Milliman Apéro

Differences and similarities between the Swiss Solvency Test and Solvency II QIS5, their challenges and their impact

Nick Kinrade
Thomas Guidon

Au Premier, Zürich Hauptbahnhof
28 September 2011

Milliman

Contents

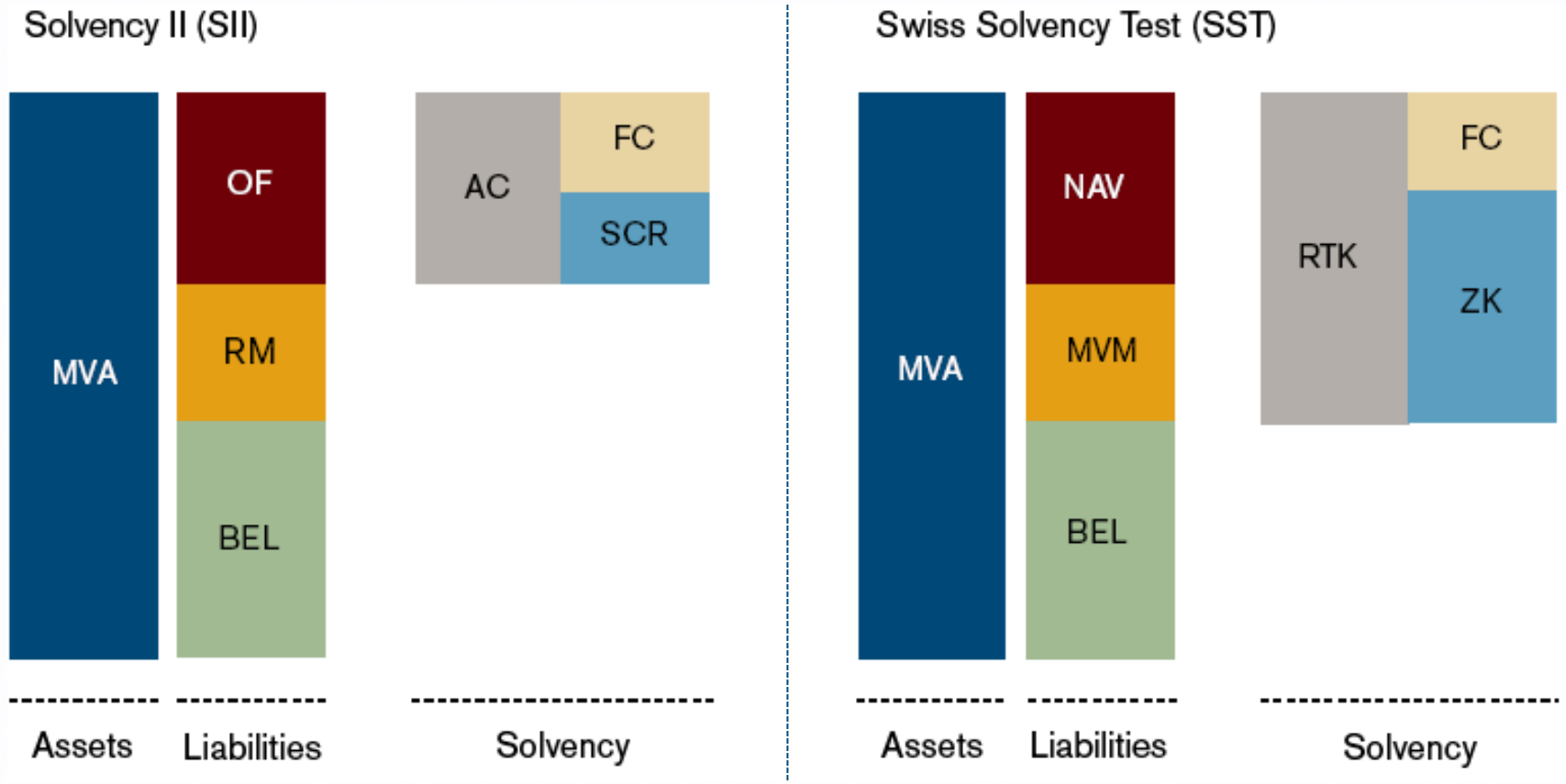
- Solvency II vs SST Comparison
- Solvency II and SST Hot Topics
- Possible Strategic and Business Impacts
- Discussion

