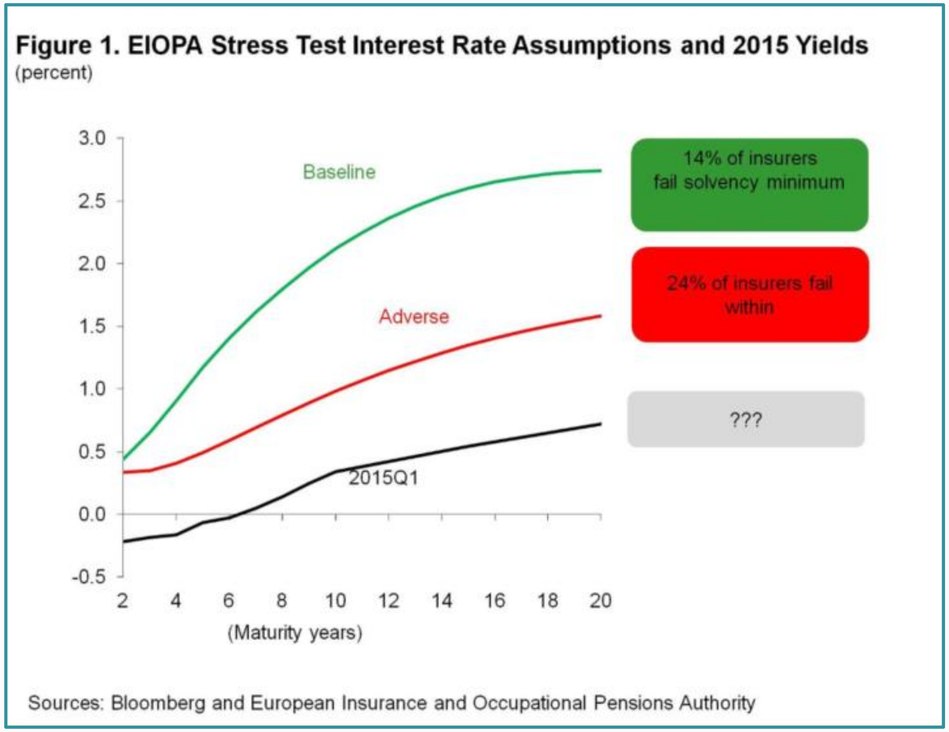
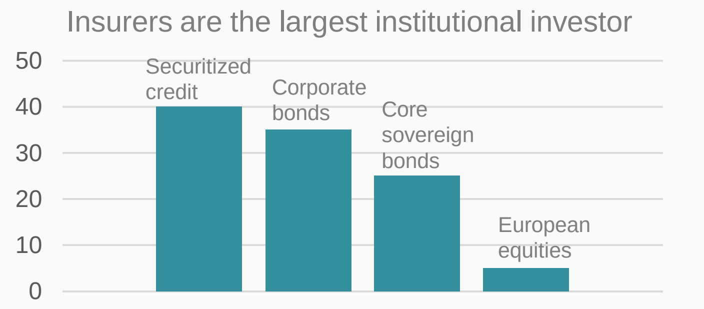
Stress test conducted by EIOPA in 2014 showed European life insurers‘ vulnerability to a “Japanese-like” scenario with a prolonged period of low interest rates



Source: http://blog-imfdirect.imf.org/2015/05/05/european-life-insurers-unsustainable-business-model

The Industry has €4.4 trillion invested in the European private sector



2014 MCEV of the Munich Re German life primary insurance drop by -€1.916m. The change was driven by both the decrease in PVFP and the increase on TVFOG and it was partially offset by the positive effect of tightening credit spreads….

