# Underwriting

Matthias Weber, Group Chief Underwriting Officer

# Priorities in underwriting build sustainable competitive advantage

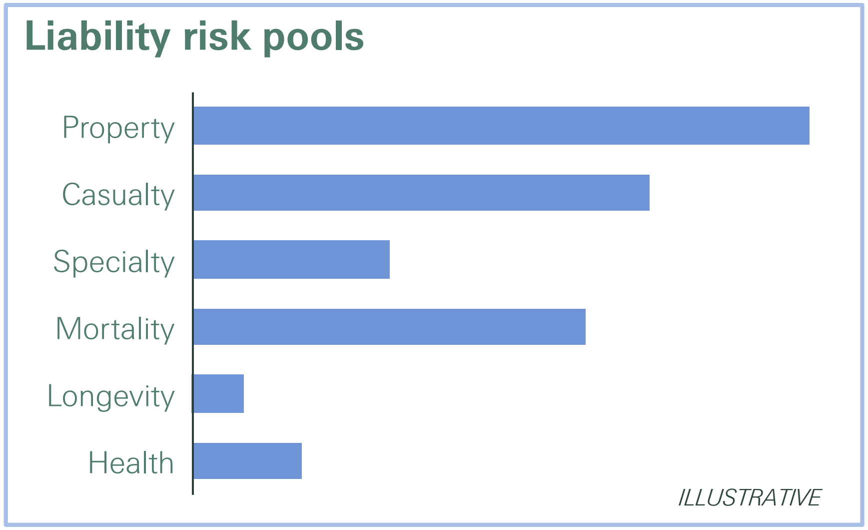
**Challenging market outlook**

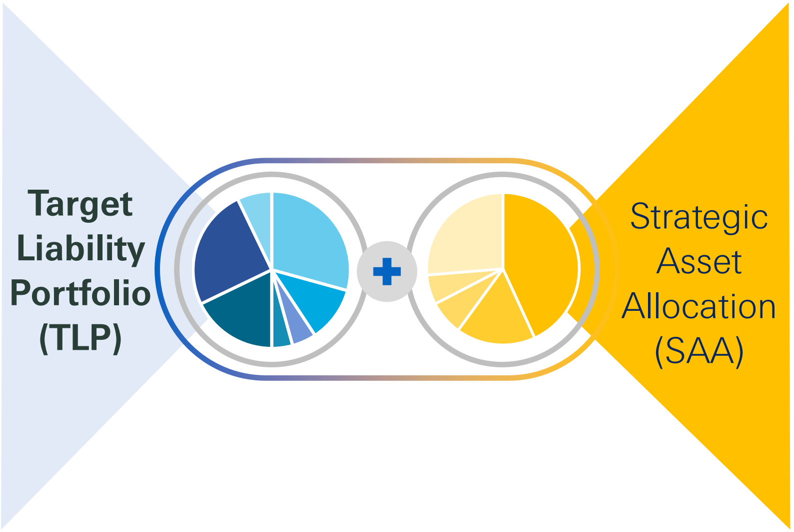
- Low margins
- Low growth, low interest rates
- Impact of technology
- New and enlarging risks
- Regulatory changes

**Underwriting priorities**

- Capital allocation in underwriting
- Retro and hedging
- Risk selection
- Large & tailored transactions
- Digital analytics