Solvency II vs SST
Similarities and Differences

Milliman

Similarities and Differences

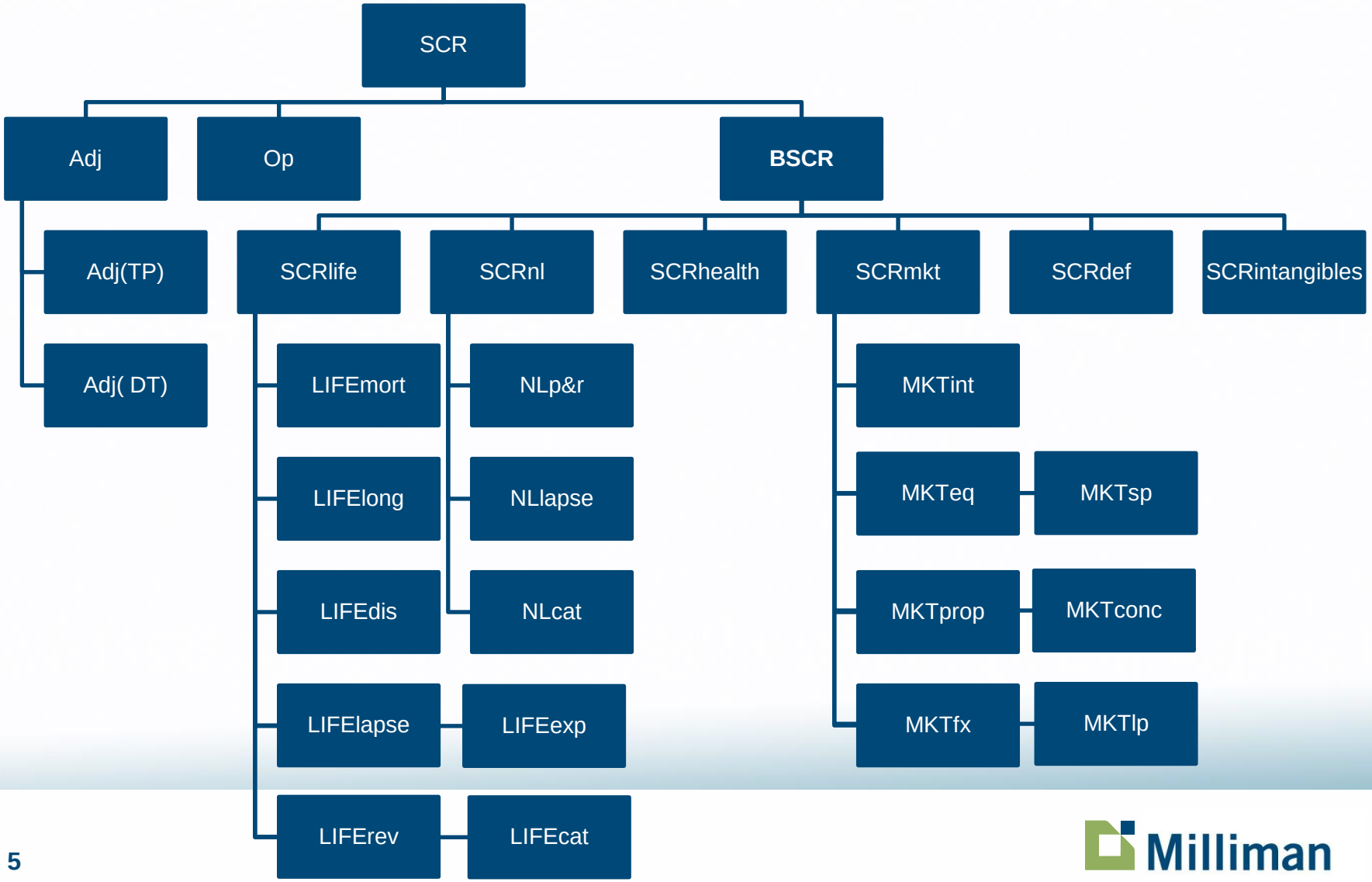
Base Balance Sheet



Milliman

Similarities and Differences

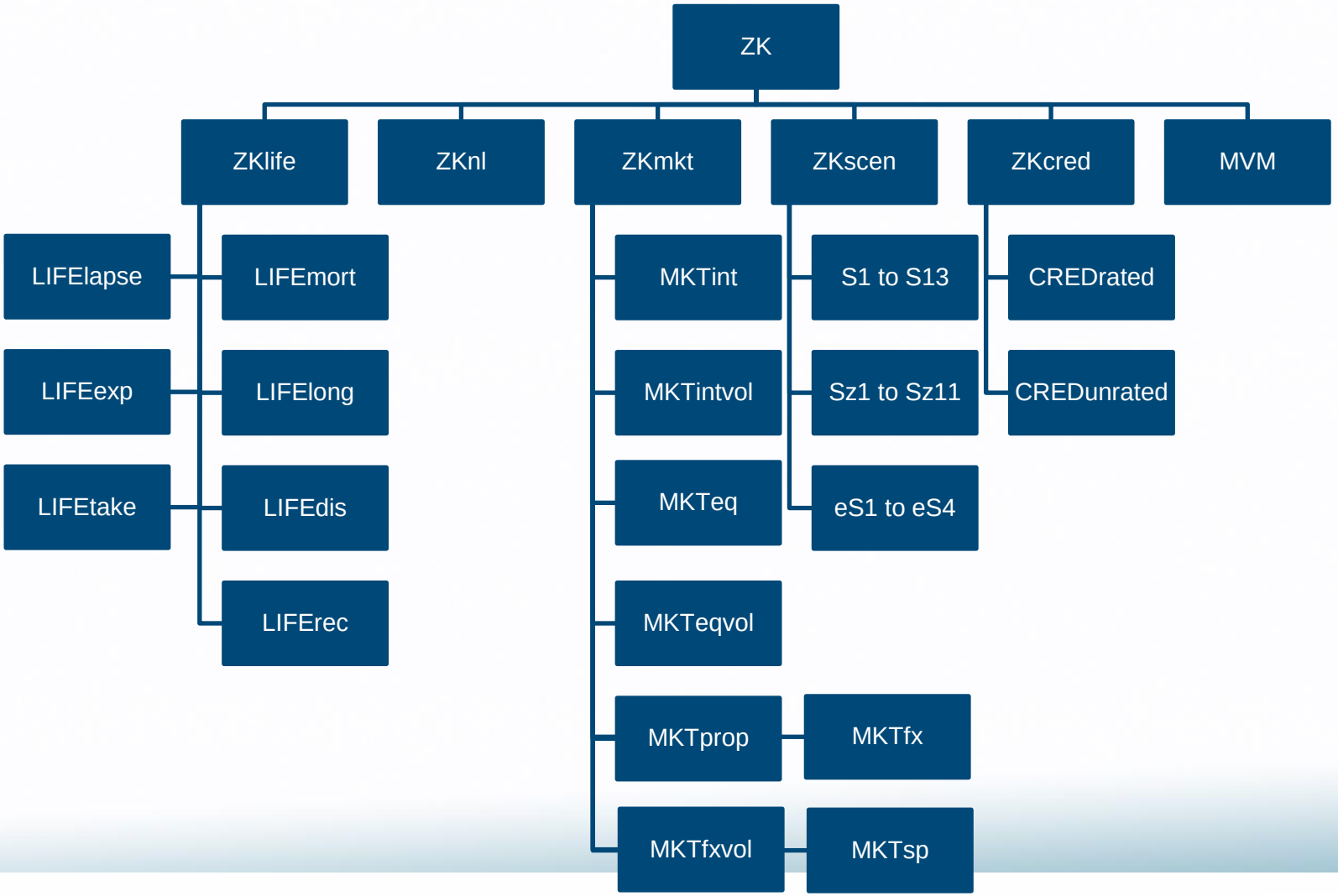
Solvency II SCR Components



Milliman

Similarities and Differences

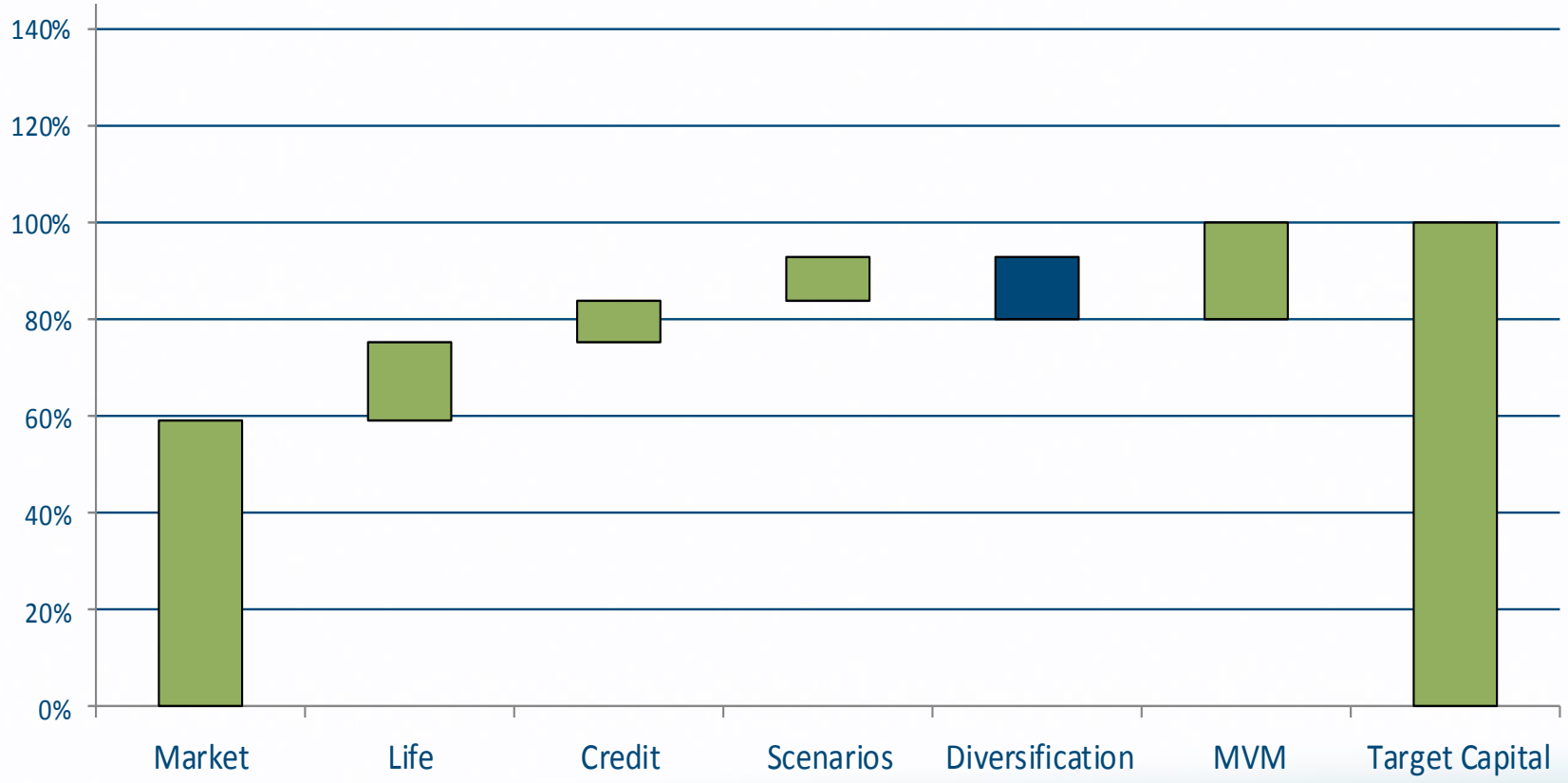
SST Target Capital Components



Milliman

Similarities and Differences