Supervision and new regulations are one of the main global challenges for our industry

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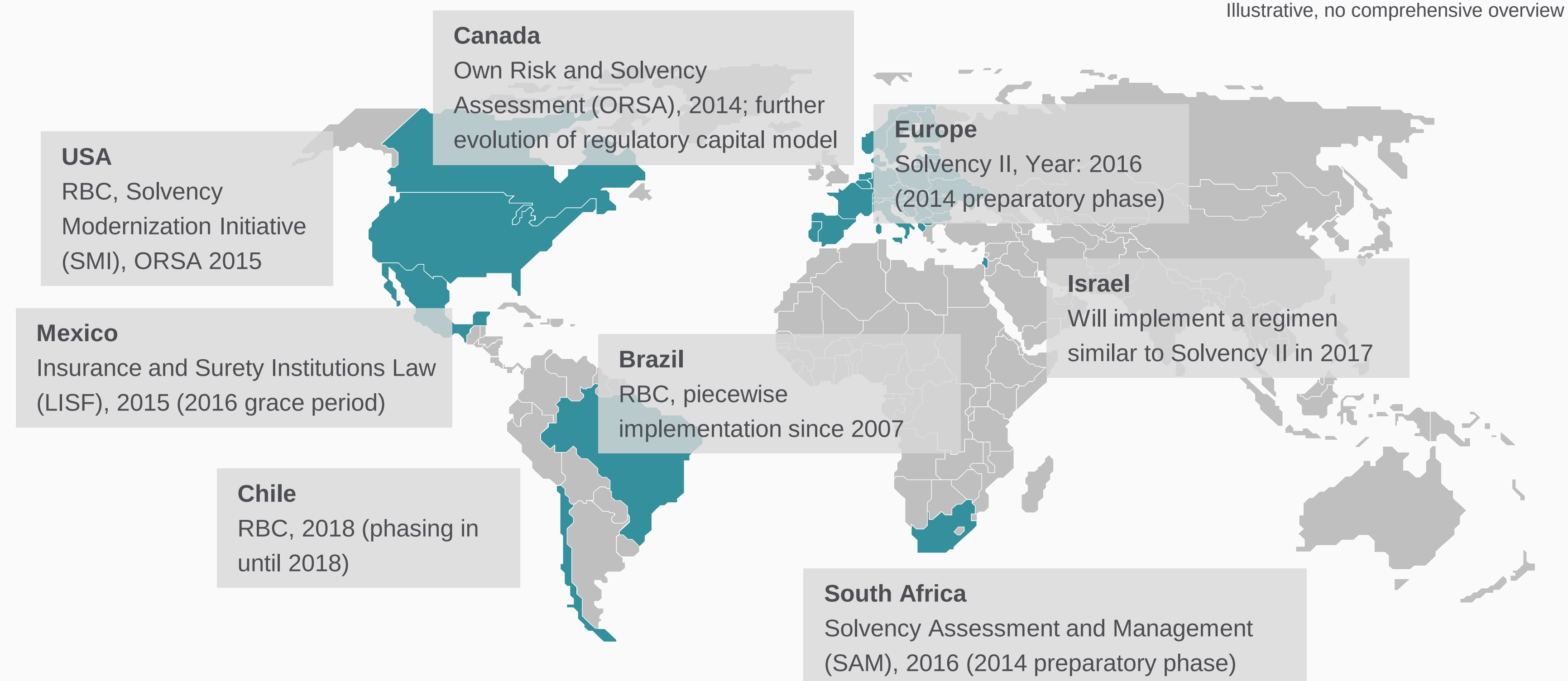
Illustrative, no comprehensive overview



Source: Munich Re

A global trend towards risk-based supervision is clearly visible

Source: 2015 KPMG International Cooperative

Solvency II impacts each and every aspect of an Insurance company…

Product & Investments	• Development of products balancing capital/client demand • Change asset allocation and asset mixed
Competitiveness	• Increased pressure on smaller, less diversified players; being global means a competitive advantage • High cost of compliance raising barriers to entry
Transparency	• Enhanced comparability between insurance companies across different business models and countries • Predefined reporting templates should ensure market-wide consistency
Governance	• Necessary for integrating capital model implications in business decisions and development of multidimensional and quantified stress test • New roles (CRO) and new perceptions of the old ones
Business opportunities through reinsurance	• Risk transfer from insurer to well-diversified reinsurer beneficial for both • Financial strength of reinsurer to provide a clearer competitive edge