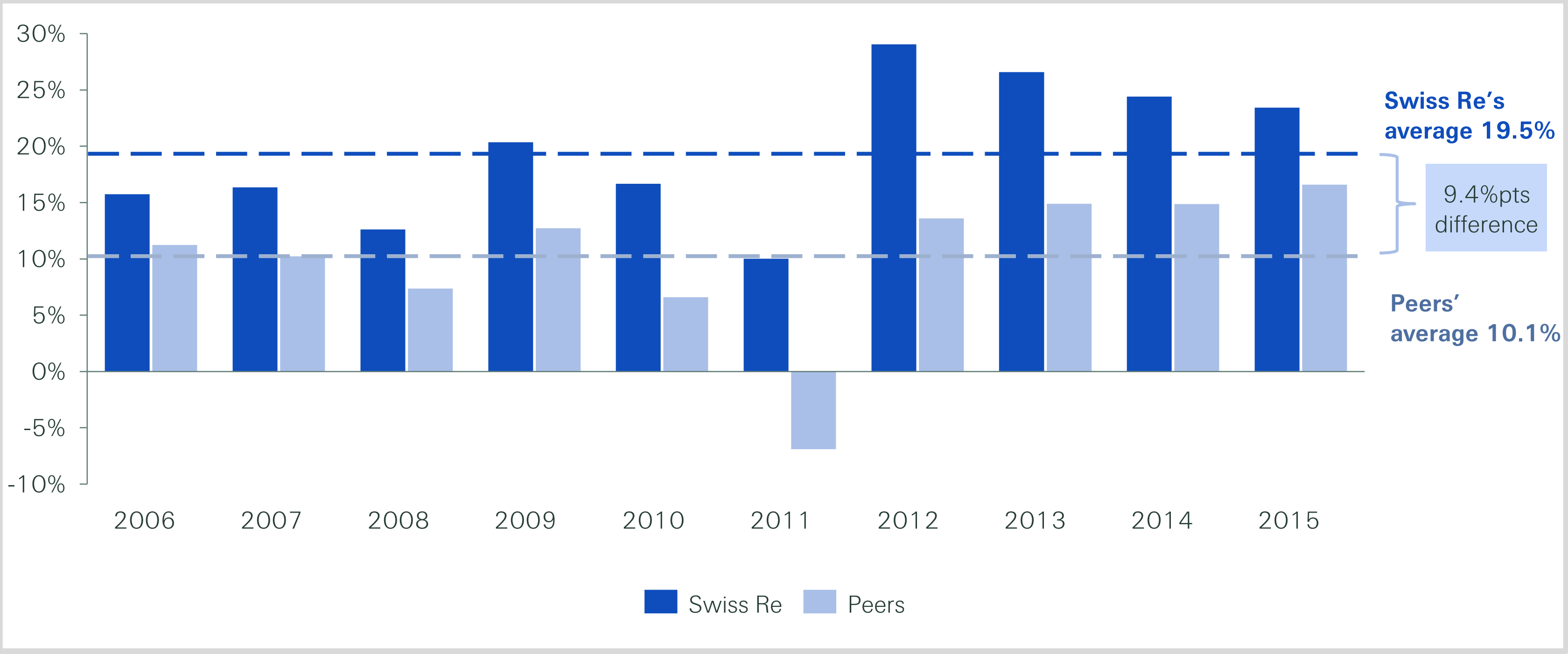
Continued strong contribution to Swiss Re's financial results through an integrated capital allocation approach