Components of “SST Target Capital” at year end 2009 - Life

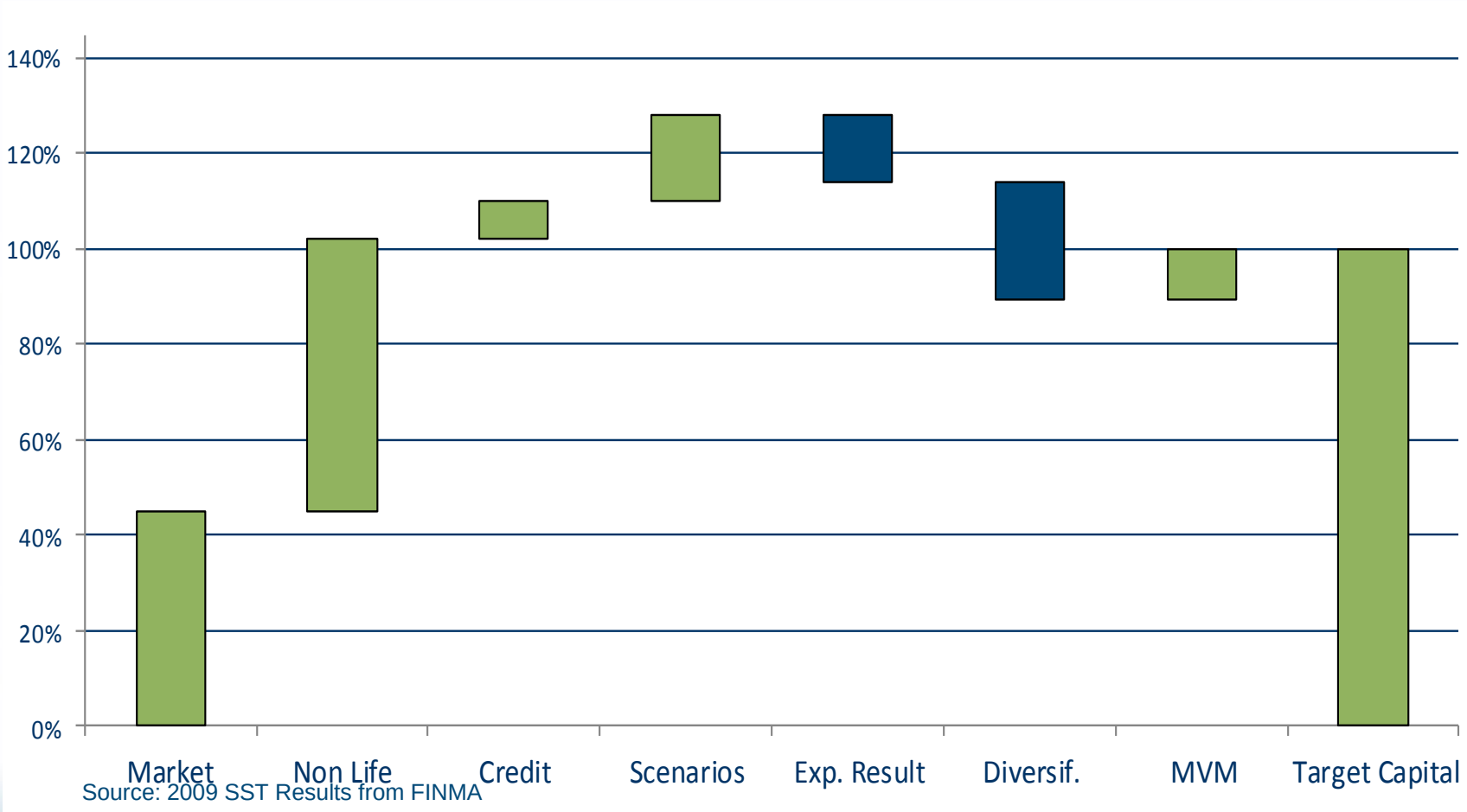


Source: 2009 SST Results from FINMA

Milliman

Similarities and Differences

Components of “SST Target Capital” at year end 2009 – Non Life



Source: 2009 SST Results from FINMA

Milliman

Similarities and Differences

Summary of main differences

- Risk Measure and Methodology
- Allowance for Volatility Risks
- Tax
- Scenario Testing