…, which implies relevant changes

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If you change the way the game is scored, you change the way the game is played ***(Equity analyst)***

Fundamental Changes to Financial Statements, Risk Management and Capital Requirements

- Solvency: (Europe: Solvency I to Solvency II)
- Risk Governance Stability
- More economic focus
- More transparency

but…

- More complexity
- More data and more load work
- More volatility

Internal Model of Munich Re developed in the last decade to meet the rising risk management requirements

Munich Re already provides r/i solutions under the new environment, for instance:

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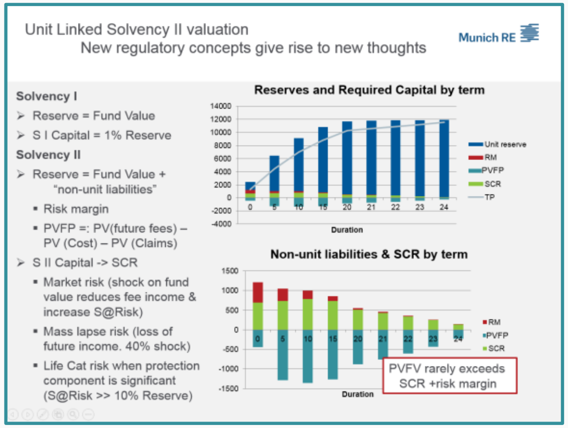
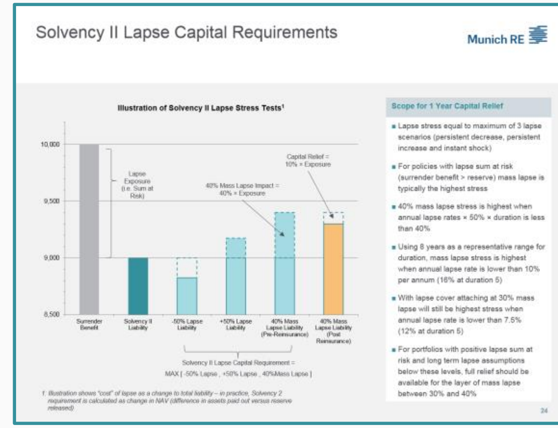
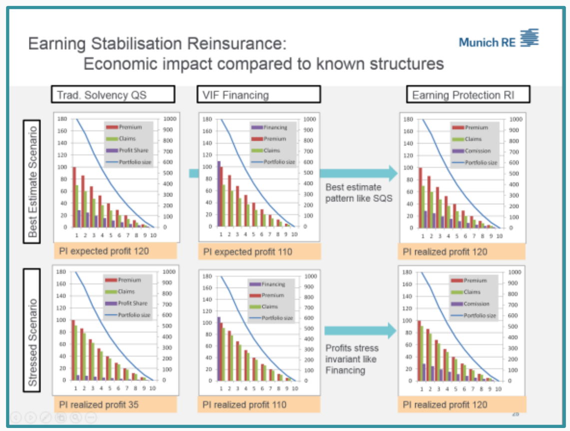
Unit Linked Income Stabilization