# Swiss Re has consistently achieved higher underwriting margins than peers

## Gross underwriting margin[1] (P&C Reinsurance and Corporate Solutions)



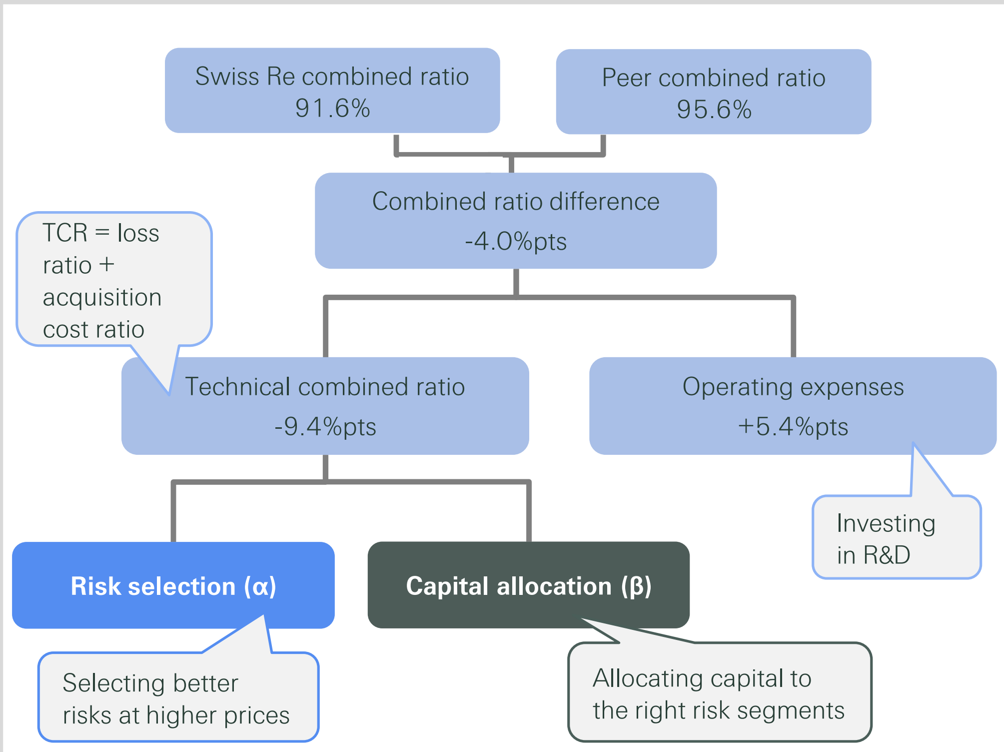

Our track record reflects superior risk selection and capital allocation, as well as differentiated pricing

[1] Gross underwriting margin = 1 - technical combined ratio = 1 - (loss ratio + acquisition cost ratio)
Note: Peers include Alleghany, Everest Re, Hannover Re, Munich Re, Partner Re and SCOR

# P&C underwriting success results from combination of bottom-up risk selection and top-down capital allocation

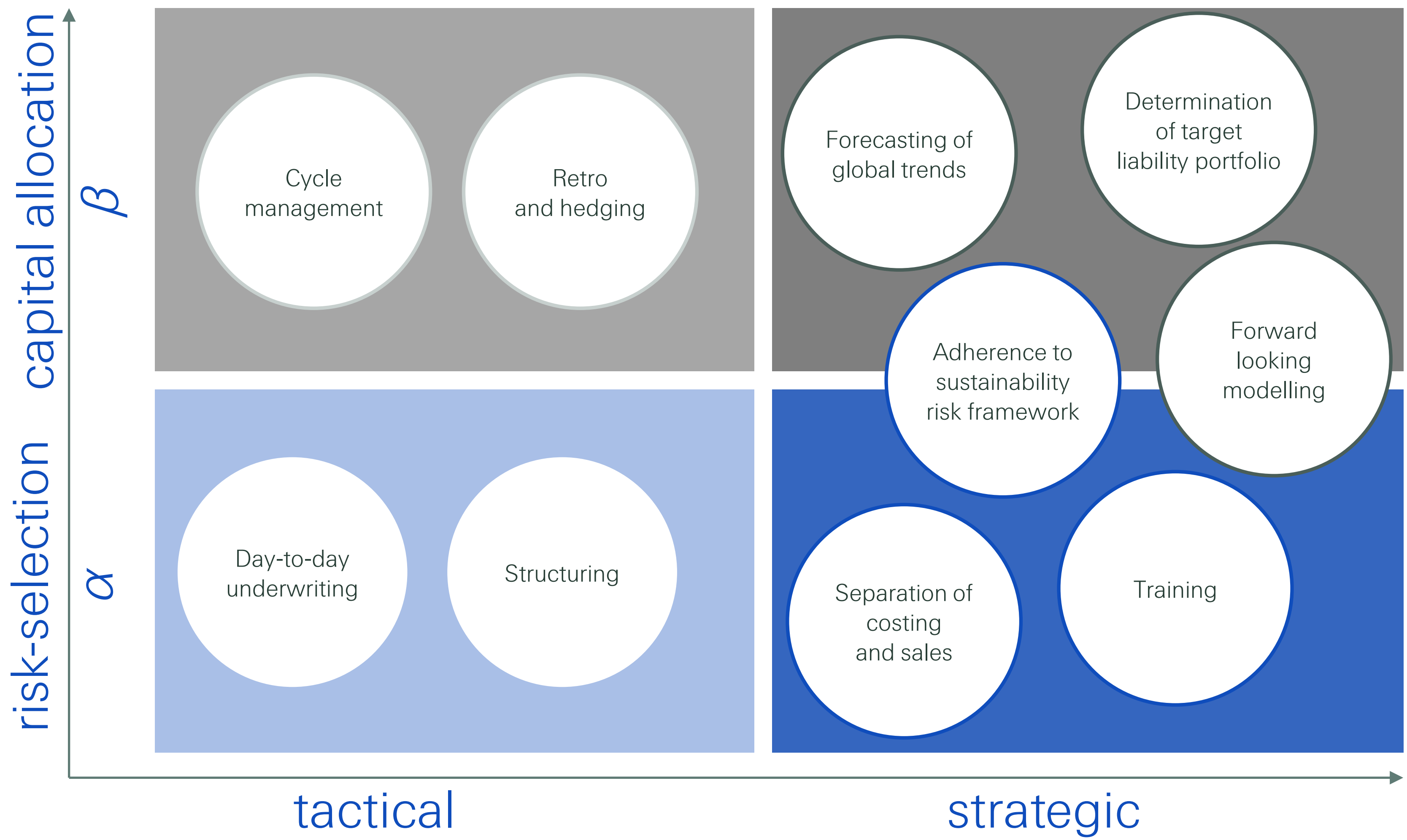
- Swiss Re achieves outperformance in underwriting through lower technical combined ratio (TCR) than peers
- Bottom-up risk selection and top-down capital allocation contribute positively towards TCR outperformance