- Reference Rates and Liquidity Premium
- Solvency Ratio
- Valuation of Future Discretionary Bonuses
- Approach to Risk Margin / MVM

Similarities and Differences

Life Underwriting Risk

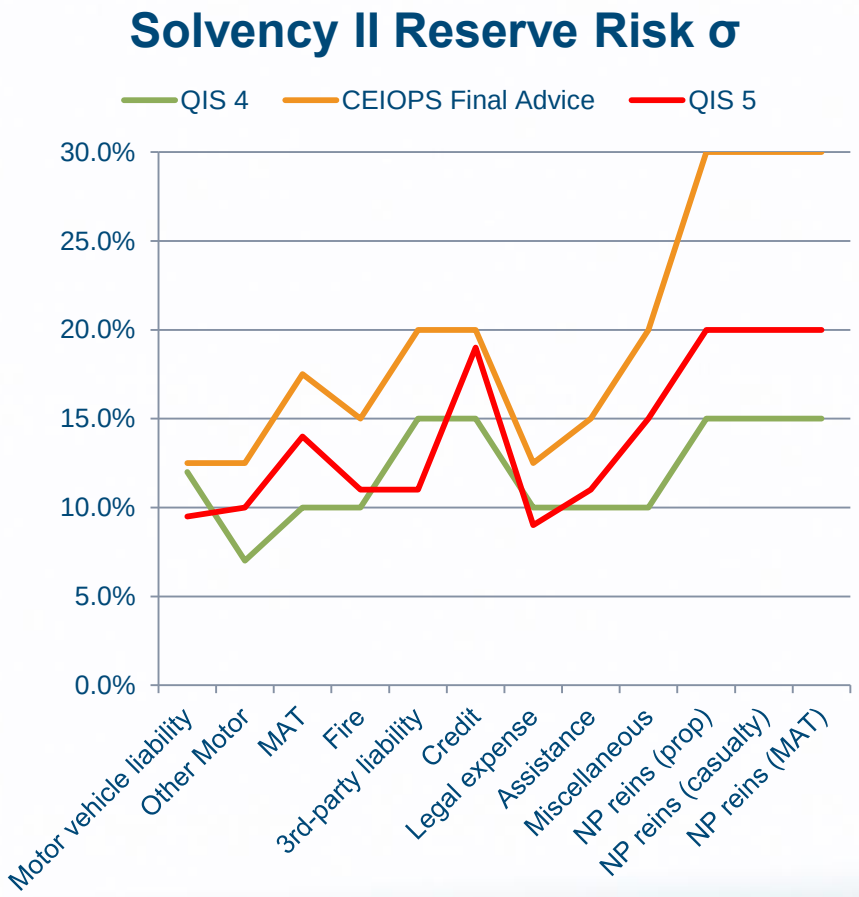
- Solvency II risk capital is based on change in Own Funds in pre-defined stress events
- SST is based on the parameter TVaR and on the Delta-Gamma methodology, as well as allowance for stochastic risk.