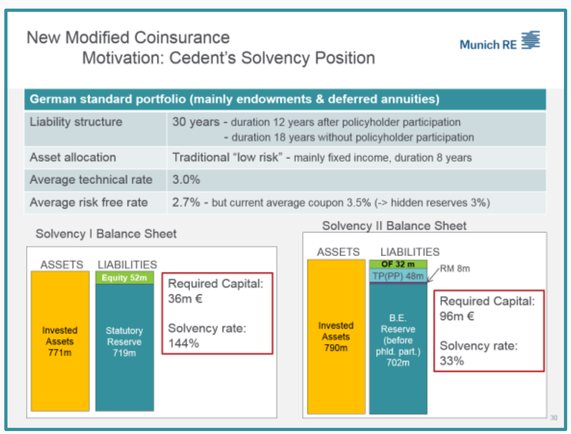
Lapses



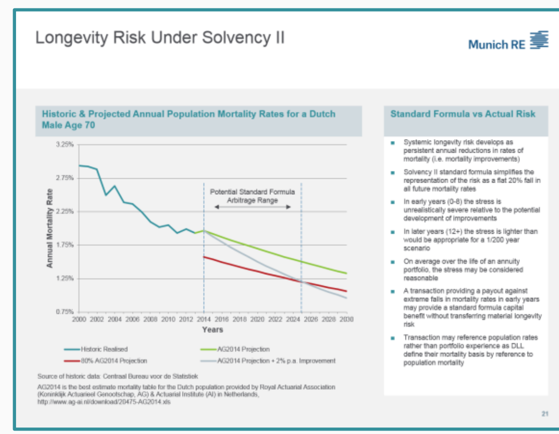
Earnings Stabilization



Interest Rate Solution



Longevity



Smoothing the Longevity Shock …

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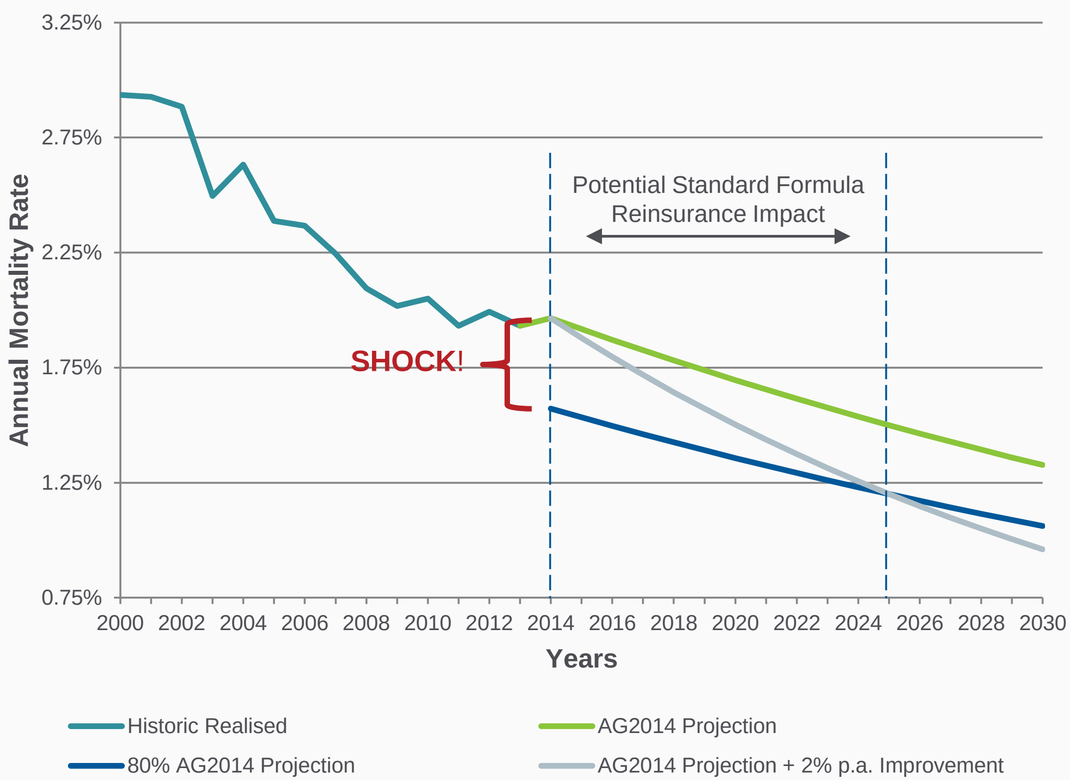
Historic & Projected Annual Population Mortality Rates for a Dutch Male Age 70



