«HOW POLICYHOLDER RISKS IMPACT THE SOLVENCY RATIO»

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Key messages

«How Policyholder Risks Impact the Solvency Ratio», Life Business

- Most relevant Policyholder risk in Swiss Life Business (excluding Mortality, Longevity, Disability)
  - Lapses in Individual Life and Group Life Business
  - Annuity take-up rates in Group Life Business
- Policyholder factors are usually modelled dynamically in Solvency models
- Policyholder Risks are measured in the capital requirement as a shock on the Risk Bearing Capital
- Policyholder Risks are a relevant driver of capital requirement and Solvency Ratio, although the major risks for the life business are market risks, especially interest rate risks.

Relevant Policyholder Risks

Life Business Switzerland

- **Annuity take-up rates (Group Life Business):**
  - Represent the proportion of the savings which is taken as an annuity at retirement in the mandatory part as well in the non-mandatory part in the Second Pillar at retirement.
  - Generally, higher annuity take-up rates for the mandatory part in comparison to the non-mandatory part (Annuity conversion rates are higher for the mandatory part than for the non-mandatory part).
  - In the last years, an increase of the annuity take-up rate has been observed in the Second Pillar.
- **Lapse rate (Individual and Group Life Business):**
  - Represent the fact that Policyholder can surrender.
  - Some penalty as a function of the interest rate level are applied.
  - In Switzerland relatively low level of lapse rates in comparison to other countries.

Modelling Policyholder Risks

Solvency Modell

- Policyholder Risks are generally modelled dynamically in the Life projection model:
  - Starting value: Best estimate Value
  - Dynamical rule during the projection, depending for example on the interest rate level
- **Solvency measure:**
  - Basically the same kind of modelling and impact for Solvency II and Swiss Solvency Test
  - Policyholder Risks impacts the **Risk Bearing Capital (Available Financial Resources)** via the dynamic modelling of the risk considered
  - Policyholder Risks also impacts the **Target Capital (Capital Requirement)** as a variation of the Risk Bearing Capital

Solvency II Definition

Main relevant Policyholder Risks

- For **Lapse risks** the stress is defined as the maximum of:
  - **Up Scenario:** instantaneous permanent increase of 50% in lapse rates (with a cap at a maximum lapse rate of 100%) in all future years for policies selected as “up”.
  - **Down Scenario:** instantaneous permanent decrease of 50% in lapse rates (up to a maximum absolute decrease of 20%) in all future years for policies selected as “down”.
  - **Mass Scenario:** combination of the following instantaneous events:
    - (a) Discontinuance of 70% of the policies; for which discontinuance would result in an increase of technical provisions without the risk margin and where one of the conditions below are met:
      - i. the policy holder is not a natural person and discontinuance of the policy is not subject to approval by the beneficiaries of the pension fund
      - ii. the policy holder is a natural person acting for the benefit of the beneficiaries of the policy, except where there is a family relationship between that natural person and the beneficiaries, or where the policy is effected for private estate planning or inheritance purposes and the number of beneficiaries under the policy does not exceed 20;
    - (b) Discontinuance of 40% of the policies other than in (a) for which discontinuance would result in an increase of TP without the risk margin
- Scope of lapse risk module also includes all customer behaviour options existing, for instance GAOs, ie. **Annuity take-up rate**