RISK FACTOR	INCLUDED IN SOLVENCY II	INCLUDED IN SST
MORTALITY	YES	YES
MORBIDITY	YES	YES
RECOVERY RATES	WITHIN MORBIDITY SUB MODULE	YES
LONGEVITY	YES	YES
EXPENSES	YES	YES
LAPSES	YES	YES
LIFE CATASTROPHE	YES	N/A
ANNUITY REVISION	YES	N/A
OPTION TAKE-UP	WITHIN LAPSE SUB MODULE	YES

Similarities and Differences

Non-Life Underwriting Risk

- Solvency II and SST both measure underwriting risk on a LoB level.
- QIS 5 nat. cat modeling modified since QIS4. Solvency II and SST correlation assumptions differ. Discussion on SST correlation adjustments.
- Solvency II and SST volatility assumptions differ.
- SST allows modelling of excess of loss reinsurance protection.

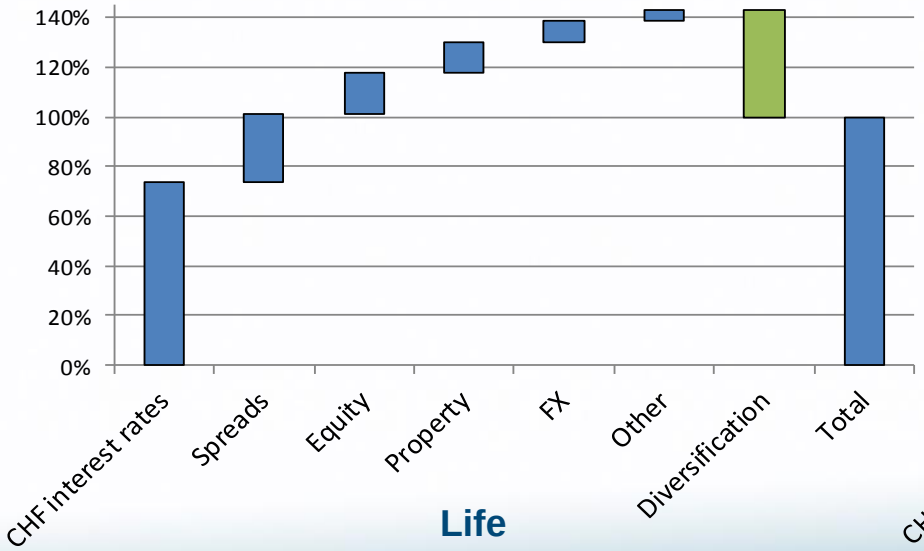


Milliman

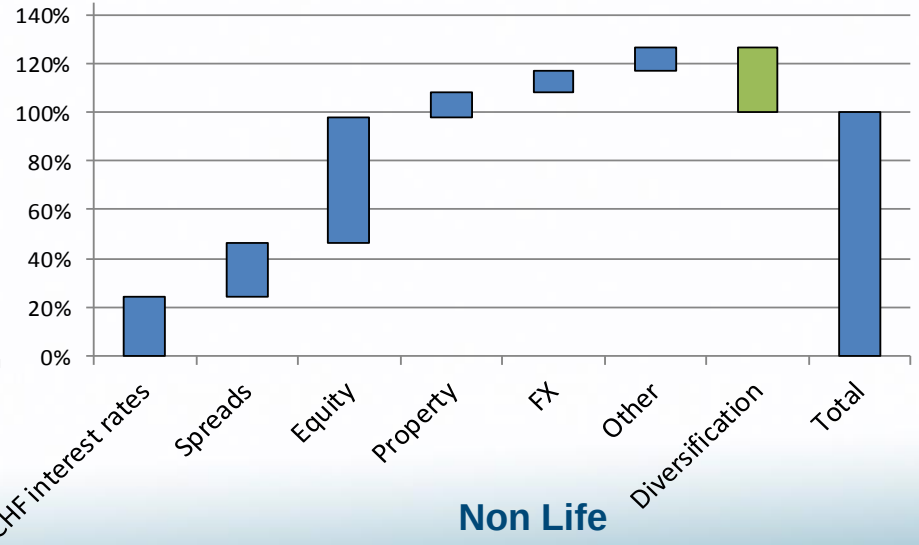
Similarities and Differences

Market Risk

RISK FACTOR	SOLVENCY II	SST
INTEREST RATES	YES	YES
INTEREST RATE VOLATILITY	NO	YES
EQUITY	YES	YES
EQUITY VOLATILITY	NO	YES
PROPERTY	YES	YES
CURRENCY	YES	YES
CURRENCY VOLATILITY	NO	YES
SPREADS	YES	YES
CONCENTRATION	YES	N/A
ILLIQUIDITY PREMIUM	YES	N/A