Source of historic data: Centraal Bureau voor de Statistiek

AG2014 is the best estimate mortality table for the Dutch population provided by Royal Actuarial Association (Koninklijk Actuarieel Genootschap, AG) & Actuarial Institute (AI) in Netherlands, http://www.ag-ai.nl/download/20475-AG2014.xls

Standard Formula vs Actual Risk

- Systemic longevity risk develops as persistent annual reductions in rates of mortality (i.e. improvements)
- Solvency II standard formula simplifies the representation of the risk as a **flat 20% fall** in all future mortality rates
- A transaction providing a payout against extreme falls in mortality rates in early years may provide a standard formula capital benefit
- Transaction may reference topopulation rates rather than portfolio experience as a company could define their mortality basis by reference to population mortality

…and therefore reducing the Longevity´s SCR

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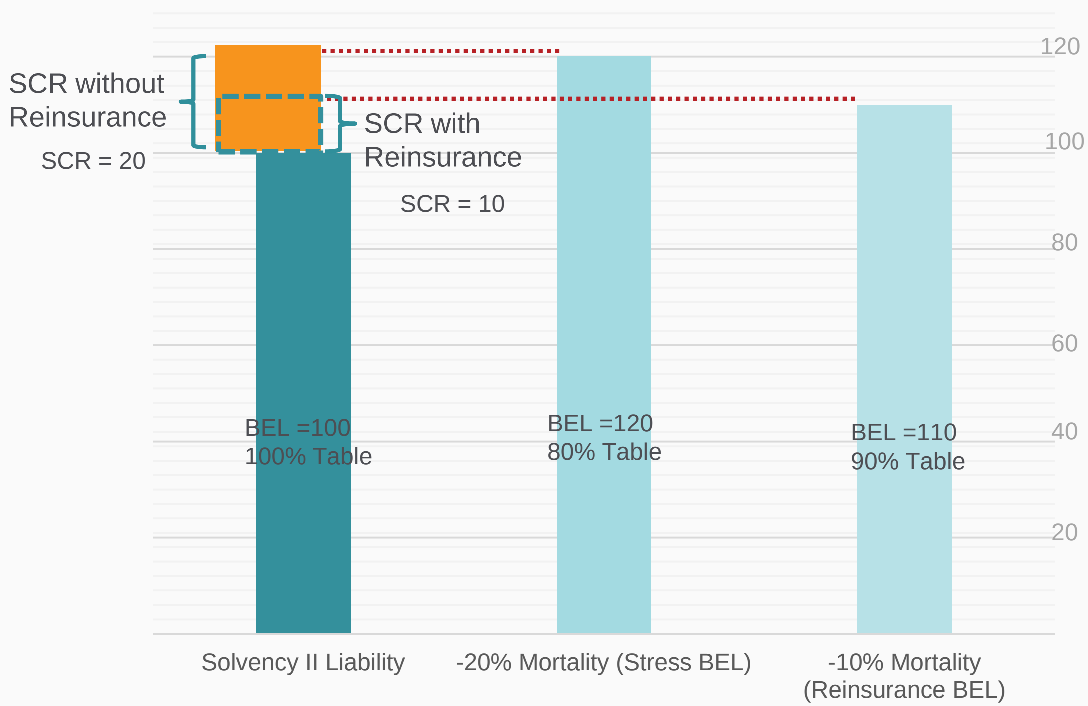
BEL´s Fluctuation -EXAMPLE



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Protecting against the Mass Lapse Risk