**Underwriting success driven by α and β**
(P&C Re and Corporate Solutions average 2006-2015)



Knowledge

# Risk selection and strategic capital allocation are key contributors to Swiss Re´s success



Knowledge

# R&D in underwriting enhances risk selection and capital allocation

## Focus of R&D in underwriting

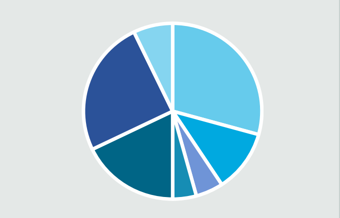
| | | | |
|---|---|---|---|
| *Property* | Nat Cat perils; Climate change; Cyber | Human behaviours | Digital analytics |
| *Casualty* | Economic, legal, political, societal changes | Human behaviours | Digital analytics |
| *Specialty lines* | Credit default probabilities | Human behaviours | Digital analytics |
| *Life* | Mortality trends; Lapse trends | Human behaviours | Digital analytics |
| *Health* | Morbidity trends | Human behaviours | Digital analytics |

## Applications

### Risk selection

- Proprietary nat cat toolbox
- Liability risk drivers (LRD™)
- Risk engineering services

### Capital allocation



- Target liability portfolio
- Retro and hedging
- Cycle management

Knowledge

# Example – R&D is the basis for our proprietary pandemic loss modelling

## Inputs

Lethality | Reproduction number (spread capability) | Random variables

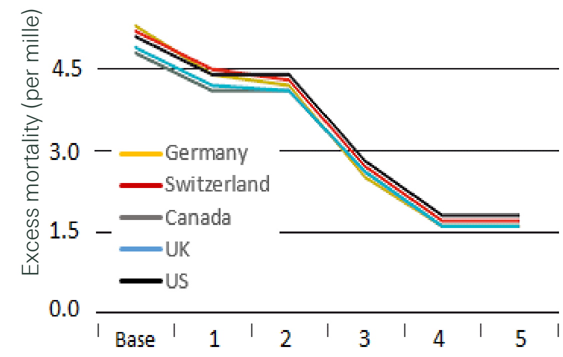
Virus features

**Simulated pandemic**

Demographics

Interventions

## Modelled pandemic mortality




1 Population structure
2 ... plus underlying changes relative to US
3 ... plus antibiotics
4 ... plus antiviral treatment
5 ... plus vaccines

Our sophisticated forward-looking model simulates the evolution of potential worldwide pandemics and supports our costing, allowing to effectively manage the impact of a pandemic on our balance sheet