Life



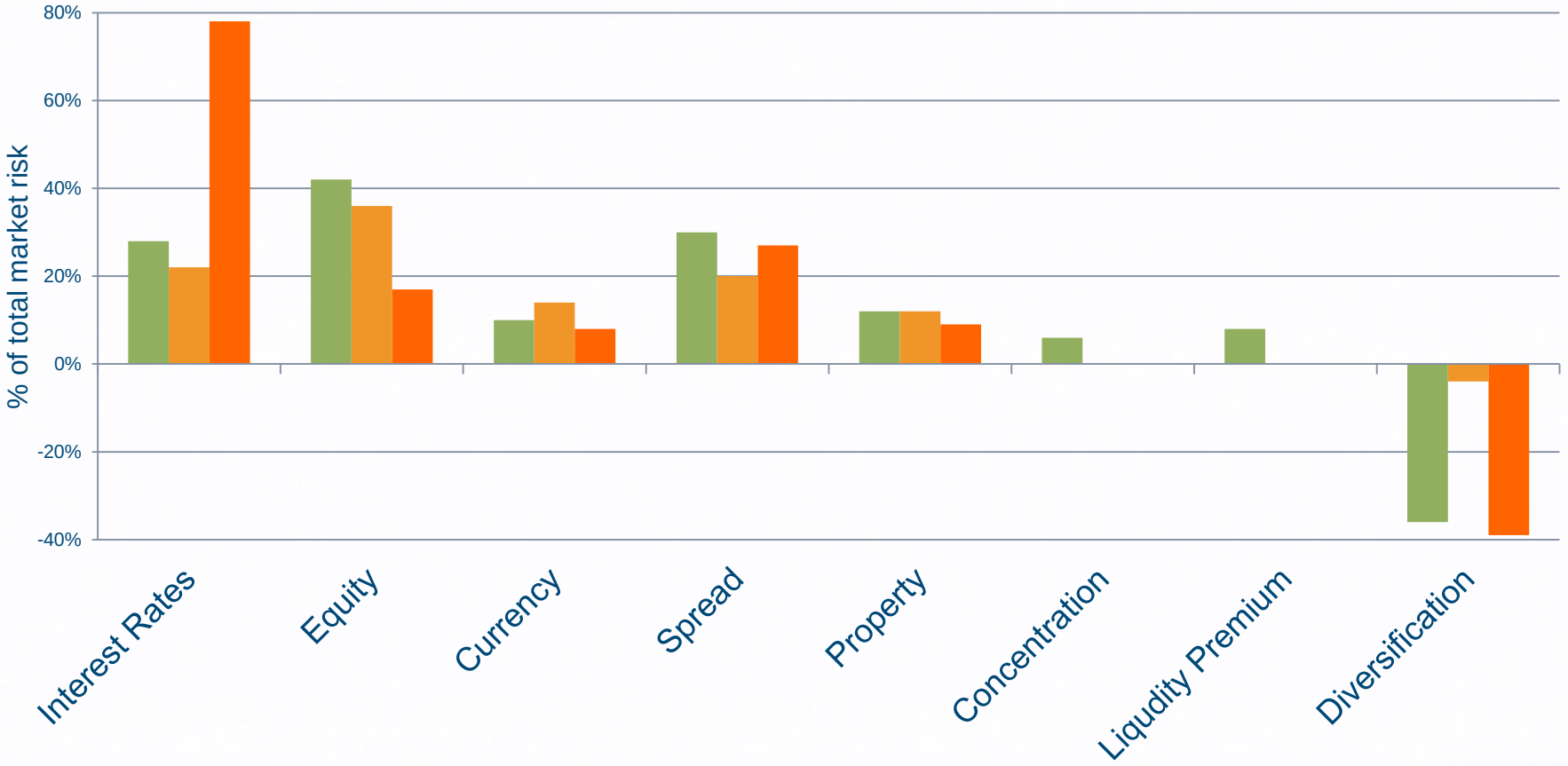
Non Life

Source: 2009 SST Results from FINMA

Milliman

Similarities and Differences

Market Risk (continued)



Source: 2009 SST Results from FINMA and QIS5 Results

Milliman

Similarities and Differences

Credit Risk

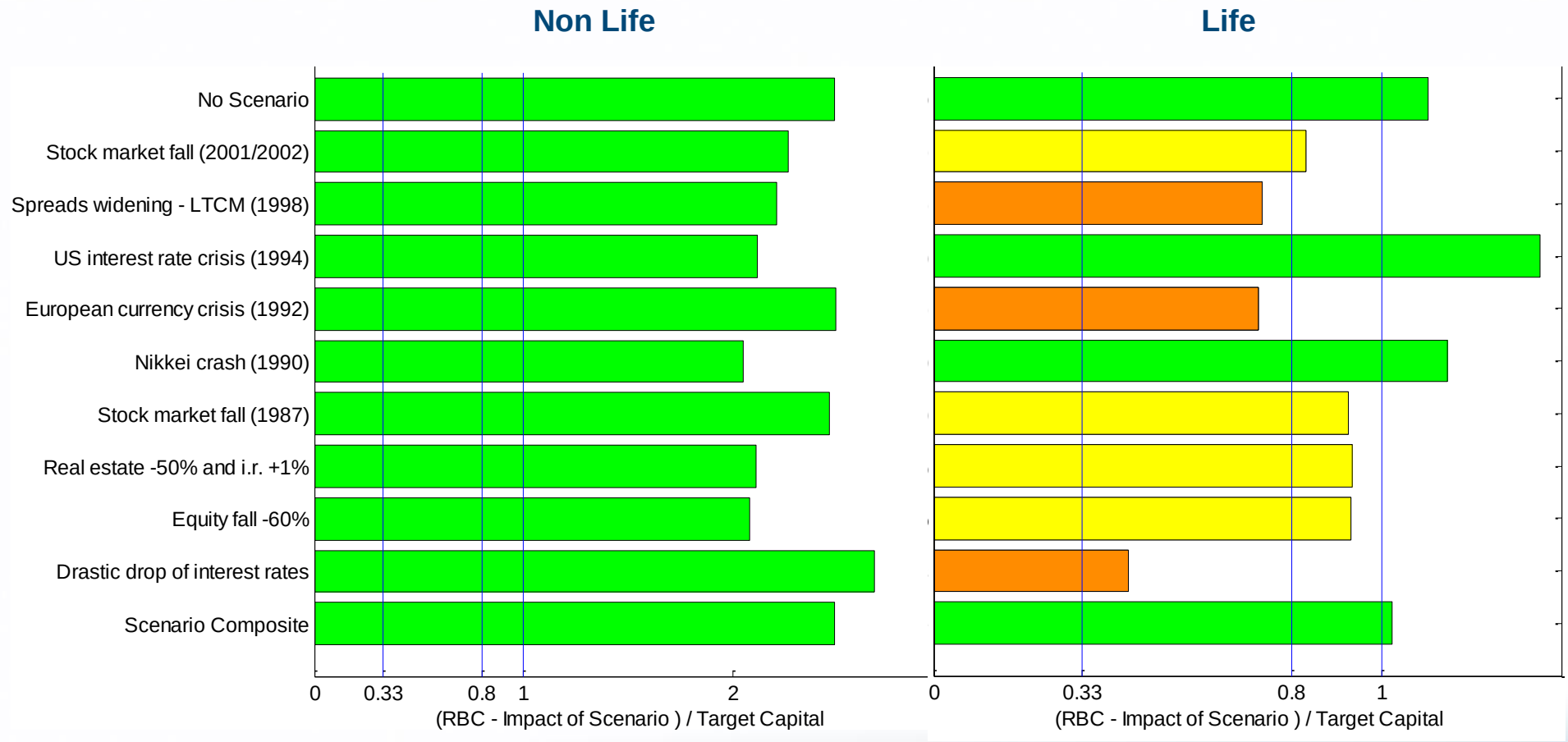
- SII uses a Loss Given Default (LGD) approach and depends on the variance of the asset portfolio.
- SST uses a Basel II approach based on 8% capital charge with no diversification applied to Risk Weighted Assets = MV Asset x Risk Factor depending on rating