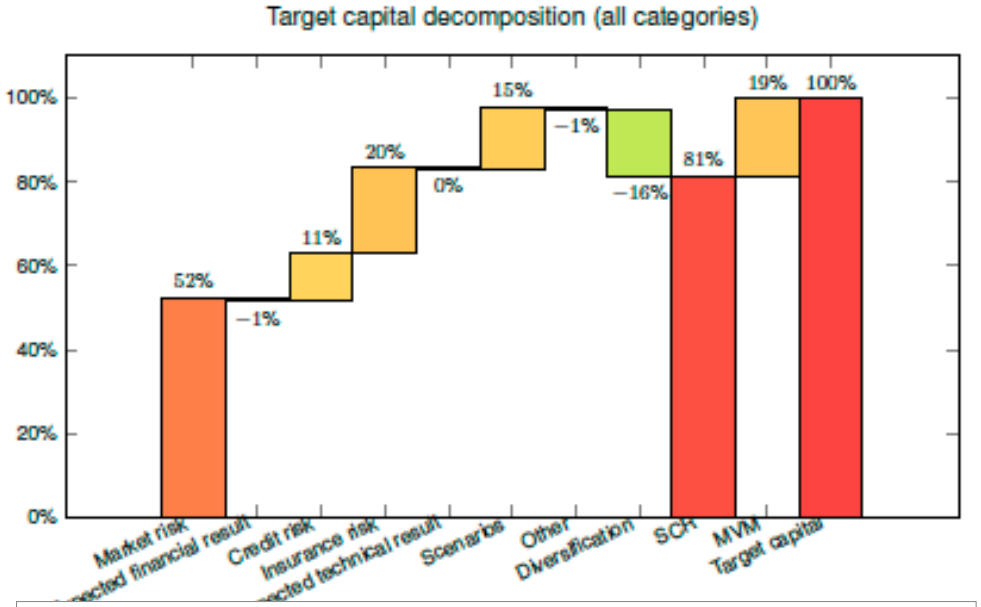
Swiss Solvency Test Definition

Main relevant Policyholder Risks and biometrical Risks

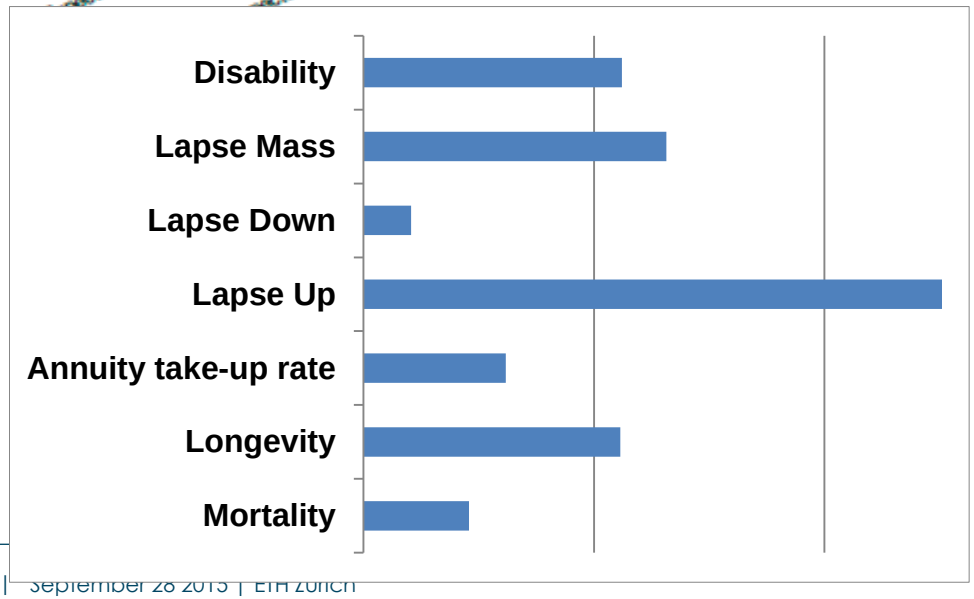
- The **SST standard model for life insurance risks** is defined by a number of risk factors, which are assumed to be normally distributed, analogously to the asset model. The company calculates the sensitivity of the risk-bearing capital with respect the separate risk factors are computed and then aggregated, taking into account the volatilities of the risk factors and the correlation between the risk factors. For the standard model the change of the risk factors within one year is relevant.
  - Mortality 20%
  - Longevity 10%
  - Disability 10%
  - Recovery 20%
  - **Lapse 25%**
  - **Annuity take-up 25%**

Decomposition of risk factors Solvency Ratio

SST 2014, Solvency II



- Target capital decomposition for Swiss Life insurers
- Main driver of Target Capital SST is Market Risk with a contribution of 20%
- Insurance risk with a contribution of 20%



- Comparison of the Life Insurance Risks in Capital Requirement Solvency II
- Lapses are the main driver