Knowledge

# Example – R&D enhances loss projection for US P&C agent E&O

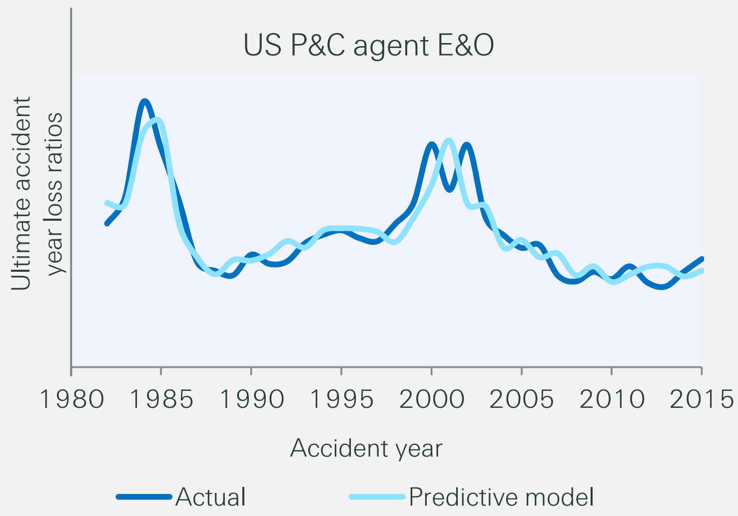
Insurance industry estimates for US P&C agent E&O losses have often been wrong

Our goal was to identify drivers that explain the past and build an econometric model to predict future losses

We developed an econometric model that explains a significant amount of the past loss variability

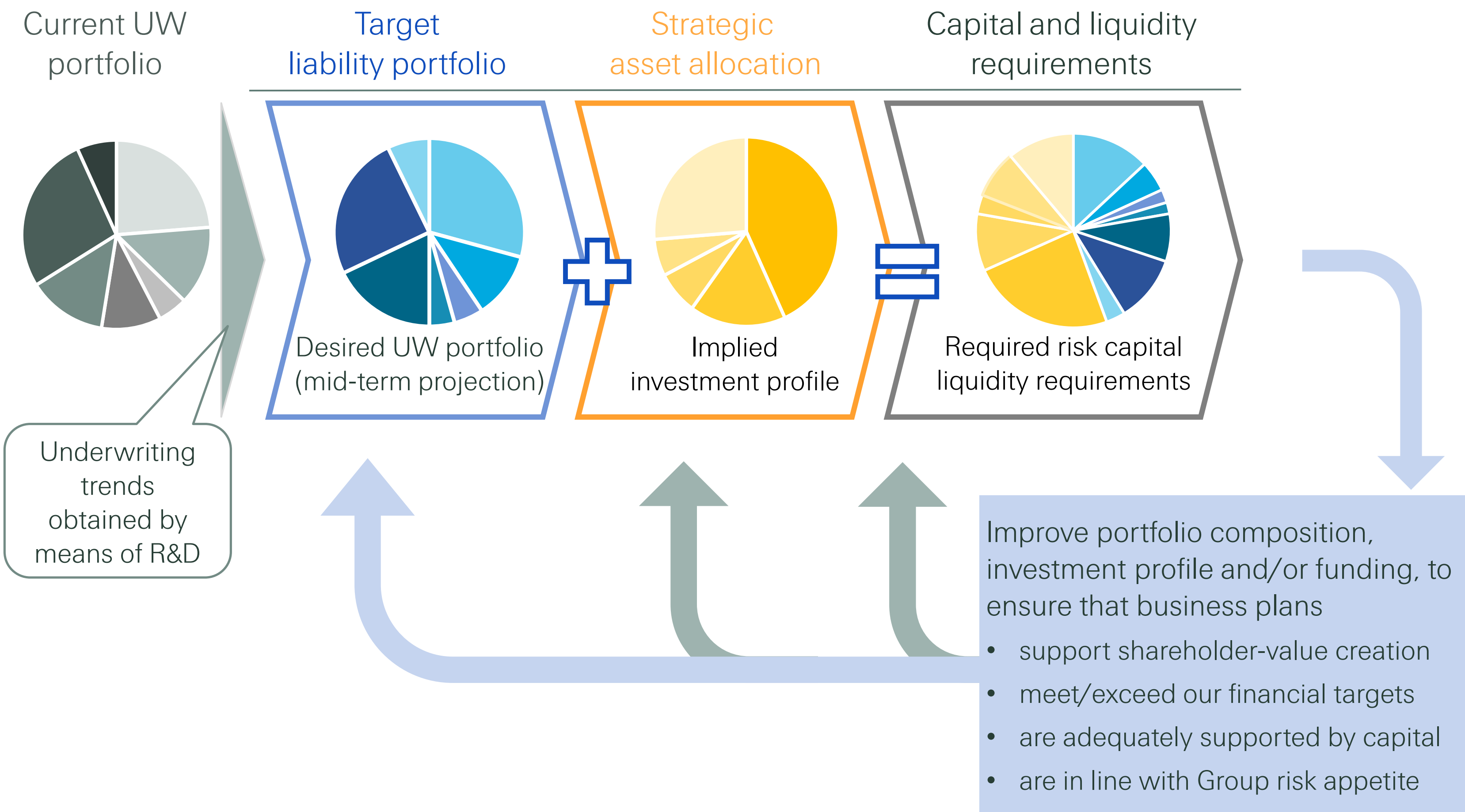
Driver forecasts enable us to forecast loss trends for US P&C agent E&O