- Example of Long Term Cash Deposits with 6 Banks (ratings AAA, AA, A, BBB, BB, B):

	MV of 100 in each Bank	MV of 50 in each 2 Banks of each rating	MV of 200 in only A* rated	MV of 600 in AAA Bank	MV of 600 in B Bank
SII Charge	155	82	17	8	600
SST Charge	27	27	14	10	48

Similarities and Differences

SST Scenario Capital



Source: 2009 SST Results from FINMA

Milliman

Solvency II and SST
Hot Topics and Challenges

Milliman

Hot Topics and Challenges

Solvency II Key Challenges and Issues – Life & Non-Life

Valuation

- Reference Rates and Credit Risk adjustment
- Illiquidity Premium/ Counter Cyclical Premium
- Group Modeling and Implementation of Fungibility Constraints and CRTI modelling
- Grandfathering of Existing Hybrid Debt
- Treatment of EPIFP
- Risk Margin
- Contract Boundaries

Capital Requirements

- Symmetric Adjustment and Dampeners
- Volatility Risk
- Internal Models and Undertaking Specific Parameters (USP)
- Capital Charge for EU Government Bonds
- Contract Boundaries
- Natural catastrophe modeling
- Volatility of non-life LoBs

CRTI = Capital & Risk Transfer Instruments

EPIFP = Expected Profits in Future Premiums

Hot Topics and Challenges

SST Key Challenges and Issues - Life & Non-Life

Valuation

- Allowance for tax
- Allowance for discretionary bonuses
- Contract boundaries
- Reference Rates
- Allowance for options and guarantees in the standard model
- Group Modeling and Implementation of Fungibility Constraints and CRTI modelling
- Lack of detailed “rules” as per SII.
- Implementation of Replicating Portfolios
- Risk Margin calculation

Capital Requirements

- Implementation of the Delta-Gamma approach to Market Risk
- Creation of meaningful company-defined scenarios
- Duration bucket /key rate interest rate shocks
- Operational Risk allowance
- Volatility of non-life LoBs
- Correlation assumption for Non-Life insurance risk

Hot Topics and Challenges

Other Challenges with the Implementation of Risk Based Regimes

- Validity of models
- Cost of expertise and implementation
- Capital Instruments/Solutions designed to exploit “loopholes”
- Increased complexity in an Insurer’s financial disclosure
- Increased cost of capital funding
- Incompatibilities with Basel II/III – possible increased hedging costs
- Timing - IFRS 4 Phase II / MCEV /Basel III
- Projection of future solvency requirements for risk margin
- ORSA, Governance and Documentation
- Running more than one parallel system
- Change in risks management culture – regulator, companies, boards

Hot Topics and Challenges

Solvency II: Counter Cyclical Dampeners and Liquidity Premium

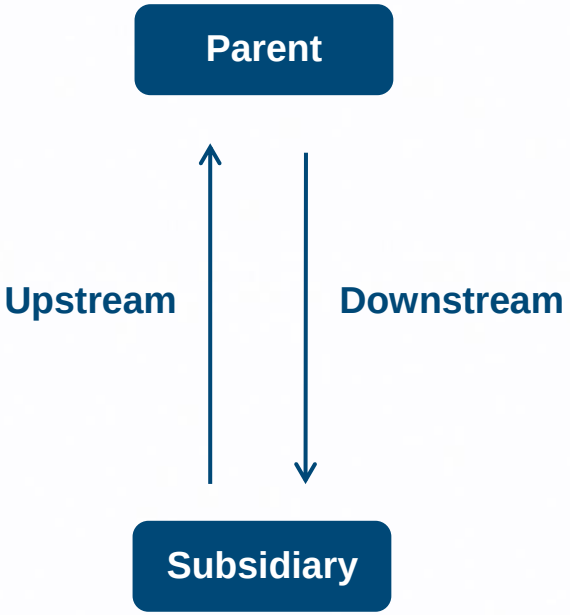
- Uses:
  - **Smooth out short term volatility**
  - **Avoid the need for excess capitalisation in depressed market conditions.**
- QIS5 dampeners:
  - **Illiquidity Premium**
  - **9% reduction to the equity stress from the Symmetric Adjustment**
- Other possible approaches are being discussed for Solvency II
  - **Currently favoured option would be a single Counter Cyclical Premium (CCP)**
  - **Would cover Liquidity Premium as well as other reasons for asset changes e.g. increase in Government spreads**
- On top of the CCP, equity and an explicit spread risk dampener is possible.