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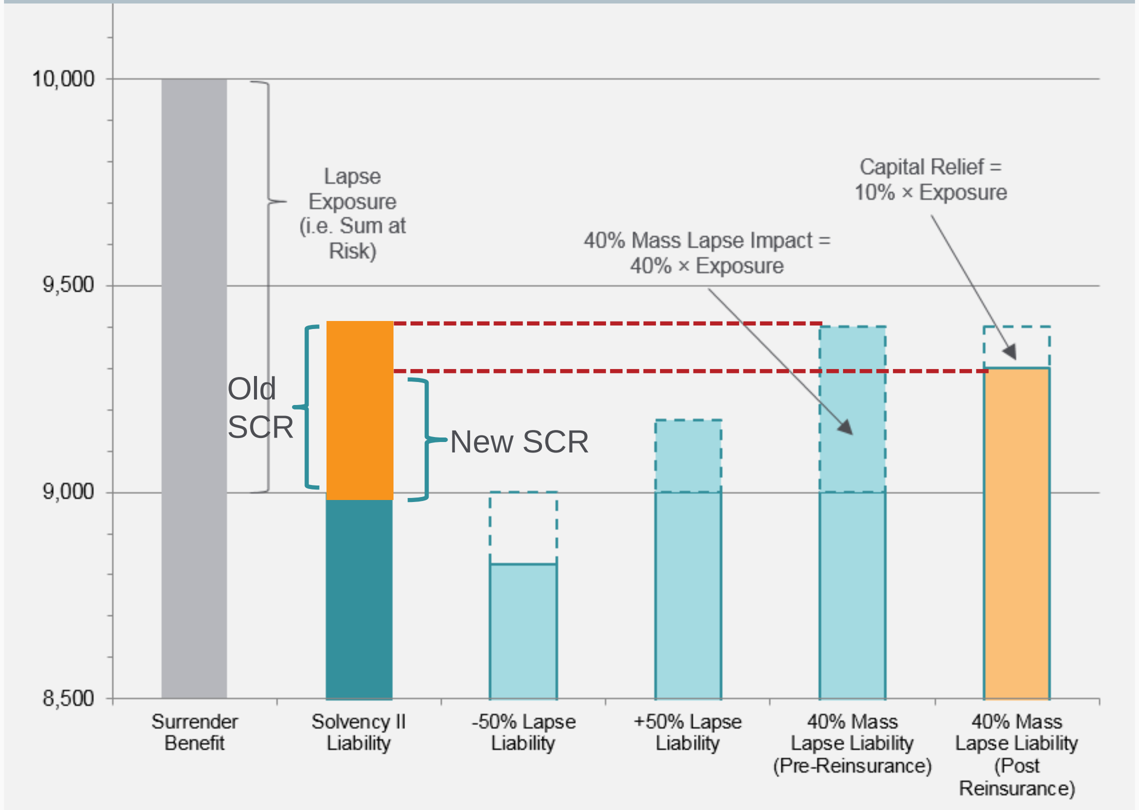
Cost of Lapses



Solvency II Lapse Capital Requirement =

MAX [-50% Lapse , +50% Lapse , 40%Mass Lapse]

Scope for 1 Year Capital Relief

- Lapse stress equal to maximum of 3 lapse scenarios (persistent decrease, persistent increase and instant shock)
- For policies with lapse sum at risk (surrender benefit > reserve) mass lapse is typically the highest stress
- 40% mass lapse stress is highest when annual lapse rates × 50% × duration is less than 40%
- For portfolios with positive lapse sum at risk and long term lapse assumptions significantly below 10%, full relief should be available for a significant layer of mass lapse up to 40%

A new era for all the players in the industry

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- Insurance margins should consider the COST OF CAPITAL (not only biometric risk and financial margin)

- Under new regulations (risk based), business losses will be somehow reflected in TODAY's Balance Sheet. Insurers should respond with :
  - Proper ALM measures
  - New product design (more market oriented)
  - Different asset mix

- As IMF said, Regulators should help companies to:
  - *"Promptly tackle the challenges facing life insurers"* and encourage them to offer guarantees more market oriented.
  - Strength transparency including through the publication of comprehensive stress test results

"There are lot of ways to lose money in insurance, and the industry never ceases searching for new one".

Reinsurance can help insurers bearing the current environment through different RISK management solutions *as CAPITAL matters…*

…always involving the Supervisor for its specific approval in advance!

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