**Correlation of our model with past industry-wide loss ratios**




Deep understanding of future loss trends is key for capital allocation and risk selection, and the foundation for profitable growth

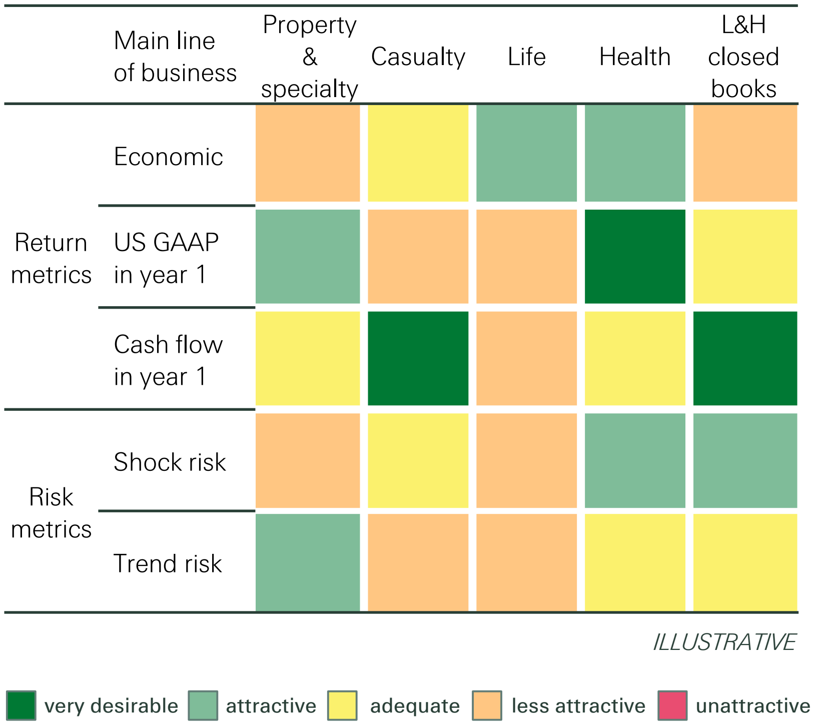
# Our target liability portfolio process allows to effectively allocate capital in underwriting