Capital market Feature	Spread Widening	Equity Shock
Liability Side Response	Increase in Liquidity Premium	Symmetric Adjustment

Hot Topics and Challenges

The Group Model

- SST must be performed in line with the Legal Entity structure rather than any Management structure.
- Two methods are permissible for SII: Accounting Consolidation-Based Method and Deduction and Aggregation Method.
- Explicit allowance for Capital and Risk Transfer Instruments (CRTIs)
- Different definitions of capital fungibility
- Other key issues:
  - **Market Consistent value of Participations**
  - **Functional dependency of value participations and accounting impact in distressed scenarios**
  - **Treatment of Hybrid Capital as Own Funds/Available Capital**
  - **Internal Reinsurance modelling**
  - **Limited Liability Put Option (LLPO) decision and modelling**

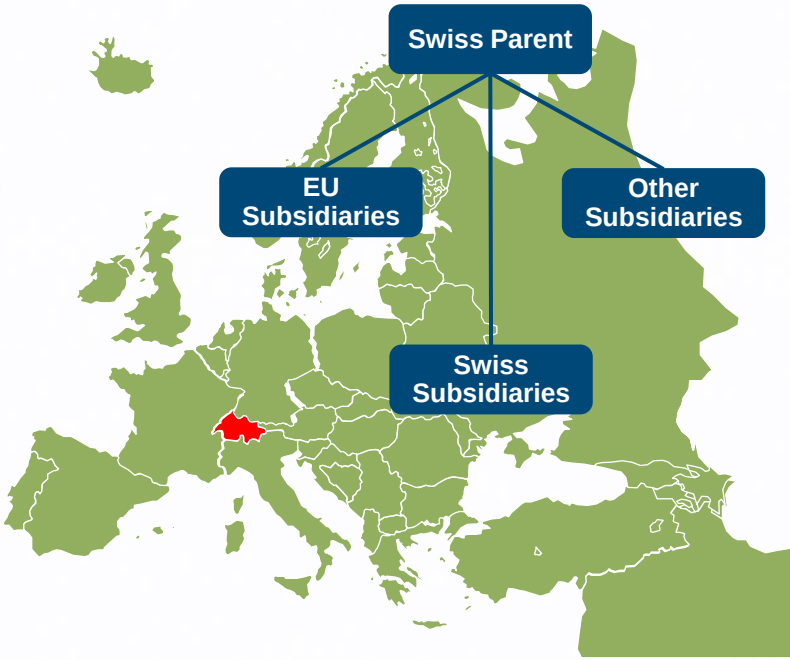


Milliman

Hot Topics and Challenges

Equivalency and Economic Capital for Swiss Groups

- Key decision over what methodology to use:
  - **SST or Solvency II standard model (excl. group)**
  - **Internal Model**
- Key aspects to consider:
  - **Competitive advantage or disadvantage**
  - **Integration of subsidiary model into group model**
  - **Compatibility of risk modeling**
  - **Optimization between cost & accuracy**
- Decision is dependent on whether or not the SST is afforded equivalency status under SII.
- Optimal decision could be to use a hybrid Internal Model for the following purposes:
  - **The Group's SST submission**
  - **The subsidiary's SII/SST submission**
  - **Internal Capital Modelling and Performance Management**
  - **As the basis for Risk Margins/CRNHR in MCEV and IFRS 4 Phase II**



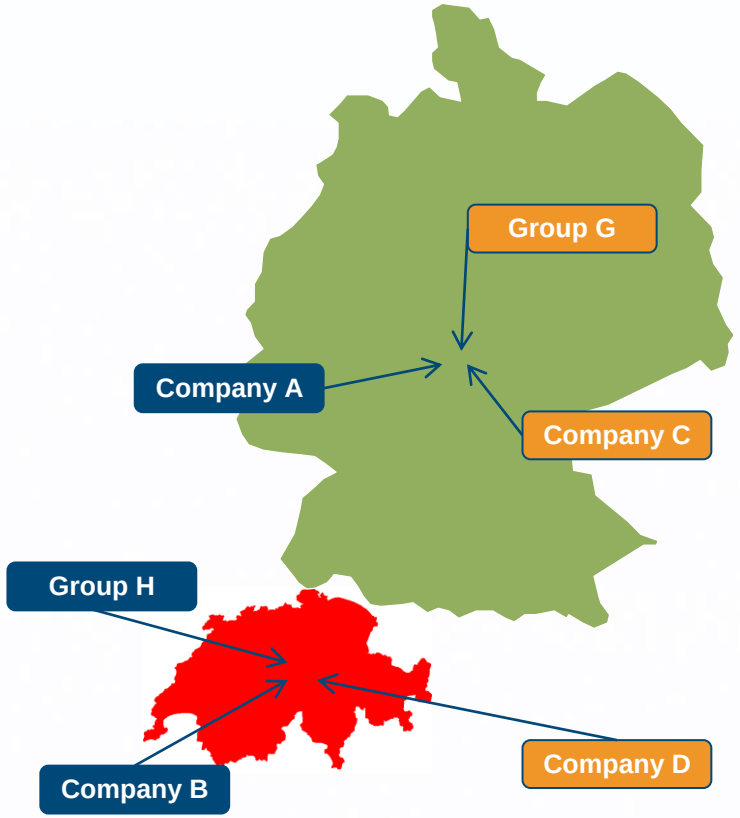
Milliman

Hot Topics and Challenges

Example of Equivalence related issue

- Hypothetical situation of 2 insurance Groups:
  - **Group G is headquartered in Germany and owns a German subsidiary C and a Swiss subsidiary D**
  - **Group H is headquartered in Switzerland and owns a German subsidiary A and a Swiss subsidiary B**

- Assumptions:
  - **Standard model for subsidiaries**
  - **100% ownership over the subsidiaries and no inter-group CRTIs. We assume consolidation is simply additive**
  - **Companies A, B, C and D are identical apart from their owner and the Solvency regime they are in (determined by country).**
  - **Solvency ratios are shown in the table.**



Company	SST Solvency	SII Solvency
A	120%	140%
B	120%	N/A
C	N/A	140%
D	120%	140%

Milliman

Solvency II and SST
Possible strategic & business impacts

Milliman

Possible strategic & business impacts

- Product Design and Pricing
- Integration of Risk Management in daily process
- Consolidation across the industry
- Other impacts on M&A activity and strategy
- Focus on ALM for Life Insurers
- Consolidation through M&A and Other Corporate Restructuring
- Change in strategy to exploit diversification
- Costs of Capital

Solvency II and SST Discussion

Milliman