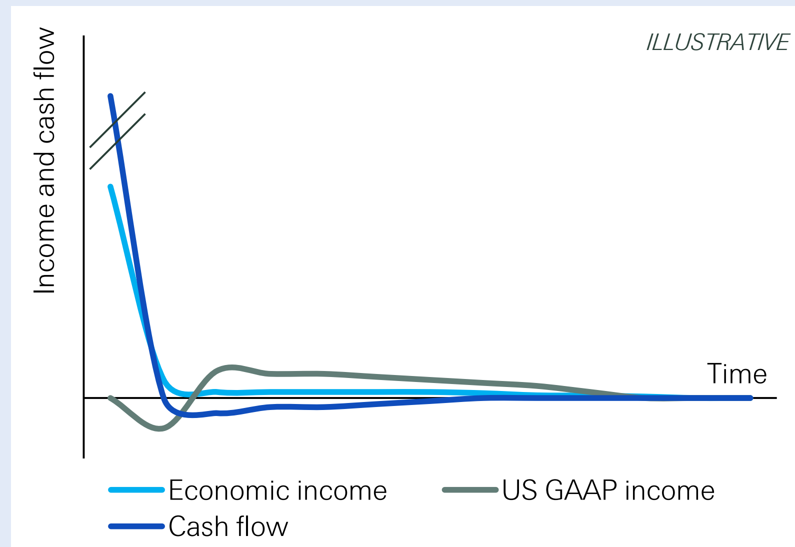
Knowledge

# To improve the overall portfolio composition we consider risk and return implications for each portfolio segment

## Risk and return metrics by portfolio segment




## Example: income and cash flow patterns of a casualty transaction




- In EVM, the profit is realised at inception and costs of capital are released over time
- In US GAAP, investment income develops gradually over time

Understanding how portfolio segments contribute to overall risk and return metrics allows to determine a target liability portfolio that optimises financial returns while observing risk appetite and constraints

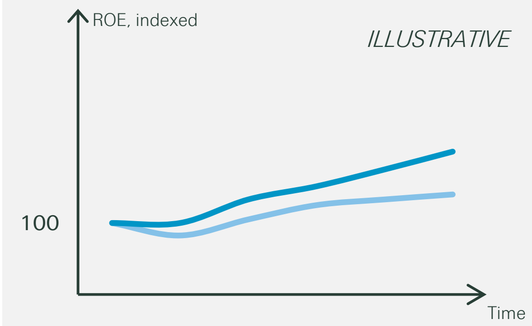
Knowledge

# Examples of measures that improve portfolio composition and performance relative to a passive renewal strategy

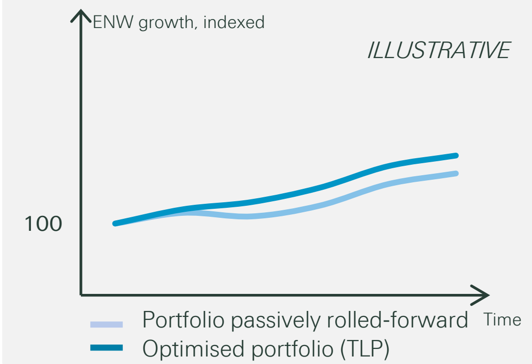
## Measures to improve portfolio composition

| | Reinsurance | Corporate Solutions | Life Capital |
|---|---|---|---|
| Strategic | Close large L&H R/I transactions | Bolt-on acquisitions | Acquire closed books in Life Capital |
| Tactical | Reduce capacity for selected Nat Cat scenarios | | |
| | Increase hedging for peak nat cat scenarios | | |
| | Prune motor portfolio in selected regions | | |

## Return on equity




## Economic net worth growth




Our target liability portfolio allows executive management to allocate capital and resources to underwriting segments that contribute most towards achieving Swiss Re's strategic priorities and financial targets

# Investment in R&D is the basis for continued underwriting outperformance

| Key priorities in underwriting | Industry-leading practices and tools |
|---|---|
| R&D investments in underwriting are key to continue outperforming our peers | Dedicated resources to R&D |
| Day to day underwriting capabilities are the foundation of successful risk selection | Liability risk drivers (LRD™), proprietary nat cat toolbox, risk engineering services |
| Strategic capital allocation is a key contributor to success | Target liability portfolio, retro & hedging |

# Corporate calendar & contacts

## Corporate calendar

**2017**

| | | |
|---|---|---|
| 23 February | **Annual Results 2016** | Conference call |
| 16 March | **Publication of Annual Report 2016** | |
| 21 April | **153rd Annual General Meeting** | Zurich |

## Investor Relations contacts


**Hotline**
+41 43 285 4444

**E-mail**
Investor_Relations@swissre.com

Philippe Brahin
+41 43 285 7212

Jutta Bopp
+41 43 285 5877

Manfred Gasser
+41 43 285 5516

Chris Menth
+41 43 285 3878

Iunia Rauch-Chisacof
+41 43 285 7844

# Cautionary note on forward-looking statements

Certain statements and illustrations contained herein are forward-looking. These statements (including as to plans objectives, targets and trends) and illustrations provide current expectations of future events based on certain assumptions and include any statement that does not directly relate to a historical fact or current fact.

Forward-looking statements typically are identified by words or phrases such as "anticipate", "assume", "believe", "continue", "estimate", "expect", "foresee", "intend", "may increase" and "may fluctuate" and similar expressions or by future or conditional verbs such as "will", "should", "would" and "could". These forward-looking statements involve known and unknown risks, uncertainties and other factors, which may cause Swiss Re's actual results of operations, financial condition, solvency ratios, capital or liquidity positions, or prospects to be materially different from any future results of operations, financial condition, solvency ratios, capital or liquidity positions, or prospects expressed or implied by such statements or cause Swiss Re to not achieve its published targets. Such factors include, among others:

- further instability affecting the global financial system and developments related thereto;
- further deterioration in global economic conditions;
- Swiss Re's ability to maintain sufficient liquidity and access to capital markets, including sufficient liquidity to cover potential recapture of reinsurance agreements, early calls of debt or debt-like arrangements and collateral calls due to actual or perceived deterioration of Swiss Re's financial strength or otherwise;
- the effect of market conditions, including the global equity and credit markets, and the level and volatility of equity prices, interest rates, credit spreads, currency values and other market indices, on Swiss Re's investment assets;
- changes in Swiss Re's investment result as a result of changes in its investment policy or the changed composition of its investment assets, and the impact of the timing of any such changes relative to changes in market conditions;
- uncertainties in valuing credit default swaps and other credit-related instruments;
- possible inability to realise amounts on sales of securities on Swiss Re's balance sheet equivalent to their mark-to-market values recorded for accounting purposes;
- the outcome of tax audits, the ability to realise tax loss carryforwards and the ability to realise deferred tax assets (including by reason of the mix of earnings in a jurisdiction or deemed change of control), which could negatively impact future earnings;
- the possibility that Swiss Re's hedging arrangements may not be effective;
- the lowering or loss of one of the financial strength or other ratings of one or more Swiss Re companies, and developments adversely affecting Swiss Re's ability to achieve improved ratings;
- the cyclicality of the reinsurance industry;
- uncertainties in estimating reserves;
- uncertainties in estimating future claims for purposes of financial reporting, particularly with respect to large natural catastrophes, as significant uncertainties may be involved in estimating losses from such events and preliminary estimates may be subject to change as new information becomes available;
- the frequency, severity and development of insured claim events;
- acts of terrorism and acts of war;
- mortality, morbidity and longevity experience;
- policy renewal and lapse rates;
- extraordinary events affecting Swiss Re's clients and other counterparties, such as bankruptcies, liquidations and other credit-related events;
- current, pending and future legislation and regulation affecting Swiss Re or its ceding companies, and the interpretation of legislation or regulations by regulators;
- legal actions or regulatory investigations or actions, including those in respect of industry requirements or business conduct rules of general applicability;
- changes in accounting standards;
- significant investments, acquisitions or dispositions, and any delays, unexpected costs or other issues experienced in connection with any such transactions;
- changing levels of competition; and
- operational factors, including the efficacy of risk management and other internal procedures in managing the foregoing risks.

These factors are not exhaustive. Swiss Re operates in a continually changing environment and new risks emerge continually. Readers are cautioned not to place undue reliance on forward-looking statements. Swiss Re undertakes no obligation to publicly revise or update any forward-looking statements, whether as a result of new information, future events or otherwise.

This communication is not intended to be a recommendation to buy, sell or hold securities and does not constitute an offer for the sale of, or the solicitation of an offer to buy, securities in any jurisdiction, including the United States.  Any such offer will only be made by means of a prospectus or offering memorandum, and in compliance with applicable securities laws.